# BOOK OF ABSTRACT

## ENRIO 2023 CONGRESS

7 - 8 SEPTEMBER 2023 - PARIS

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# Research integrity and societal engagements of researchers : exploring opportunities and tensions.

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*Prof. Stéphanie Ruphy* [1]

**1.** *French Office for Research Integrity*

TBA

# Shaping the future of Research Integrity Together

Thursday, 7th September - 10:00: Plenary Session A - Societal dimension of Research Integrity - Oral

***Dr. Oldrich Tuma*** [1]

***1.*** *Czech Academy of Sciences, President of ENRIO*

TBA

# Research integrity: Lessons from the history of science and technology

*Prof. Cyrus Mody* [1], *Prof. Lissa Roberts* [2]

**1.** *Maastricht University,* **2.** *University of Twente*

In order to approach 'research integrity' effectively, it is essential to understand what research actually entails. We respond to this point by framing our presentation with a perspective that transcends the distinction made between the 'internal content' and 'external context' of research in "The European Code of Conduct for Research Integrity," most academic discussions of the topic, and most research integrity policies. Drawing on historical examples, we argue for recognizing research as an arc in which its knowledge practices and practitioners are inextricably linked with the institutional, corporate, and resource-related actors involved in its formation, funding, pursuit, and application. Research integrity, from this perspective, must also take on a more inclusive meaning. While monitoring researchers for fraud, plagiarism, and otherwise unethical practices, is certainly important, it cannot be done in isolation. Their practices – whether ethical or not – need to be analyzed in conjunction with institutional and corporate selection, guidance, and funding of research topics and methods, as well as the ways in which institutional and corporate actors monitor and reward specific research practices. So too should the sourcing of research materials and associated labor be recognized as part of the research arc, requiring attention from those interested in understanding and monitoring research integrity. To make sense of this approach, we introduce the concept of 'research integrity chains'.

# Communicating Research Integrity to the masses – The Research Ethics Magazine

Thursday, 7th September - 11:00: Break and Posters - Poster

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*Mrs. Elin Fugelsnes* [1]

**1.** *The National Research Ethics Committees*

The Research Ethics Magazine is a periodical and specialized magazine which has been published by the National research ethics committees in Norway since 2001. As far as we know, such a magazine is unique in an international context.

Awareness of research ethics among the general public is important for fostering trust in research. The Research Ethics Magazine contributes to creating such an awareness through publishing news and feature articles, book reviews and opinion pieces about research ethics in the broadest sense. We provide insight into issues related to ethics and integrity, including the societal dimension of RI, in all research and in the entire research system. We believe in communicating also complex topics in an easily understandable, comprehensible and engaging way. This makes us relevant and important to not just researchers and students, but also authorities, the media, and the general public.

The National Research Ethics Committees have overall responsibility for the magazine, but the editor in chief has full responsibility over the editorial content and decisions. In the same way as trust in research is important, this editorial independence helps enhancing public trust in the magazine and its content.

The magazine is published in print and as an online edition three or four times a year. Each issue is distributed free of charge to around 5,000 subscribers. We also collaborate with Norway's largest online science news magazine which allows the publication of our articles on their websites. In this way research ethics can be communicated to even more people.

At the ENRIO conference, we want to present some key facts about the magazine, including its organization and function, and give an insight into the journalistic work processes. We wish to present a specific example that illustrates how you can create good journalism about research ethics. We also plan to distribute an English edition with selected articles from the magazine.

Through our participation at ENRIO we hope to inspire others to make similar resources. We also want to create a meeting place for everyone working with communication of research ethics, and thus the opportunity to exchange experiences and ideas.

Link to The Research Ethics Magazine:

Norwegian: https://www.forskningsetikk.no/ressurser/magasinet/

English: https://www.forskningsetikk.no/en/resources/the-research-ethics-magazine/

Forskningsetikk 0123 forside.jpg

# POIESIS: How Research Integrity and Open Science affect Public Trust in Science

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**Dr. Serge Horbach** [1], **Dr. Tine Ravn** [1], **Prof. Niels Mejlgaard** [1], **Dr. Panagiotis Kavouras** [2]

**1.** *Aarhus University,* **2.** *National Technical University of Athens*

While societal dependence on sound scientific research and responsible innovation has become increasingly visible, concerns about public trust and mistrust in science have simultaneously been mounting. The debate about societal trust in science is characterised by two intuitively appealing assumptions: First, that trust depends on scientists' capacity to demonstrate high standards of research integrity and ethics, and that breaches to research integrity will lead to mistrust. Second, that citizen and civil society's involvement in co-creating research agendas and contents makes research more relevant and responsive to society, consequently strengthening trust.

The POIESIS project sets out to study these assumptions. Despite the assumptions' plausibility and frequent use as motivation for addressing research integrity and open science issues, they are understudied and hitherto provide little guidance for practitioners to foster public trust. POIESIS addresses this through an extensive empirical programme, including an assessment of international public surveys on public perceptions of science, as well as elaborate primary data, collected through expert interviews, focus groups, public deliberative workshops and policy workshops. It aims to provide recommendations for tackling societal mistrust in science, research and innovation, as well as for strengthening the co-creation of research and innovation contents by society. In particular, it will have a strong focus on 'chains of mediation', i.e. channels that support the communication of research findings and practices to non-academic actors. This will lead to better understanding of the role of science communicators in fostering public trust in research through research integrity and open science practices.

The POIESIS project is currently ongoing and will just have celebrated its first anniversary by the time of the ENRIO congress. At the congress, we will present early findings from the analyses of international survey data, including the state of play on public trust in science, particularly in connection to covid-19 and climate science, and in the aftermath of misconduct cases. This work identifies an initial set of indicators affecting public trust in science. Second, we share findings from public deliberation workshops, conducted in seven countries with 280 participants, on the effects of research integrity and open science on public trust.

# For equitable, inclusive, and human-centered extended reality technologies

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*Dr. Panagiotis Kavouras* [1] , *Prof. Rosemarie Bernabe* [2] , *Prof. Rigmor Baraas* [3]

*1. School of Chemical Engineering, National Technical University of Athens, 2. Professor of Medical Research Ethics, University of Oslo, 3. Professor of Optometry and Visual Neuroscience, University of South-Eastern Norway*

**Description of the project**

The potential benefits of eXtended Reality (XR) technologies – that encompass Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), Diminished Reality (DR) and Modulated Reality (ModR) – render them candidates for an expanding spectrum of applications in research and innovation (Engineering and Manufacturing, Food industry, Defence) and services (Education, eCommerce and Retail, Real Estate, Travel and Tourism, Entertainment and Gaming). This drive towards eventual ubiquity comes with potential risks that encompass a wide array of challenges, related to safety, privacy, security, interoperability, and research integrity. These challenges need to be tackled now, at a time when the European Research Area strives to achieve a place in the world market of XR technologies by integrating into the development of XR technologies the human-centered approach. The "Equitable, Inclusive, and Human-Centered eXtended Reality" (XR4HUMAN) project aims at co-creating living guidance on ethical and related policy, regulatory, governance, and interoperability issues of eXtended Reality (XR) technologies.

**Relevance to research integrity practice**

A common denominator of XR4HUMAN's outputs, listed below, is to provide safeguards for the protection of personal data of XR technologies' users (via the European Code of Conduct) and achieve transparent processes for the development of responsible regulation and governance of XR technologies (via a wide co-creation exercise with all relevant stakeholders).

**Expected or achieved outcomes of the project**

The operationalisation of XR4HUMAN's main aim is going to be achieved by:

- Guiding companies and regulators through (i) Interoperability Guidance Document; (ii) a European Code of Conduct for Equitable, Inclusive, and Human-Centered XR Technologies; (iii) recording and demonstrating the practical application of the XR Code of Conduct.
- Equipping companies and regulators with an online repository of test cases to allow developers to demonstrate evidence of adherence to best practices.
- Equiping and guiding users through a rating system and educational materials.
- Engaging companies and other stakeholders (i) to enhance the uptake of the XR Code of Conduct, the Guidance for Interoperability, and the empowerment of end-users; and (ii) to establish a permanent digital European Forum to facilitate stakeholder dialogue on issues of ethics and interoperability.

Xr4human logo vertical.png

# Learners' self-assessment and self-report as measures to evaluate the effectiveness of research ethics and integrity training: Can we rely on self-reports?

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**Dr. Anu Tammeleht** [1], **Prof. Erika Löfström** [2]

*1. University of Helsinki, University of Tartu, 2. University of Helsinki*

**Background and research question**

To evaluate what works in research ethics and integrity education, self-assessment is among the most commonly used measures (Steele et al., 2016; Stoesz & Yudintseva, 2018). Self-assessment most commonly asks about content satisfaction (i.e., how useful was the content), and affective satisfaction (i.e., satisfaction with the course) (Turner et al., 2018). While self-assessment is the most popular measure to evaluate learning in integrity training, can we rely on these? The focal issue is the accuracy in which the learners can assess their learning outcomes. We asked the following research question: How accurately are learners able to assess their learning in RE/RI?

**Method**

Data were collected through paper-and-pencil forms and online forms from bachelor and master students about the clarity and level of material, role of the group, usability of the new knowledge, and from master's and doctoral students on self-evaluation of their level of understanding (on the SOLO taxonomy describing levels of understanding, Biggs 1999). Participation was voluntary and based on informed consent. A total of 381 participants contributed with data.

**Results**

The level of the training as well as clarity had been average; not too difficult or easy. Results showed that 87% of respondents accurately evaluate their level of understanding and support it with description when compared to facilitator ratings. In self-reflection, the participants tended to indicate mostly higher levels of understanding (according to SOLO taxonomy) while descriptions indicated a lower level. Still, data indicated that during a second reflection round the responses became more aligned.

**Conclusions and recommendations**

Self-reports are relatively reliable, and their reliability as measures of learning in integrity training improves as participants get more experience in assessing their learning. What makes self-reports useful are their feasibility and applicability in various training contexts. When setting up new training, it may be worthwhile to devote some time to comparing learner assessments with those of facilitators to establish that the course is filling its function in promoting research integrity and that facilitators have a realistic understanding of how the instruction and learning activities actually promote learning.

**References**

Biggs, J. (1999). What the student does: Teaching for enhanced learning. *Higher education research & development*, 18(1), 57-75.

Steele, L.M., Mulhearn, T.J., Medeiros, K.E., Watts, L.L., Connelly, S., & Mumford, M.D. (2016). How do we know what works? A review and critique of current practices in ethics training evaluation. *Accountability in research*,

23(6), 319-350.

Stoesz, B.M., Yudintseva, A. (2018). Effectiveness of tutorials for pro-moting educational integrity: a synthesis paper. *International Journal for Educational Integrity*, 14(1), 1-22.

Turner, M.R., Watts, L.L., Steele, L.M., Mulhearn, T.J., Torrence, B.S., Todd, E.M., Mumford, M.D. and Connelly, S. (2018). How did you like this course? The advantages and limitations of reaction criteria in ethics education. *Ethics & Behavior*, 28(6), pp.483-496.

# Can Norway investigate misconduct in research publications from another country?

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*Mrs. Ragnhild Aursnes Dammen* [1]

**1.** *National Research Ethics Committees (Norway)*

Norwegian courts will discuss the following question starting in May 2023:

A researcher is now employed by, do research at, and publishes for a Norwegian research institution. The same researcher used to be employed by, do research at, and publish for a research institution in another country. Can Norway investigate misconduct related to articles published when the researcher was employed at, and published for, the research institution in the other country?

This has relevance to international research integrity practice because the research institution must clean up what is what and distinguish between several types of questions. First, one question is which country's law, if any, is applicable? This leads to wondering if this question is about law or if it is more a question about ethics and integrity? The law is applicable within the territory, but is the research ethics and integrity applicable for the researcher's overall research work? Could it be an argument for handling in Norway a misconduct case from another country, that the ethical and integrity norms in Norway differ from those in the other country? It is further relevant to ask what are the consequences for the Norwegian research institution, the consequences of knowing that an employee has committed possible misconduct abroad? And what are the consequences for the researcher, both of having it investigated in Norway or not? Finally, it could be relevant to ask what does it mean to have trust in science? Should research from one researcher be considered as a whole, and independent of national borders? It is possible that the Norwegian courts will touch upon all these questions.

The oral presentation will present the question regarding whether Norway has competence or not and it will give information about the status of the answer from the Norwegian courts. This will form the basis for a discussion of to what extent European handbooks, guides and codes of conduct mention the question, and to what extent they suggest or should suggest further practical solutions.

# Coordinated - yet fragmented?

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*Mrs. Anjam Latif Shuja* [1]

**1.** *National Research Ethics Committees (Norway)*

The attention towards which type of influence the European Union (EU) has regarding decisions and national priorities in Norway, forms the basis for a discussion on what further role the EU should take in the field of Research Ethics (RE) and Research Integrity (RI). The focus of this poster is to elaborate the existing role of the EU and the limitations and opportunities that are present, but not leveraged for various reasons, thus leading to fragmented and comprehensive effort towards this field. Furthermore, the purpose is to propose the Norwegian model which consist of both RE and RI, as a measure to make the area more comparable between countries.

Since the RE and RI area varies from country-to-country more collective efforts from the EU, in addition to *European Code of Conduct for Research integrity,* will lead to harmonizing disparities across countries. These effort from the EU can thereby be a source for reducing fragmentation in this field. Viewed in this context, the Norwegian model for RE and RI is presented, as it is a framework based on Legislative regulations that provide transparent and predictable procedures for the management of RE and RI. The Norwegian way of organizing RE and RI reduces fragmentation and unclear responsibilities, while preserving the professional independence. This is also a model endorsed by the society and public sector, because the committees consist of researchers from different disciplines - in addition to laypeople, which means that different expressions, values and views are better safeguarded in the society.

The challenge of fragmentation within the field of RE and RI can be improved, if the EU takes more responsibility and ownership to facilitate even more coordinated effort, towards measures to harmonize this field. Norway's experience with a system that functions as intended, can be used in a learning context and to facilitate structures within the EU, that can help make the EU's effort more targeted with an integrative approach. Thereby leading to research excellence.

# The ERION network: Implementation matters in Ethics and Research Integrity

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**_Ms. Teodora Konach_** [1] **_, Ms. Borana Taraj_** [1]**_, Ms. Susan Hommerson_** [2]**_, Dr. Joana Porcel_** [3]
**_1._** _EARMA,_ **_2._** _Eindhoven University of Technology,_ **_3._** _Barcelona Institute for Global Health_

We will reflect on the importance of ethics and research integrity and collaborations between researchers, institutional leaders and the community of ethics and research integrity experts, advisors and practitioners.

EARMA is the European Association of Research Managers and Administrators. In 2018, it established the Ethics and Research Integrity Officer Network[1] (ERION) thematic group. ERION is an open community to discuss the practical and implementation side of Research Ethics and Integrity. It is a community of practitioners, rules and procedure experts, and its main purpose is to provide a forum for knowledge-sharing, dissemination and collaboration in order to facilitate implementation of relevant policy and establishment of best practices.

ERION acts as a stakeholder for the European Commission DG R&I Ethics Sector. A key component of ERION are the European projects on ethics, integrity, responsible research: **SOPs4RI**, **iRECS**, **PATTERN** which are working for a strong responsible research integrity culture in Europe and increasing trust in science.

The community meets twice or more per year. Topics discussed in past ERION meetings included: Horizon Europe, Open Science, International collaborations, GDPR implementation, training, ethics support in times of COVID-19, implementing institutional research integrity promotion plans, research evaluation and assessment, and many others. More information on the **EARMA website** and **EARMA YouTube channel**.

[1] https://www.earma.org/about/governance/thematic-groups/ethics-and-research-integrity-officer-network-erion/

# How to solve research ethics issues? -Role of Certified Research Ethics Professionals (CReP) as an Ethical Review Expert-

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**_Dr. Yusuke Ebana_** [1]

**1.** _Tokyo Medical and Dental University_

Responding to diverse values in the world, when conducting medical research, researchers and research institutions need to establish rules to protect research subjects. Japan has three rules for medical research: ICH-GCP, the Clinical Research Act, and the Ethical Guidelines for Medical Research Involving Human Subjects. A high level of expertise is required to confirm that the research protocol conforms to the relevant guidelines in Japan because the guidelines are frequently revised. A professional group of experts, CReP, has been established to ensure that ethics reviews are conducted.

Expertise is tested by multiple-choice questions on research ethics and ethical review. Exam questions are created by the CReP Certification Committee. After conducting the test, the committee will review the suitability of the questions again. Those that meet the passing criteria will be certified as CReP for three years. Renewal of accreditation is determined by credits earned through participation in academic meetings, training seminars, and study of teaching materials.

CReP system started in January 2019, and so far 268 people have been certified. Of the institutions to which the CRePs belonged, 73.8% were universities, 5.6% were national centers, 10.1% were hospitals and clinics, and 7.1% were companies. So far, we have held information exchange meetings 25 times, with about 30 to 120 participants. Satisfaction was 80 to 90%, including those who were satisfied and those who were somewhat satisfied.

In addition to ICH-GCP, Japan has a Clinical Research Act and ethical guidelines. Although the basic stance on research ethics remains the same, each of them operates differently. Here, especially with regard to ethical guidelines, the operation of each institution differs greatly, so a network such as CREP is necessary.

The established CReP system has produced 268 CRePs. At the information exchange meeting where CRePs gathered, they discussed the revision of the guideline and confirmation of compatibility, and the satisfaction level was high. It is believed that this will contribute to the standardization of ethical review.

# [online] Signs, Symptoms, and Situations of Moral Distress during the Pursuit of Research Excellence

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**_Dr. Katrina Bramstedt_** [1] , **_Ms. Anna Kang Liu_** [2]
**1.** _F. Hoffmann-La Roche AG,_ **2.** _Genentech_

This presentation identifies and explores signs, symptoms, and situations of moral distress during the pursuit of research excellence. Signs are objective, observable phenomena that can be identified by another person (such as a bioethicist, research integrity officer, or research colleague). Symptoms are subjective experiences that are reported by the researcher in distress. The context of this presentation is the research and development of pharmaceuticals in corporate industry; however, there is the potential for application to other settings such as research in academia, hospitals, and non-profit institutes. We argue that the research integrity ecosystem must include recognizing and addressing moral distress in researchers, in addition to RCR training, and identifying and sanctioning misconduct.

# Ten simple rules for scientific fraud and misconduct

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*Mr. Nicolas Rougier* [1]

*1. Inria*

In 2018, I co-authored with John Timmer a preprint entitled "Ten simple rules for scientific fraud and misconduct". Our goal was obviously not to encourage scientific fraud nor misconduct but rather to alert the reader to problems that have arisen in part due to the Publish or Perish imperative, which has driven a number of researchers to cross the Rubicon without the full appreciation of the consequences. This article has been the base for several talks in the lab and for workshops with PhD Students in the Bordeaux area. Even though PhD students had to attend a mandatory course on scientific integrity, a lot of them came nonetheless to the workshop, even though it was not mandatory. The explanation for such popularity is certainly to be found in the provocative title and contents since during these lessons, I really explain how to cheat (based on numerous real-world cases, see cited paper). These lessons are also the place of interesting discussions with the students and between the students. For example, they asked questions about self-plagiarisms, code licences, etc. Unfortunately, there was no study following the workshops in order to assess whether this method of introducing scientific integrity is sound and/or better than a more traditional one. During this talk, I'll present the material I've been using and hopefully engage the audience in order to discuss this teaching approach and proably its limits.

# Putting the image back into its frame. Recommendations for handling figures with images based on epistemic considerations.

Thursday, 7th September - 11:00: Break and Posters - Poster

*__Dr. Nicolas Heck__* [1]

*__1.__ Sorbonne Université*

Many cases of research misconduct involve the manipulation of images. For this reason, recommendations have been proposed by publishers and institutional organisations on how to deal with images in publications, and pre-publication quality checks have been introduced by some journals. Nevertheless, images are most often part of a figure, which incorporates quantification represented in graphs. For conceiving recommendations on image handling, the epistemic status of the image must first be conceptualised within the framework of the figure as a whole. This leads to recommendations for good practice that extend from the collection of data to the representation of phenomena, in an epistemic path in which the image is an essential step, rather than a sufficient piece of evidence.

First, it should be pointed out that an image is not a complete reproduction of the material studied. The material may need to be prepared, and therefore potentially modified from its native state. The image can be acquired using different types of microscopes or other devices, with detection not being carried out over the whole spectrum but rather by marking specific properties of the material, with a variable signal-to-noise ratio and resolution.

Secondly, images are materials from which specific parameters are measured. These measurements - and many parameters can be measured in one image - are then represented graphically. Often, the phenomenon being studied is not visible in the image, and is unravelled by quantification.

Experimental results cannot therefore be understood without knowledge of the image acquisition protocol and the detailed analysis workflow, yet these methods are largely underreported in publications.

If we refer to key concepts in the philosophy of science, the reliability of data relies on the specificity, accuracy and precision of measurements, and the validity of results requires justifying the inference by which data relating to a measured parameter can be indicative of a phenomenon. It is also important to note that most studies analyse a set of images. Thus, the image shown in the figure has been chosen from a set, but recommendations on how to choose have been neglected.

It could be suggested that the image should reflect the putative change in the material because of its preparation procedure, the acquisition method and the question of whether the parameters quantified have a sufficient signal-to-noise ratio to guarantee the accuracy of the measurement. On the other hand, the variability between samples and the accuracy of the measurement are represented in the graphs that show the quantification, and also indicate reproductibility.

In conclusion, while avoiding a normative stance, a few recommendations can be put forward, and adapted according to the type of image or scientific discipline: the image acquisition and analysis methods must be fully reported; the image that appears in the publication must be chosen to represent the quality of the acquisition and the reliability of the data that can be extracted, but not the phenomena being studied. Next to the image,

the graph provides evidence of the phenomenon, its variability and its internal reproducibility.

# Discussing funding reforms - Towards innovating funding practices with more transparency

Thursday, 7th September - 11:30: Symposium 1 : Discussing fundings reforms - Towards innovating funding practices with more transparency - Others

**Dr. Joeri Tijdink** [1], **Dr. Serge Horbach** [2], **Dr. Rachel Heyard** [3], **Prof. Lex Bouter** [4]

**1.** AmsterdamUMC, **2.** Aarhus University, **3.** Center for Reproducible Science, University of Zurich, **4.** VU University, Amsterdam

Description:

Funders have a crucial role in the research process by deciding what research to fund and thereby setting research agendas. However, funders' practices and the ways in which they can be rendered more responsible, have been subject to little empirical study. Recent studies and initiatives have suggested how funders can both improve their own practices, e.g. by being more transparent, and steer research into more responsible directions. This includes the use of partial lottery in grant allocation, the creation of novel guidelines that foster responsible funding practices, and the implementation of open applications as part of the Open Science agenda. While having potential to improve the funding landscape, evidence on these initiatives is thin, uptake is low and some even meet with strong objections from funders or applicants.

In this symposium, we discuss these three innovative initiatives, voicing both researchers and representatives from funders. This will not only introduce current initiatives to reform funding practices, but also invite funders to reflect on them, allowing for co-creation of responsible funding futures.

The symposium will feature three short presentations of initiatives that may improve the practices of funders, and a panel discussion with three representatives from international funders to discuss how they can use these practices in order to foster research integrity at their institution. The panel debate will explore their expectations, their perceived need for reform and their vision on funders' role in fostering research integrity.

Symposium program:

Moderator: Dr Joeri Tijdink, assistant Professor, Ethics, Law & Medical Humanities, VU University, Amsterdam

10min – Innovations for funders to foster RI: Open applications, lotteries and Research Integrity Promotion Plans – *Serge Horbach, senior researcher at Aarhus University*

10min – Research Integrity Promotion Plans in Practice - Lessons from the SOPs4RI project – *Joeri Tijdink, Assistant professor AmsterdamUMC, the Netherlands*

10min - Experiences of using lottery in grant allocation –*Rachel Heyard, Center for Reproducible Science, University of Zurich.*

30min Virtual round table discussion with: Dorian Karatzas (Horizon Europe Ethics chair), Australian Funder, Arfan Ikram (ZonMw), Justin Withers, Australian Research Council, Director, Research Security and Integrity.

# From Human Participants to Environmental Research Subjects: Recent Developments in Ethical Pre-review in Finland

Thursday, 7th September - 11:30: Oral Session 1 : Case studies of responsible research practices in different fields - Oral

**_Dr. Eero Kaila_** [1]

**1.** _Finnish National Board on Research Integrity TENK_

UN's Paris agreement and EU's Recovery and Resilience Facility, including the horizontal principle _Do No Significant Harm_ (DNSH), represent concrete steps in advancement of environmental thought through financing instruments in science. Finnish research organizations have recently included these principles in their financing requirements for research projects. Two committees focusing on ethical pre-review of natural and environmental research were founded independently by University of Helsinki & Natural Resources Institute Finland (Luke) in spring 2022.

Finnish National Board on Research Integrity TENK has produced guidelines for ethical principles of research with human participants and ethical pre-review in the human sciences (TENK 3/2019). Experiences on drafting these principles are now being utilized in the process of mapping out ethical principles and scoping viability of a pre-review instrument for fields of natural and environmental sciences.

TENK conducted a needs assessment for ethical principles and ethical pre-review for these fields. This assessment (Launis & Kaila 2023) consisted of a series of expert interviews from research performing and funding organizations in Finland. A questionnaire was sent to scientific societies and European research integrity offices, which were focused on these fields. The results, which encouraged further development of ethical principles for pre-review of natural and environmental research, were published in _Etiikan päivä_ seminar in March 2023. As mitigation of climate change and prevention of further loss of biodiversity are increasingly acute challenges concerning everyone working in academia, implementing instruments that assess potential damage research can cause on the environment, fosters trust in science. E.g. neglecting pre-review in case of a harmful environmental study could be classified as misconduct.

Three questions are answered here:

1. What is the LYTE-process that TENK is planning to implement?
2. How was TENK's needs assessment for ethical principles and ethical pre-review for natural and environmental research conducted, and what were its primary results?
3. What kind of ethical principles are considered important, and are likely to be included in the list of key ethical principles for pre-review processes concerning natural and environmental sciences?

**References**

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# Fostering sound research culture and practice. An example from the field of ancient human remains research

Thursday, 7th September - 11:45: Oral Session 1 : Case studies of responsible research practices in different fields - Oral

*__Dr. Lene Os Johannessen__* [1]

*__1.__* *National Research Ethics Committees (Norway)*

Good research culture and practice are based on a core set of scientific and ethical norms and values within the research community. This presentation will focus on the fostering of a culture of sound research practice built on guidelines for research integrity and ethics derived from the particularities of a specific research field, ancient human remains research.

Research on ancient human remains can give rise to a wide range of dilemmas. The focus for this presentation will be research involving remains of individuals belonging to historically oppressed groups. In 2008 Norway established a committee, National Committee for Research Ethics on Human Remains (Human Remains Committee), in response to questions regarding research on and repatriation of human remains from Norway's indigenous group, the Sami. Over the years, the committee has worked with questions on i.a. integrity, representativity, respect, rights, accountability, related to human remains of indigenous and minority groups, and for the promotion of sound and responsible research practice in the area.

The baseline for this work is a set of guidelines (revised in 2022). The guidelines include articles on respect and recognition for individuals, for affected groups and for the remains as a scientific resource, and articles on unintended consequences, data management, repatriation and visual dissemination. The guidelines are primarily aimed at students and researchers, but may also be a useful tool in cultural heritage management, visual dissemination and the handling of repatriation cases.

To reach the relevant target groups, the committee e.g. arrange dialogue meetings and open meetings. In 2021 the committee held an international seminar on the topic of repatriation of human remains focusing on practice, implications and issues of integrity and ethics, and in 2022 organized a webinar on aDNA (ancient human DNA) research and research integrity.

The ultimate goal for the committee is not the imposition of a set of ethical norms by an outside body, but rather self-regulation by the research community. Guidance, therefore, needs to be customized to the field in such a way as to facilitate good research culture and practice.

References:

*Guidelines for Ethical Research on Human Remains.* National Committee for Research Ethics on Human Remains (Human Remains Committee). Oslo, 2022 (4th edition).

# How to embed ethics and research integrity into laboratory research?

Thursday, 7th September - 12:00: Oral Session 1 : Case studies of responsible research practices in different fields - Oral

*Prof. Marcin Waligora* [1], *Mrs. Paola Buedo* [1], *Prof. Jolanta Perek-Białas* [2], *Mrs. Idalina Odziemczyk-Stawarz* [2]

**1.** *Jagiellonian University Medical College,* **2.** *Jagiellonian University*

Health-related innovation in biotechnology requires anticipating potential bioethical implications. I will present strategy to embed ethics and research integrity in a group of early-stage researchers performing research in gene therapy and regenerative medicine in the laboratory phase. We conducted a series of focus group meetings with early-stage researchers who work in biotechnology laboratories. The objective was to reflect on the bioethical challenges of their own work and to promote the integration of research ethics with laboratory practice. The activity was assessed with questionnaires completed by the researchers before and after the meetings, and the analyses of the focus groups' content. As a result of the focus group series, all participants changed their perspectives about ethical issues regarding their planned research, developed the ability to reflect and debate on research ethics and had increased awareness of ethical issues in their own research activities. Half of them made changes in their research work. The study provides a concrete strategy to embed ethics, research integrity strategies and to strengthen responsibility in laboratory research. It is a strategy that allows to perform ethics reflection "on site" and in "real time" and complements the classic strategy of ethics assessment of the research protocol before starting the research procedure. The presentation based on the article: Buedo P, Odziemczyk I, Perek-Białas J, Waligora M. How to embed ethics into laboratory research. Account Res. 2023 Jan 17:1-20.



Table 1.png



Table2.png

**Table 3.** What research ethics means for the participants.

| Before the meetings | After the meetings |
|---|---|
| The first example that comes to mind is performing procedures without prior consent from the test subject, for example in the case of the scientist from China "creating" CRISPR babies. | If you fabricate or falsify your results, then other people will build on that, and you will continue and continue the process of using wrong data and the wrong information to however far you go. |
| The publication of false data just because you need to publish something. Manipulate results in order to get funding. | We want to end up achieving something worthwhile – in our case in terms of cartilage regeneration for example. And the thing is that if you create data if you falsify the results and with that stuff, it is really difficult to achieve anything because – I think, the major problem is that sometimes the goal is confused because for some researchers the goal is just to publish because it's what it's going to give them the money […] And if you systematically fabricate or falsify data and results, you're not gonna achieve anything. You may publish a lot because of what results you have, but they're not true so what are we doing in the end? |
| Use of animals for research. | |
| I mainly think about people fabricating results, and maybe altering their results in such a way that it fits their expected results/story. This doesn't always have to be straight up fabrication but may also just be slight adjustments in machine settings for instance, that lead to different results. | Is it justified to let animals suffer so we can develop drugs/treatments only intended for humans? Can we weigh the lives of thousands of animals against the lives of humans? Is there a difference of worth in an animal life compared to a human? |
| | I think also like this has great implications and not just in the frequency, but also the impact it has; for example, the falsification part where like that one guy and his colleagues published that one paper on how vaccine leads to autism, fueled all the antivaxxers. Now, we have this epidemic – sort of – antivaxxers and this could definitely be avoided if he just decided not to publish fake stuff and with bad research methods and basically falsifying his results as well. |

Table3.png

# Adapting institutional research ethics and integrity governance to challenges of new and emerging technologies

Thursday, 7th September - 12:15: Oral Session 1 : Case studies of responsible research practices in different fields - Oral

**Prof. Dirk Lanzerath** [1] , **Mrs. Sandra Scholl** [1]

**1.** *University of Bonn*

**Proposal / About irecs**

New and emerging technologies not only permeate society but also raise challenges for research ethics (RE) and integrity (RI). Especially recent advances in artificial intelligence, such as ChatGTP, but also progress in, for example, extended reality, genome editing and biobanking research create a need for governance schemes that help ensure research on and with such technologies is conducted responsibly. The irecs project develops and pilot-tests an institutional governance model that combines guidance and educational elements.

An overarching goal of RE and RI is to create a research environment that fosters and reinforces responsible conduct of research. Thus, it is essential to proactively address challenges posed by new and emerging technologies, to adapt existing practices and to align institutional policies. The EU-funded irecs project will address these challenges by developing and implementing a training programme on new and emerging technologies for ethics reviewers, researchers, and students to enhance ethics expertise and competences on the individual level and by creating and pilot-testing a RE and RI governance model for research performing and higher education institutions to build capacity on the institutional level. Outlining the contours and elements of the governance model as well as strategies for its implementation in heterogenous settings will be the focus of the presentation. The model consists of a RE and RI review and guidance system for researchers working with or involved in the development of new and emerging technologies, supplemented, by a training scheme that integrates ethics education in the curricula of researchers and students from all disciplines and at all career stages.

During the project, the model will be pilot-tested at three universities with different profiles (Bonn, Maastricht, Split). The presentation will give an overview of strategies and initial lessons learned from this pilot-testing and thus aims to strengthen the bridges between the project and RE and RI practitioners.

**Relevance to the conference**

irecs addresses the challenges of new and emerging technologies by implementing and embedding sustainable education, training and awareness actions to enhance research ethics and integrity on a European and global level. Especially at research performing and higher education institutions, existing practices are often insufficient to deal with the challenges created by research on, and with, new and emerging technologies. irecs aims to support necessary adaptations and to thereby promote trust in science. The conference is an excellent opportunity for productive exchange to identify, discuss and disseminate good practices and strengthen channels of communication and collaboration between the RE and RI communities.

**Expected outcomes of irecs**

The expected outcome of irecs is to develop, implement and embed a sustainable training and education programme as well as a RE and RI governance model for research performing and higher education institutions. The aim is to improve RE and RI governance and support research institutions in their efforts to create research environments that foster, reinforce and support responsible conduct of research.

# Current questions in regulating research misconduct - A research funder's perspective

Thursday, 7th September - 11:30: Oral Session 2 : Handling Research Misconduct - from RFO to RPO - Oral

*Ms. Lydia Llaga* [1], *Dr. Philip Ridder* [1]

*1. German Research Foundation (DFG)*

A U.S. Federal Policy dating from 2000 states that "FFP" are the main matters of research misconduct: **F**abrication of data, **F**alsification of data and **P**lagiarism. The Rules of Procedure of the German Research Foundation (Deutsche Forschungsgemeinschaft – DFG) have recognised additional facts as research misconduct – for example honorary authorship, the neglect of supervisory obligations or misconduct by reviewers and committee members. In the course of every revision of the DFG Rules, shaping the matters of sanctionable misconduct becomes a new challenge. In this session, we would like to present three of the recent topics discussed in the current revision process of the Rules of Procedure and engage in a discussion with the participants of the congress.

1. Classic matters of research misconduct are **plagiarism** and – closely related – idea theft in academic publications or grant proposals. But whom do these offences protect: the individual whose achievements are appropriated or the functioning of the scientific/academic discourse as a whole? This question is not as theoretical as it may seem: In some cases, there are at least signs of a **consent** (be it prior or subsequent) by the legitimate individual. One could argue that in case of consent, no misconduct has been committed. Yet, the research community is unable to attribute academic performance to the actual author. In the light of these thoughts, should consent exclude these forms of research misconduct?

2. More and more research organisations in Germany dispose of specific misconduct matters for **reviewers** and board members, especially regarding violations of **confidentiality** rules. Besides the obvious and severe cases where reviewers misuse others' achievements for their own purpose, we see some cases of misconduct where reviewers – acting in good faith – involve fellows of their own institute in order to provide a balanced and timely review. However, some organisations, like the DFG, require a permission to include a third person – an infringement constitutes misconduct. Another important aspect in the peer review process is the disclosure of **conflicts of interest**: While it is the responsibility of the funding agency to establish clear guidelines on what circumstances may constitute a potential conflict of interest, it is the responsibility of the reviewers to reveal any facts that could be grounds for a conflict of interest on their part. Non-disclosure is also sanctioned as research misconduct.

3. Can and should there be a **time limitation** for the investigation or sanctioning of research misconduct? This question is discussed in particular when it comes to misconduct in connection with the revocation of an academic degree. Research integrity forms the basis of trustworthy research and the verification of research results should be possible without restriction. However, from a legal perspective, the indefinite prosecution of research misconduct is exceptional, since even criminal offences are no longer prosecuted after a certain period of time.

**References**

The DFG's Rules of Procedure for Dealing with Scientific Misconduct (2019)

Link: https://www.dfg.de/formulare/80_01/v/dfg_80_01_v0819_en.pdf

# Handling multi-layered misconduct cases – The limits of ombudswork?

Thursday, 7th September - 11:45: Oral Session 2 : Handling Research Misconduct - from RFO to RPO - Oral

**_Dr. Katrin Frisch_** [1] **_, Dr. Nele Reeg_** [1]

**1.** _German Research Ombudsman (OfdW)_

Awareness for matters of research integrity is on the rise. While spectacular cases of research misconduct have often been in the limelight, one can observe a shift towards a closer look at the systemic structures that hamper good research practice and fairness towards all members of academia. Especially the practice of researchers abusing their power has recently seen increased coverage in the German media. While empirical data on conflicts in German academia is still scarce, the number of studies is slowly increasing. In a recent survey on authorship and data usage conflicts, conducted by the discussion hubs project of the _German Research Ombudsman_, a large majority of ombudspersons confirmed that many if not all of the cases they are dealing with display a combination of integrity issues and problematic behaviour. Using our poll data as a starting point we want to interrogate how ombudspersons can navigate these multi-layered cases and analyse the impact on practical ombudswork. The talk is also meant to stimulate a wider discussion on the ways different countries (and thus different research integrity systems) tackle the problem and which helpful measures can be put into place.

# Collective organization of scientific integrity officers in France and production of resources. E.g. the procedures manual describing the treatment of scientific integrity (IS) misconducts

Thursday, 7th September - 12:00: Oral Session 2 : Handling Research Misconduct - from RFO to RPO - Oral

**_Dr. ANNE FOGLI_ [1] , _Prof. Françoise LANTHEAUME_ [2]**

**1.** _Université Clermont Auvergne, Association RESINT_, **2.** _Université Lumière Lyon 2, Association RESINT_

The french network of scientific integrity offciers (SIO), initially organized as an informal network (RESINT, since 2016), has, since December 2022, been constituted as an association (Association RESINT), thus demonstrating, following the institutionalization of SIO (decree of December 2021), SIO's ability to self-organize and thus to equip themselves with organizations supporting their action and expressing the point of view of those who, in each research establishment, work to develop scientific integrity. The presentation will show how an informal network, then structured as an association, supports the activity of SIO by producing and then labeling a key resource for dealing with breaches of scientific integrity, in a participative and democratic process. This is an example of how a group of SIO can produce resources, which can always be revised and amended, reinforcing their skills and their recognition as key players in scientific integrity.

The RESINT network produced a "Guide pour le recueil et le traitement des signalements relatifs à l'intégrité scientifique" published in November 2018, which aimed to define the principles and main stages of a procedure for investigating scientific integrity misconducts and to provide SIO, as well as ESR establishments, with a common frame of reference. In 2021, the "Procedures" Working Group sought to expand on this first guide, and provide SIO with a set of practical, methodological and legal resources covering all aspects of an investigation. The Procedures Manual, which required more than 50 meetings between 2020 and 2022, is thus intended to be a tool at the service of SIO, aimed at supporting them in their concrete, day-to-day case management practice. The first version of the manual was circulated within the RESINT network in February 2022, with a call for comments from the SIO. A second version, taking into account feedback from the SIO, resulted in a consolidated version in December 2022.

The present Manual was "labellised" by the Association at its General Meeting on May 24, 2023, in order to guarantee, on behalf of the SIO collective, the quality of the document, and to commit to its wide distribution (HAL) and updating by the Association.

This document, which of course refers to the French legal and institutional framework, may nonetheless be of interest to other countries for its methodological aspects, and offers key information to support SIO in the appropriation of their missions, while proposing operational procedures for their implementation. The collegial investment reflected in this Manual is a strength for this document, which will be updated by the RESINT association.

# A third of European PhD students believe they have granted a guest authorship to a person in power. What should we do?

Thursday, 7th September - 12:15: Oral Session 2 : Handling Research Misconduct - from RFO to RPO - Oral

**_Mr. Mads Goddiksen_** [1]

**1.** *University of Copenhagen, Department of Food and Resource Economics*

In this talk, we will discuss the implications of the results of a recent major survey of European PhD students' perspectives on guest authorship and good authorship practice (Goddiksen et al., 2023). The survey included 1,336 participants from five European countries (Denmark, Hungary, Ireland, Portugal, and Switzerland) representing all major disciplines.

Participants in the survey were asked whether they, during their PhD, had awarded an authorship to a person in power (e.g. a supervisor or a head of department) even though the person had not made a significant contribution to the paper. Approximately three in ten (34%) reported that they had done so at least once. Half of these indicated that they had done so because they had been told to do so by the person in power. Participants from the medical, natural and technical sciences were much more likely to state that they had granted a guest authorship to a person in power than those from other faculties.

The study shows that guest authorships are perceived to be prevalent among early-career researchers in Europe, especially in the medical, natural and technical sciences. In addition, these practices appear to be reinforced through a combination of coercive power relations and dominant norms in some research cultures. In the talk we will discuss the implications of these results at three different levels: supervisors, universities, and inter-institutional networks.

References:

Goddiksen MP, Johansen MW, Armond AC, Clavien C, Hogan L, Kovács N, et al. (2023) "The person in power told me to"—European PhD students' perspectives on guest authorship and good authorship practice. *PLoS ONE* 18(1): e0280018. DOI: https://doi.org/10.1371/journal.pone.0280018

# Context, Organisational Cultures and Diversity in Research Ethics and Integrity

Thursday, 7th September - 11:30: Workshop 1 : Context, Organisational Cultures and Diversity in Research Ethics and Integrity - Workshop

*Dr. Ian Slesinger* [1] *, Dr. Susanne van den Hooff* [2]

**1.** *Trilateral Research,* **2.** *University of Humanistic Studies*

This workshop is based on insights obtained from a literature review on the state-of-the-art knowledge in research ethics and integrity (REI) carried out as part of the Horizon Europe BEYOND Project. This review sought out the most up-to-date research on the reasons why researchers commit research misconduct (RM) and the implications of ethics, organisational cultures and moral psychology for the promotion of research ethics/research integrity and the mitigation of research misconduct. The workshop will explore key issues raised by these findings relating to the benefits and challenges of context specificity and diversity in the promotion of REI and reduction of RM. This includes examining how contextual factors such as geography, global development, financial and political pressures, institutional culture, academic discipline, gender and career stage influence how REI should be understood and applied. In doing so, this workshop will interrogate how REI researchers and practitioners can negotiate the balance between universality, and specificity and diversity in defining, evaluating and promoting REI. This discussion can highlight potential pathways for creating more meaningful REI governance and education that stays relevant to the multiplicity of contexts in which REI matters, rather than reducing REI governance to a narrow set of rules and oversimplifying RM as a problem of individual malfeasance.

The BEYOND project is a Horizon Europe CSA that evaluates the complex combination of individual and organisational factors that influence RE/RI, rather than framing RM as a problem caused by individual researchers who are 'bad apples' that spread questionable research practices across an institution, discipline or the scientific community (Redman 2013). To do this BEYOND examines existing behavioural and related evidence-based approaches, and engages with relevant stakeholders to co-create a more holistic approach to managing RM and promoting RE/RI through four linked conceptual approaches: *EXPLORE, ENGAGE, GUIDE,* and *EQUIP*. This will feed into the development of a new best practice manual and guidelines to supplement existing RE/RI policies, new training materials and tools for RE/RI education, and a 2030 Roadmap for improving RE/RI culture.

**References**

Redman, Barbara Klug (2013). *Research misconduct policy in biomedicine: beyond the bad-apple approach*. Cambridge, Massachusetts: The MIT Press.

# Integrity codes of conduct: how to implement in policy?

Thursday, 7th September - 11:30: Workshop 2 : Integrity codes of conduct: how to implement in policy? - Workshop

**_Prof. Hugh Desmond_** [1] , **_Prof. kris dierickx_** [2] , **_Dr. Daniel Pizzolato_** [3] , **_Dr. Maura Hiney_** [4] , **_Jacopo Ambrosj_** [2]

**1.** _Leibniz Universität Hannover Universiteit Antwerpen,_ **2.** _KU Leuven,_ **3.** _EUREC,_ **4.** _University College Dublin_

Research integrity codes of conduct are typically written primarily for individual researchers. In this respect they are _ethical codes_ that aim to guide researchers in their decisions about methodology, data collection and interpretation, dissemination, collaboration, supervision. However, codes also represent authoritative and general statements about scientific values and principles. Hence, unsurprisingly, they fulfil other functions in science policy.

In this workshop, we bring attention to three other functions. First, they are _educational document_ for PhD researchers (Abdi et al. 2021, Pizzolato et al. 2020). Second, they are _legal documents_ used as charters, oaths, compliance documents, and soft legal documents (Desmond etal. 2021, Bülow et al. 2019). And third, since they partially define what "scientific success" looks like, they shape _incentive structures_ (Bonn etal. 2021).
These goals can diverge, and this creates challenges both for the design of the codes (i.e., what should codes emphasize) – as well as for their implementation. In this workshop we aim to focus especially on challenges of implementation. How best to integrate codes of conduct in these disparate areas of scientific and university policy?
We set out to present some ideas and research hypotheses, regarding each of the three distinct types of function. Based on the research of the speakers, we propose concrete ideas on how to meet these challenges, but our proposals will be primarily intended as stimulation for discussion. For each subsection, we will invite the participants to (1) share their own experiences of what the main challenges are in applying codes of conduct to education/legal/incentive purposes, (2) critique our proposals, (3) to share other ideas or hypotheses on meeting implementation challenges.

1.  **Introduction (Kris Dierickx and Jacopo Ambrosj)**

2.  _**Educational Challenges (Led by Daniel Pizzolato)**_

_Discussion questions:_
How can we best use integrity documents to convey to students what research integrity is? How to integrate educational function with the other functions?
_Hypotheses:_
Conveying the legal and incentive function of RI documents can communicate to students that RI documents are not mere abstract idealizations, and can motivate them to pay closer attention to what RI documents recommend.
**3. Legal Challenges (Led by Hugh Desmond)**
_Discussion questions:_
To what extent should RI documents be conceived of as compliance or as soft legal documents? Should we draft _different_ documents of RI that are dedicated to a legal function? Or are there advantages in mixing the ethical and the legal?
_Hypotheses:_

A separate legal document would indeed likely supplant the ethical document. The current combination of ethical and legal functions has its strengths. However, there should be more clarity on *how* RI documents are to be used in investigations of misconduct.

*4. Incentive Challenges (Led by Maura Hiney)*

*Discussion questions*:

Do codes of conduct need to shape career incentives? Or should codes point to values that are *independent* of career success?

*Hypotheses:*

The integrity of a scientist cannot be quantified in the way bibliometrics attempt to quantify the "quality" of a scientist. Nonetheless, integrity must play some role in the evaluation of the quality of a scientist. The way forward may lie in the promotion of a culture of integrity rather than in novel bureaucratic procedures of evaluation

# National guidelines for institutional self-governance in a European context

**_Dr. Vidar Enebakk_** [1], **_Mr. Thomas Østerhaug_** [2]

**1.** NESH, **2.** NENT

In a European context, a series of new resources (ALLEA, SOPs4RI) provide guidance and toolkits for research performing organisations (RPOs) empowering and enabling them to take responsibility for research ethics and research integrity (RERI). However, there is also need for more specific and tailored products, taking into account different national styles, cultural differences and legal frameworks. The aim of this poster is to present a new _National guidance for research ethics and research integrity in research performing organisations_, developed by the National Research Ethics Committees in Norway (FEK) to be published in September 2023.

In a Norwegian context, the Research Ethics Act (2017) regulates the governance of research ethics and research integrity. FEK provide guidelines for research ethics in different fields, and the RPOs must ensure that research is responsible. The content of RERI, however, is not regulated by law, but defined by the researchers themselves in accordance with principles of academic freedom and institutional self-governance. One challenge is to balance legal regulation, institutional autonomy and the freedom and responsibility of researchers. Another challenge is to provide guidance within this national framework, while also taking the broader European context into account.

The aim of the _National guidance for research ethics and research integrity in research performing organisations_ is to provide a framework for institutional self-governance for Norwegian RPOs. The guidance is holistic, highlighting nine different topics the institutions should focus on: 1) Teaching, 2) Supervision, 3) Research community, 4) Administrative support, 5) Research leaders, 6) Ethical committees, 7) Ombudspersons, 8) Institutional management and 9) Investigation of misconduct. The poster will introduce these various topics more generally. Our aim is to share our reflections with the broader RERI-community. Hopefully this resource can serve as inspiration for other initiatives throughout Europe, providing practical solutions to specific problems in a national context. This could be useful in harmonizing the various national initiatives within a shared European governance framework for RERI.

References

https://sops4ri.eu/

https://ukrio.org/wp-content/uploads/UKRIO-Royal-Society-Integrity-in-Practice.pdf

https://ec.europa.eu/research-and-innovation/en/statistics/policy-support-facility/mle-research-integrity

# Think globally, Act locally: Promoting Research Integrity and Enhancing the European Leadership

Thursday, 7th September - 14:30: Plenary Session B - Actions and initiatives towards an increasingly responsible European research culture - Oral

***Dr. Isidoros Karatzas*** [1]

**1.** *European Commission, DGRI*

Think globally, Act locally: Promoting Research Integrity and Enhancing the European Leadership.

In recent years, Europe has taken a leading role in integrity stewardship, supporting at both the national and EU levels the actions that promote research integrity and research ethics as pillars of research excellence. The revision of the European Code of Conduct for research Integrity, the EU council conclusions under the Presidency of Luxembourg and France have underlined the policy importance of research integrity in the EU but also internationally. While progress is timely, new challenges such as the use of Artificial Intelligence tools require robust procedures and a continuous exchange of good practices and discussions/actions among the integrity stakeholders. The European programme of research, the Framework Programme, has been leading the efforts to support the integrity structures and the relevant research community in addressing issues of common interest such as building trust, improving education, and training and sharing of knowledge and skills. While this work will continue, it is important that is complemented by national efforts and actions to facilitate an "integrity by design" approach.

# The 2023 Revised Edition of the European Code of Conduct for Research Integrity

Thursday, 7th September - 14:30: Plenary Session B - Actions and initiatives towards an increasingly responsible European research culture - Oral

*Prof. Krista Varantola* [1]

**1.** *Council of Finnish Academies*

As described by ALLEA (https://allea.org/code-of-conduct/), *"The European Code of Conduct for Research Integrity* serves the European research community as a framework for self-regulation across all scientific and scholarly disciplines and for all research settings.

The 2023 Revised Edition of the European Code of Conduct for Research Integrity has been updated to ensure that the European Code of Conduct remains fit for purpose and relevant to all disciplines, emerging areas of research, and new research practices. The European Commission recognizes the European Code of Conduct as the reference document for research integrity for all EU-funded research projects and the European Code of Conduct increasingly serves as a model for organisations and researchers across Europe and beyond.

The changes in the 2023 revision reflect an increased awareness of the importance of research culture in enabling research integrity and implementing good research practices and place a greater responsibility on all stakeholders for observing and promoting these practices and the principles that underpin them. They likewise accommodate heightened sensibilities in the research community to mechanisms of discrimination and exclusion and the responsibility of all actors to promote equity, diversity, and inclusion. It also takes account of changes in data management practices, the General Data Protection Regulation (GDPR), and recent developments in Open Science and research assessment."

# Launch of the ENRIO's open-access web bulletin RIPE - "Research Integrity Practice in Europe"

Thursday, 7th September - 14:30: Plenary Session B - Actions and initiatives towards an increasingly responsible European research culture - Others

**_Dr. Anni Sairio_** [1]

**1.** _Finnish National Board on Research Integrity TENK_

Research lntegrity Practice in Europe (RIPE) is ENRIO's open-access web bulletin providing practical information on research integrity and research ethics in Europe. RIPE publishes short, informative articles in English. As a practice oriented publication series, it assists research integrity professionals in their work and complements the theoretical, scholarly-oriented discourse on research integrity, research ethics and good scientific practice. RIPE serves as a publication channel for the ENRIO Congresses on Research lntegrity Practice and is launched in 2023.

# Communicating Research Integrity to the masses – The Research Ethics Magazine

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Mrs. Elin Fugelsnes* [1]

**1.** *The National Research Ethics Committees*

The Research Ethics Magazine is a periodical and specialized magazine which has been published by the National research ethics committees in Norway since 2001. As far as we know, such a magazine is unique in an international context.

Awareness of research ethics among the general public is important for fostering trust in research. The Research Ethics Magazine contributes to creating such an awareness through publishing news and feature articles, book reviews and opinion pieces about research ethics in the broadest sense. We provide insight into issues related to ethics and integrity, including the societal dimension of RI, in all research and in the entire research system. We believe in communicating also complex topics in an easily understandable, comprehensible and engaging way. This makes us relevant and important to not just researchers and students, but also authorities, the media, and the general public.

The National Research Ethics Committees have overall responsibility for the magazine, but the editor in chief has full responsibility over the editorial content and decisions. In the same way as trust in research is important, this editorial independence helps enhancing public trust in the magazine and its content.

The magazine is published in print and as an online edition three or four times a year. Each issue is distributed free of charge to around 5,000 subscribers. We also collaborate with Norway's largest online science news magazine which allows the publication of our articles on their websites. In this way research ethics can be communicated to even more people.

At the ENRIO conference, we want to present some key facts about the magazine, including its organization and function, and give an insight into the journalistic work processes. We wish to present a specific example that illustrates how you can create good journalism about research ethics. We also plan to distribute an English edition with selected articles from the magazine.

Through our participation at ENRIO we hope to inspire others to make similar resources. We also want to create a meeting place for everyone working with communication of research ethics, and thus the opportunity to exchange experiences and ideas.

Link to The Research Ethics Magazine:

Norwegian: https://www.forskningsetikk.no/ressurser/magasinet/

English: https://www.forskningsetikk.no/en/resources/the-research-ethics-magazine/

Forskningsetikk 0123 forside.jpg

# POIESIS: How Research Integrity and Open Science affect Public Trust in Science

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

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Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Serge Horbach* [1], *Dr. Tine Ravn* [1], *Prof. Niels Mejlgaard* [1], *Dr. Panagiotis Kavouras* [2]

**1.** *Aarhus University,* **2.** *National Technical University of Athens*

While societal dependence on sound scientific research and responsible innovation has become increasingly visible, concerns about public trust and mistrust in science have simultaneously been mounting. The debate about societal trust in science is characterised by two intuitively appealing assumptions: First, that trust depends on scientists' capacity to demonstrate high standards of research integrity and ethics, and that breaches to research integrity will lead to mistrust. Second, that citizen and civil society's involvement in co-creating research agendas and contents makes research more relevant and responsive to society, consequently strengthening trust. The POIESIS project sets out to study these assumptions. Despite the assumptions' plausibility and frequent use as motivation for addressing research integrity and open science issues, they are understudied and hitherto provide little guidance for practitioners to foster public trust. POIESIS addresses this through an extensive empirical programme, including an assessment of international public surveys on public perceptions of science, as well as elaborate primary data, collected through expert interviews, focus groups, public deliberative workshops and policy workshops. It aims to provide recommendations for tackling societal mistrust in science, research and innovation, as well as for strengthening the co-creation of research and innovation contents by society. In particular, it will have a strong focus on 'chains of mediation', i.e. channels that support the communication of research findings and practices to non-academic actors. This will lead to better understanding of the role of science communicators in fostering public trust in research through research integrity and open science practices.

The POIESIS project is currently ongoing and will just have celebrated its first anniversary by the time of the ENRIO congress. At the congress, we will present early findings from the analyses of international survey data, including the state of play on public trust in science, particularly in connection to covid-19 and climate science, and in the aftermath of misconduct cases. This work identifies an initial set of indicators affecting public trust in science. Second, we share findings from public deliberation workshops, conducted in seven countries with 280 participants, on the effects of research integrity and open science on public trust.

# For equitable, inclusive, and human-centered extended reality technologies

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Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Panagiotis Kavouras* [1] *, Prof. Rosemarie Bernabe* [2] *, Prof. Rigmor Baraas* [3]

*1. School of Chemical Engineering, National Technical University of Athens, 2. Professor of Medical Research Ethics, University of Oslo, 3. Professor of Optometry and Visual Neuroscience, University of South-Eastern Norway*

**Description of the project**

The potential benefits of eXtended Reality (XR) technologies – that encompass Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), Diminished Reality (DR) and Modulated Reality (ModR) – render them candidates for an expanding spectrum of applications in research and innovation (Engineering and Manufacturing, Food industry, Defence) and services (Education, eCommerce and Retail, Real Estate, Travel and Tourism, Entertainment and Gaming). This drive towards eventual ubiquity comes with potential risks that encompass a wide array of challenges, related to safety, privacy, security, interoperability, and research integrity. These challenges need to be tackled now, at a time when the European Research Area strives to achieve a place in the world market of XR technologies by integrating into the development of XR technologies the human-centered approach. The "Equitable, Inclusive, and Human-Centered eXtended Reality" (XR4HUMAN) project aims at co-creating living guidance on ethical and related policy, regulatory, governance, and interoperability issues of eXtended Reality (XR) technologies.

**Relevance to research integrity practice**

A common denominator of XR4HUMAN's outputs, listed below, is to provide safeguards for the protection of personal data of XR technologies' users (via the European Code of Conduct) and achieve transparent processes for the development of responsible regulation and governance of XR technologies (via a wide co-creation exercise with all relevant stakeholders).

**Expected or achieved outcomes of the project**

The operationalisation of XR4HUMAN's main aim is going to be achieved by:

- Guiding companies and regulators through (i) Interoperability Guidance Document; (ii) a European Code of Conduct for Equitable, Inclusive, and Human-Centered XR Technologies; (iii) recording and demonstrating the practical application of the XR Code of Conduct.
- Equipping companies and regulators with an online repository of test cases to allow developers to demonstrate evidence of adherence to best practices.
- Equiping and guiding users through a rating system and educational materials.
- Engaging companies and other stakeholders (i) to enhance the uptake of the XR Code of Conduct, the Guidance for Interoperability, and the empowerment of end-users; and (ii) to establish a permanent digital European Forum to facilitate stakeholder dialogue on issues of ethics and interoperability.

Xr4human logo vertical.png

# Learners' self-assessment and self-report as measures to evaluate the effectiveness of research ethics and integrity training: Can we rely on self-reports?

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Friday, 8th September - 16:00: Break & Poster - Poster

**Dr. Anu Tammeleht [1], Prof. Erika Löfström [2]**

**1.** University of Helsinki, University of Tartu, **2.** University of Helsinki

**Background and research question**

To evaluate what works in research ethics and integrity education, self-assessment is among the most commonly used measures (Steele et al., 2016; Stoesz & Yudintseva, 2018). Self-assessment most commonly asks about content satisfaction (i.e., how useful was the content), and affective satisfaction (i.e., satisfaction with the course) (Turner et al., 2018). While self-assessment is the most popular measure to evaluate learning in integrity training, can we rely on these? The focal issue is the accuracy in which the learners can assess their learning outcomes. We asked the following research question: How accurately are learners able to assess their learning in RE/RI?

**Method**

Data were collected through paper-and-pencil forms and online forms from bachelor and master students about the clarity and level of material, role of the group, usability of the new knowledge, and from master's and doctoral students on self-evaluation of their level of understanding (on the SOLO taxonomy describing levels of understanding, Biggs 1999). Participation was voluntary and based on informed consent. A total of 381 participants contributed with data.

**Results**

The level of the training as well as clarity had been average; not too difficult or easy. Results showed that 87% of respondents accurately evaluate their level of understanding and support it with description when compared to facilitator ratings. In self-reflection, the participants tended to indicate mostly higher levels of understanding (according to SOLO taxonomy) while descriptions indicated a lower level. Still, data indicated that during a second reflection round the responses became more aligned.

**Conclusions and recommendations**

Self-reports are relatively reliable, and their reliability as measures of learning in integrity training improves as participants get more experience in assessing their learning. What makes self-reports useful are their feasibility and applicability in various training contexts. When setting up new training, it may be worthwhile to devote some time to comparing learner assessments with those of facilitators to establish that the course is filling its function in promoting research integrity and that facilitators have a realistic understanding of how the instruction and learning activities actually promote learning.

**References**

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# Can Norway investigate misconduct in research publications from another country?

Thursday, 7th September - 11:00: Break and Posters - Poster

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Friday, 8th September - 16:00: Break & Poster - Poster

*Mrs. Ragnhild Aursnes Dammen* [1]

*1. National Research Ethics Committees (Norway)*

Norwegian courts will discuss the following question starting in May 2023:

A researcher is now employed by, do research at, and publishes for a Norwegian research institution. The same researcher used to be employed by, do research at, and publish for a research institution in another country. Can Norway investigate misconduct related to articles published when the researcher was employed at, and published for, the research institution in the other country?

This has relevance to international research integrity practice because the research institution must clean up what is what and distinguish between several types of questions. First, one question is which country's law, if any, is applicable? This leads to wondering if this question is about law or if it is more a question about ethics and integrity? The law is applicable within the territory, but is the research ethics and integrity applicable for the researcher's overall research work? Could it be an argument for handling in Norway a misconduct case from another country, that the ethical and integrity norms in Norway differ from those in the other country? It is further relevant to ask what are the consequences for the Norwegian research institution, the consequences of knowing that an employee has committed possible misconduct abroad? And what are the consequences for the researcher, both of having it investigated in Norway or not? Finally, it could be relevant to ask what does it mean to have trust in science? Should research from one researcher be considered as a whole, and independent of national borders? It is possible that the Norwegian courts will touch upon all these questions.

The oral presentation will present the question regarding whether Norway has competence or not and it will give information about the status of the answer from the Norwegian courts. This will form the basis for a discussion of to what extent European handbooks, guides and codes of conduct mention the question, and to what extent they suggest or should suggest further practical solutions.

# Coordinated - yet fragmented?

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*Mrs. Anjam Latif Shuja* [1]

**1.** *National Research Ethics Committees (Norway)*

The attention towards which type of influence the European Union (EU) has regarding decisions and national priorities in Norway, forms the basis for a discussion on what further role the EU should take in the field of Research Ethics (RE) and Research Integrity (RI). The focus of this poster is to elaborate the existing role of the EU and the limitations and opportunities that are present, but not leveraged for various reasons, thus leading to fragmented and comprehensive effort towards this field. Furthermore, the purpose is to propose the Norwegian model which consist of both RE and RI, as a measure to make the area more comparable between countries.

Since the RE and RI area varies from country-to-country more collective efforts from the EU, in addition to *European Code of Conduct for Research integrity,* will lead to harmonizing disparities across countries. These effort from the EU can thereby be a source for reducing fragmentation in this field. Viewed in this context, the Norwegian model for RE and RI is presented, as it is a framework based on Legislative regulations that provide transparent and predictable procedures for the management of RE and RI. The Norwegian way of organizing RE and RI reduces fragmentation and unclear responsibilities, while preserving the professional independence. This is also a model endorsed by the society and public sector, because the committees consist of researchers from different disciplines - in addition to laypeople, which means that different expressions, values and views are better safeguarded in the society.

The challenge of fragmentation within the field of RE and RI can be improved, if the EU takes more responsibility and ownership to facilitate even more coordinated effort, towards measures to harmonize this field. Norway's experience with a system that functions as intended, can be used in a learning context and to facilitate structures within the EU, that can help make the EU's effort more targeted with an integrative approach. Thereby leading to research excellence.

# The ERION network: Implementation matters in Ethics and Research Integrity

Thursday, 7th September - 11:00: Break and Posters - Poster

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Friday, 8th September - 16:00: Break & Poster - Poster

*Ms. Teodora Konach* [1] *, Ms. Borana Taraj* [1] *, Ms. Susan Hommerson* [2] *, Dr. Joana Porcel* [3]

*1. EARMA, 2. Eindhoven University of Technology, 3. Barcelona Institute for Global Health*

We will reflect on the importance of ethics and research integrity and collaborations between researchers, institutional leaders and the community of ethics and research integrity experts, advisors and practitioners.

EARMA is the European Association of Research Managers and Administrators. In 2018, it established the Ethics and Research Integrity Officer Network[1] (ERION) thematic group. ERION is an open community to discuss the practical and implementation side of Research Ethics and Integrity. It is a community of practitioners, rules and procedure experts, and its main purpose is to provide a forum for knowledge-sharing, dissemination and collaboration in order to facilitate implementation of relevant policy and establishment of best practices.

ERION acts as a stakeholder for the European Commission DG R&I Ethics Sector. A key component of ERION are the European projects on ethics, integrity, responsible research: **SOPs4RI**, **iRECS**, **PATTERN** which are working for a strong responsible research integrity culture in Europe and increasing trust in science.

The community meets twice or more per year. Topics discussed in past ERION meetings included: Horizon Europe, Open Science, International collaborations, GDPR implementation, training, ethics support in times of COVID-19, implementing institutional research integrity promotion plans, research evaluation and assessment, and many others. More information on the **EARMA website** and **EARMA YouTube channel**.

[1] https://www.earma.org/about/governance/thematic-groups/ethics-and-research-integrity-officer-network-erion/

# How to solve research ethics issues? -Role of Certified Research Ethics Professionals (CReP) as an Ethical Review Expert-

Thursday, 7th September - 11:00: Break and Posters - Poster

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Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Yusuke Ebana* [1]

*1. Tokyo Medical and Dental University*

Responding to diverse values in the world, when conducting medical research, researchers and research institutions need to establish rules to protect research subjects. Japan has three rules for medical research: ICH-GCP, the Clinical Research Act, and the Ethical Guidelines for Medical Research Involving Human Subjects. A high level of expertise is required to confirm that the research protocol conforms to the relevant guidelines in Japan because the guidelines are frequently revised. A professional group of experts, CReP, has been established to ensure that ethics reviews are conducted.

Expertise is tested by multiple-choice questions on research ethics and ethical review. Exam questions are created by the CReP Certification Committee. After conducting the test, the committee will review the suitability of the questions again. Those that meet the passing criteria will be certified as CReP for three years. Renewal of accreditation is determined by credits earned through participation in academic meetings, training seminars, and study of teaching materials.

CReP system started in January 2019, and so far 268 people have been certified. Of the institutions to which the CRePs belonged, 73.8% were universities, 5.6% were national centers, 10.1% were hospitals and clinics, and 7.1% were companies. So far, we have held information exchange meetings 25 times, with about 30 to 120 participants. Satisfaction was 80 to 90%, including those who were satisfied and those who were somewhat satisfied.

In addition to ICH-GCP, Japan has a Clinical Research Act and ethical guidelines. Although the basic stance on research ethics remains the same, each of them operates differently. Here, especially with regard to ethical guidelines, the operation of each institution differs greatly, so a network such as CREP is necessary.

The established CReP system has produced 268 CRePs. At the information exchange meeting where CRePs gathered, they discussed the revision of the guideline and confirmation of compatibility, and the satisfaction level was high. It is believed that this will contribute to the standardization of ethical review.

# [online] Signs, Symptoms, and Situations of Moral Distress during the Pursuit of Research Excellence

Thursday, 7th September - 11:00: Break and Posters - Poster

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Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Katrina Bramstedt* [1] *, Ms. Anna Kang Liu* [2]
*1. F. Hoffmann-La Roche AG, 2. Genentech*

This presentation identifies and explores signs, symptoms, and situations of moral distress during the pursuit of research excellence. Signs are objective, observable phenomena that can be identified by another person (such as a bioethicist, research integrity officer, or research colleague). Symptoms are subjective experiences that are reported by the researcher in distress. The context of this presentation is the research and development of pharmaceuticals in corporate industry; however, there is the potential for application to other settings such as research in academia, hospitals, and non-profit institutes. We argue that the research integrity ecosystem must include recognizing and addressing moral distress in researchers, in addition to RCR training, and identifying and sanctioning misconduct.

# Ten simple rules for scientific fraud and misconduct

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Friday, 8th September - 16:00: Break & Poster - Poster

*Mr. Nicolas Rougier* [1]

*1. Inria*

In 2018, I co-authored with John Timmer a preprint entitled "Ten simple rules for scientific fraud and misconduct". Our goal was obviously not to encourage scientific fraud nor misconduct but rather to alert the reader to problems that have arisen in part due to the Publish or Perish imperative, which has driven a number of researchers to cross the Rubicon without the full appreciation of the consequences. This article has been the base for several talks in the lab and for workshops with PhD Students in the Bordeaux area. Even though PhD students had to attend a mandatory course on scientific integrity, a lot of them came nonetheless to the workshop, even though it was not mandatory. The explanation for such popularity is certainly to be found in the provocative title and contents since during these lessons, I really explain how to cheat (based on numerous real-world cases, see cited paper). These lessons are also the place of interesting discussions with the students and between the students. For example, they asked questions about self-plagiarisms, code licences, etc. Unfortunately, there was no study following the workshops in order to assess whether this method of introducing scientific integrity is sound and/or better than a more traditional one. During this talk, I'll present the material I've been using and hopefully engage the audience in order to discuss this teaching approach and proably its limits.

# Anonymity, communication and transparency in investigation procedures

Thursday, 7th September - 16:00: Invited Panel 1 : Anonymity, communication and transparency in investigation procedures - Oral

**Prof. Nicole Boivin** [1] , **Dr. Sanna-Kaisa Spoof** [2] , **Mr. James Parry** [3]

**1.** *Max Planck Institute,* **2.** *Finnish National Board on Research Integrity TENK,* **3.** *UK Research Integrity Office (UKRIO)*

This panel will focus on the diversity and complexity of cases related to research integrity breaches. Anonymous allegations, gender differences in the assessment of misconduct and forms of abuse of power are often relevant keywords in the investigation of such cases, which mostly have serious consequences for the personal and professional lives of those affected. Different perspectives and the concrete circumstances of each case must always be taken into account in the examination and evaluation.

However, investigations can have an impact not only on the accused and whistleblowers, but also on the institutions involved. It is therefore important to also give due consideration to issues of transparency and communication when developing and implementing investigative procedures, and to consider reporting and monitoring systems where appropriate.

In the panel we would like to bring together reports on these points from very different perspectives and stimulate discussion on the aspects mentioned.

# The adverse impacts of research misconduct

Thursday, 7th September - 16:00: Oral Session 3 : Assessing the impact of research misconduct and correcting the scholarly record - Oral

**_Dr. Daniel Pizzolato_** [1] , **_Dr. Rowena Rodrigues_** [2]

**1.** _EUREC,_ **2.** _Trilateral Research_

Misconduct in research can have serious socio-economic consequences, both for the individual and for society. We have conducted a review of peer-reviewed and grey literature on the socio-economic consequences of research misconduct and questionable research practices. This work seeks to understand the impact of research malpractice on the economy and different social groups, as well as the socio-economic uncertainties it creates for end-users, the international scientific community and the public sector. Misconduct, such as falsification, fabrication or plagiarism, can lead to false or misleading results, resulting in wasted resources, reputational damage and financial loss. It can also affect public confidence in science and research, leading to a decline in funding and support. In addition, research misconduct can have a detrimental effect on the careers of the individuals involved, with serious consequences such as job loss, reduced funding opportunities and even legal action. It can also discourage young researchers from working in the field, resulting in a loss of talent and potential innovation. In addition, the consequences of research misconduct can extend beyond academia and research institutions and affect society, leading to misallocation of resources, misguided policy decisions and compromised public health and safety. In summary, research misconduct has significant socio-economic consequences that can impact individuals, institutions and society, highlighting the importance of maintaining high standards of research integrity and putting in place appropriate mechanisms to address it.

# Research security and research integrity

Thursday, 7th September - 16:15: Oral Session 3 : Assessing the impact of research misconduct and correcting the scholarly record - Oral

***Dr. Helene Ingierd*** [1]

***1.*** *National Research Ethics Committees (Norway)*

There in an increasing concern for security in in the global research ecosystem, and a need for preventing and managing misconduct related to unauthorized information transfer and foreign interference.[1] Security concerns are related to societal considerations, which to a certain extent are integral to frameworks for research integrity.[2] At the same time, security concerns often conflict with other integrity principles and norms, such as openness and non-discrimination. For example, disclosure of research results may enable others to produce similar results for malign uses. It is unclear how to delimit research security and disputed to what extent security should be recognized as integral to research integrity. This disagreement is related to broader discussions on the relationship between research integrity and social responsibility. These discussions have increased relevance in a time with political aims of openness and collaboration on the one hand, and a worsened global security situation, on the other hand.

The debate has important implications for how to handle assessments and cases related to research security. *Research integrity* is defined here as an overarching term that refers to the ethos of science, and thus to values, principles and norms that constitute scientific activities.[3] *Security considerations* may include assessments are often related to dual use technology and thus to risks associated with the use of technology that has the potential to be exploited to cause harm.[4]

In this paper, I will stress the link between researchers' professional and social responsibility yet aim to delimit the societal dimension of researchers' responsibility. I argue that many of the assessments related to research security should be handled by researchers and research institutions. Such assessments may be carried out as part of the researchers' responsibility to assess risks that may have a bearing on the interpretation and possible applications of the research findings.

[1] OECD (2023), *OECD Science, Technology and Innovation Outlook 2023: Enabling Transitions in Times of Disruption*, OECD Publishing, Paris, https://doi.org/10.1787/0b55736e-en.

[2] For example, provision 14 in the Singapore Statement on Research Integrity states *Researchers and research institutions should recognize that they have an ethical obligation to weigh societal benefits against inherent in their work* (2010), https://www.wcrif.org/downloads/main-website/singapore-statements/223-singpore-statement-a4size/file.

[3] Sutrop, M., M. Parder and M. Juurik (2020), "Research ethics codes and guidelines", in Handbook of Research Ethics and Scientific Integrity, Springer International Publishing, Cham, https://doi.org/10.1007/978-3-030-16759-2_2.

[4] OECD (2022), "Integrity and security in the global research ecosystem", *OECD Science, Technology and Industry Policy Papers*, No. 130, OECD Publishing, Paris, https://doi.org/10.1787/1c416f43-en.

# Error correction as part of research integrity practice: insights from a survey among chemical researchers

Thursday, 7th September - 16:30: Oral Session 3 : Assessing the impact of research misconduct and correcting the scholarly record - Oral

### Dr. Frederique Bordignon [1]

**1.** *Ecole des Ponts, Marne-la-Vallée, France; LISIS, INRAE, Univ Gustave Eiffel, CNRS, Marne-la-Vallée, France*

In a survey among chemists (April-May 2023), we found that **88% of them have already spotted an error** (honest or not) in a publication, and 50% in their own papers. Errors are therefore common in scientific literature, and when they are detected, they must be corrected to mitigate the consequences of their propagation. The "cleaning of the published body of evidence" (Bouter, 2023) can take several forms: a formal correction of the scientific record with correction/retraction notices issued by publishers, or a variety of self-correcting processes that affect the scientific record in a less formal way (Dougherty, 2019).

Such processes reflect researchers' behaviours when faced with errors. They need to be studied in order to assess which ones can be fostered and promoted. We surveyed researchers to identify their **attitudes towards errors**, and to gather their views on the effectiveness of different correction processes, including through free-text answers provided by 40% of the respondents.

We analysed 977 responses from respondents having completed at least 67% of the survey. Among the respondents who have already spotted an error, 79% state they had taken action. Of these, very few undertook a replication project (4%), published a formal refutation (4%) or a comment on PubPeer (2%), or submitted a Letter/Comment/Note to the journal (13%). But those who did are the ones who most often agree that those actions do correct science (85-96%). By contrast, the most frequently cited action being taken is to mention the issue in private discussions; but only 55% agree that this corrects science.

For 55% of respondents, the main motivation for taking any kind of action is "As a matter of principle, if there is an error, it should be corrected". This shows that researchers are quite willing to act to correct errors (their own as well) and have internalised this as a research integrity practice. Nevertheless, the *verbatims* show unambiguously that good intentions are often hindered by reluctant publishers/editors rather than by shyness or fear of hurting peers, even if social relationships, and in particular the presence of a "hierarchical" link with a peer, are sometimes presented as an obstacle to taking action to correct an error.

Together with the other results provided by this survey, **we present correction as drawing on many virtues and as a good practice to be stimulated, and promoted in training courses, codes of conduct and the media**. Special efforts should be directed at researchers with editorial responsibilities in order to improve the peer-review process and post-publication correction processes.

References

Bouter, L. (2023). Research misconduct and questionable research practices form a continuum. *Accountability in Research*, 1–5. 10.1080/08989621.2023.2185141

Dougherty, M. V. (2019). Correcting the scholarly record for research integrity. *Monash Bioethics Review*, 37(1–2), 76–78. 10.1007/s40592-019-00093-x

Note

no.951393.

# How good are medical students in detecting duplications in digital images from research articles: A cross-sectional survey

Thursday, 7th September - 16:45: Oral Session 3 : Assessing the impact of research misconduct and correcting the scholarly record - Oral

*Dr. Antonija Mijatovic [1], Mr. Luka Ursić [1], Dr. Marija Franka Žuljević [1], Ms. Nensi Bralic [1], Mr. Miro Vukovic [1], Mr. Vladimir Ercegovic [1], Dr. Marija Roguljic [1], Prof. Ana Marusic [1]*

**1.** *University of Split School of Medicine*

**Background**

Image manipulation with the intent of misrepresenting the results of a scientific experiment is considered to be serious research misconduct. Such manipulations include cropping, colour adjustment, selective enhancement, and duplication, among other techniques. Recent studies have shown that this phenomenon is more prevalent in science than previously thought, pointing to a need for both comprehensive education on research ethics and training of editors and scientists on recognizing image manipulations.

**Aim**

We aim to explore the capability of students of medicine, dental medicine, and pharmacy to detect duplications in scientific figures by administering a questionnaire comprising a series of images with cases of duplications of image elements.

**Methods**

We created a questionnaire with six tasks with images (Western blots, cell culture, and histological sections). Each image included one or more of three duplication categories: simple duplication, duplication with repositioning, or duplication with alteration. We selected the images from Science Integrity Digest, Retraction Watch, and PubPeer. The images contain a total of 21 duplications; the students can score a maximum of 34 points for correct duplicate detection, as some duplications occur multiple times.

We are currently testing students of medicine (both the Croatian and the English programme), dental medicine, and pharmacy programmes at the University of Split School of Medicine. The students are required to detect duplications in the images and mark them with a coloured pencil, with each colour representing one detected case of duplication. We intend to analyse both the number of correctly and incorrectly detected duplications and whether these correct detections mostly occurred with cell/histological or gel images.

**Results**

As of the submission date, we surveyed 348 students; six of whom did not fully complete the survey. Out of the 342 included students with a mean age of 22.7 (standard deviation (SD) = 2.27), 273 (79%) were female. Among all students, ninety-six were enrolled in the Pharmacy program, 98 in Medicine in English, and 148 in Dental medicine.

Students correctly marked a median of 10 duplications (interquartile range (IQR) = 5) (29% of total correct answers) and incorrectly marked a median of 2 (IQR = 3). Students found more duplications relating to gel (median = 33.3%, IQR = 28.57%) than cell/tissue images (median = 30.7%, IQR = 13.7%) (P<0.001).

We performed linear regression with the following covariates: study programme, study year, year of birth,

and gender; only gender was found to be a predictor for the number of correctly and incorrectly marked duplications (albeit a weak one ($R^2 = 1.3\%$)), with female students having higher scores for both categories. There was no difference in correctly and incorrectly marked duplications between students of the first and fifth years. The last of the six tasks was the most difficult for students (median = 0%, IQR = 0%) and the third was the easiest (median = 100%, IQR = 0%).

**Conclusion**

Based on the analysis, it seems that students, on the whole, have poor skills in detecting image manipulations. Overall, there is a need to implement comprehensive training and educational efforts to increase the awareness of such cases of research misconduct, as well as the ability to identify them in practice.

# Responsible Supervision from the perspective of the PhD candidate and the supervisor

Thursday, 7th September - 16:00: Oral Session 4 : the central role of students and early-career researchers' supervision for research integrity - Oral

### _Dr. Tamarinde Haven_ [1]

**1.** _Aarhus University_

One important way to strengthen research integrity is through supervision. Yet how is responsible supervision understood from different perspectives, and how do you create an atmosphere of psychological safety where dilemmas and mistakes can be openly discussed? This project aims to develop, validate and pilot a measurement instrument for responsible supervision where PhD supervisors evaluate themselves and are evaluated by their PhD candidates. Responsible supervision is thought to have three core components: (1) the supervisor is well-versed in responsible research practices (RRPs), (2) the supervisor encourages his/her PhD candidates to apply RRPs, and (3) the supervisor creates a psychologically safe climate where mistakes can be discussed. However, there has been little investigation into RRPs and although psychological safety has been studied extensively, the majority is in settings outside academia. The measurement instrument will be developed using an innovative approach. Through focus groups, we will investigate which practices researchers say _should be done_ to foster responsible research, how they play a role in supervision, and which actions a supervisor can take to assure a psychologically safe supervisory climate. In this talk, I will give an overview of the literature on responsible supervision, highlight some case studies, and close with some work-in-progress results from recent focus groups with PhD candidates and supervisors from different disciplinary fields.

# Research integrity and the role of students

### *Dr. Markus Seethaler* [1] *, Mrs. Anna-Katharina Rothwangl* [1]

**1.** *Austrian Federal Ministry of Education, Science and Research*

It is widely acknowledged that educating students in research integrity is important. There is evidence that introducing formal courses at doctoral level has positive effects (Abdi et al. 2021; Labib et al. 2022). While we agree that it is crucial to teach students about research integrity, we argue that their role in this area is broader than is sometimes assumed. We will discuss two case studies from a student ombuds office. One in which a student was confronted with a suspicion of plagiarism, but without transparent regulations about the consequences. In the other case, a higher education institution relied on the results of a plagiarism checker software without any further validation. We argue that these case studies offer two insights into the role of students in research integrity.

1) There is an essential link between academic education and research integrity.

While it is important to implement formal courses as well as informal settings for teaching and learning research integrity, there is room for improvement in the intensity of these efforts especially at the undergraduate level. Furthermore, fostering a culture of research integrity and living scientific values in higher education institutions is essential (Löfström 2018). Students should be socialized into the scientific community through opportunities to participate in research activities and occasional informal interactions with members of their departments in addition to formal learning approaches.

2) There is a need for transparent and publicly available policies on research integrity and misconduct handling procedures.

Most higher education institutions already provide statements that refer to core principles and values they expect of students. However, fewer higher education institutions provide transparent, comprehensive, and accessible documents explaining the procedures for handling allegations of misconduct (Zucha, Engleder, 2022). It is imperative that students have access to guidelines explaining the steps required, the people involved, and an estimate of the time needed to check whether the suspicion is valid. We argue that students need certainty about two aspects: (1) that their work will be in accordance with basic academic standards if they follow certain rules and principles, and (2) the process for identifying and the consequences of academic misconduct.

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# Feedback from doctoral supervisors training in France

Thursday, 7th September - 16:30: Oral Session 4 : the central role of students and early-career researchers' supervision for research integrity - Oral

**_Dr. Simon Thierry_** [1]

**1.** *Adoc Mètis*

Adoc Mètis is a training company specialized in human resources management for the academic sector in France. Since 2013, the company provides training for doctoral supervisors in a dozen universities and national research institutions. This paper gives our feedback, as trainers of supervisors, regarding the need for training about research integrity.

We show that, with the exceptions of a few institutions, doctoral supervisors rarely attended training on research integrity. The existing trainings frequently broach the subject from a fraud perspective and thus skip most of the other aspects. Said trainings offer little practical advice on how to discuss research integrity with the doctoral researchers, which leads most supervisors to mainly discuss consequences of "getting caught".

We discuss feedback we get from doctoral researchers during the trainings we provide them (specific trainings about research integrity or larger trainings including modules about it) : differences between the training theory and the field practice in their laboratories (e.g. article signatures), focus made on fraud and more specifically on plagiarism in their other trainings, boring nature of information given during doctoral school meetings (perceived as yet another administrative obligation or as infantilising advice).

We present the advice we give to doctoral supervisors in our trainings and for which we get positive feedback during feedback sessions a few months afterwards : discussing it in one-to-one meetings, placing doctoral researchers in a reflective posture to help them give sense to the principles of research integrity.

We conclude with thoughts on the systemic problems of pressure for publication : more and more doctoral schools institute bibliometric criteria to get the authorisation to defend and insist on it frequently during doctoral school meetings. Doctoral supervisors themselves feel that a lack of publication from their supervisees will have a negative impact on their own career and are thus inclined to push for publications rather than for research integrity.

# How to survive in Academia - how to become a happy academic?

Thursday, 7th September - 16:45: Oral Session 4 : the central role of students and early-career researchers' supervision for research integrity - Oral

### Dr. Joeri Tijdink [1]

**1.** AmsterdamUMC

Objective and aim of the talk:

In recent years, several studies have put emphasis on the increasing prevalence of mental health problems that exist among (early career) researchers. This should be a concern. In several surveys more than 1/3 of researchers experienced anxiety and depression, 2-3 times higher than rates in the general population. Reasons for these high numbers are multiple, but often poor working conditions, low wages, poor future job perspectives, extreme pressure to acquire funding, and harassment/bullying are frequently detected as potential causes. Understandably, mental healthy problems do have a detrimental effect on the research process and responsible research practices, I will present an overview of the prevalences of mental health problems (ranging from anxiety/depression to bullying) and present a set of possible, (evidence-based) interventions and grass-root initiatives that can help individual researchers become better equipped to deal with stress in academia, learn to survive in academia to become responsible researchers. The presentation will also emphasize what supervisors and institutions can do to lower the mental burden of early career researchers such as changing the research assessment structures and improving working conditions and support to conduct research responsibly.

The presentation concludes by reflecting on the current era of change. Now there is momentum to make a change in academia. By presenting a range of existing initiatives that want to improve academia. This included initiatives on research culture, supervision, open science/reproducibility, and better assessment criteria. These progressive initiatives can help us to empower ourselves to survive in academia with care, good mental health, responsible research practices, and a positive mindset.

**Joeri Tijdink** is a psychiatrist and researcher at the VU University, Department of Philosophy, and Department of Ethics, Law and Humanities at the Amsterdam University Medical Center in Amsterdam. He is involved in several research projects that aim to uncover individual determinants of research misbehavior, study current publication culture, improve reproducibility and develop interventions that foster responsible conduct of research. He is the author of the book, the Happy Academic (2023). A self-help guide for early career researchers with tips and tricks to survive academia lightheartedly.

# How can we strengthen trust in science? An open discourse among EU-funded projects on the role and responsibilities of stewards of trust

Thursday, 7th September - 16:00: Workshop 4 : How can we strengthen trust in science? An open discourse among EU-funded projects on the role and responsibilities of stewards of trust - Workshop

**Ms. Agata Gurzawska** [1] , **Ms. Lisa Häberlein** [2] , **Mr. Philipp Hövel** [2]

**1.** *Trilateral Research,* **2.** *EUREC*

In 2020, scientists delivered a vaccine with the potential to curb the spread of a dangerous pandemic. But this did not dominate the headlines. Instead, journalists reported on widespread vaccine reluctance, scepticism and the struggling of vaccination campaigns. Some began to ask: do we live in a post-science society?

Nearly three-quarters of people worldwide say they trust science (Wellcome Global Monitor, 2018). However, the fact that people in general trust science does not mean that they follow science-based recommendations on specific issues. People are not anti-science; they just disagree on who is the legitimate expert.

A serious cause of hesitation or resistance to follow science-based recommendations is diminishing trust in scientific institutions. While trust in science is much greater than trust in politics and economics, science today is inevitably intertwined with politics and economics, which exacerbates power relations and affects trust in science. Moreover, the traditional research landscape is expanding to include corporations, education and knowledge platforms, social media, influencers, arts and museums, peers, friends, colleagues and many more. Therefore, ensuring public trust must start with recognising that research integrity practices are recognised by all institutions in the research landscape.

The VERITY, POIESIS and IANUS EU-funded projects aim to better understand the ecosystem of trust and the actors within it, and are committed to tackling societal mistrust in science, research and innovation. At ENRIO, they would like to come together with other relevant projects and their representatives and host a collaborative workshop to increase the impact of their work.

The aim of the joint workshop is to engage representatives of like-minded ongoing and completed projects working to promote trust in science, research and innovation in an open dialogue. Thematically, the discussion will focus on practical and effective strategies, methods and tools for enhancing trust in science, including research integrity practices. In particular, we will explore the role and responsibilities of stewards of trust working to build and strengthen trust in science, e.g., through research integrity practices, open science practices, or fostering science communication. By sharing experiences among participants, this workshop will provide a space for a stimulating discourse on what challenges need to be overcome to (re)establish and maintain trust in science, research and innovation. This will enable knowledge transfer and building on already acquired insights to jointly find answers to pressing questions on how to strengthen trust in science: (1) what people trust, (2) who they trust and (3) how trust is built.

# Drafting the agenda: A co-creation workshop on challenges and opportunities for the social sciences and humanities in the field of research integrity and ethics

Thursday, 7th September - 16:00: Workshop 5 : A co-creation workshop on challenges and opportunities for the social sciences and humanities in the field of research integrity and ethics - Workshop

_**Ms. Iris Lechner**_ [1], _**Dr. Vidar Enebakk**_ [2]

**1.** _Vrije Universiteit Amsterdam,_ **2.** _NESH_

The field of research ethics and research integrity (RERI) is a highly dynamic and interdisciplinary field. During the 7th World Conference on Research Integrity (hosted in Cape Town in 2022) 44% of participants indicated they had a background in the biomedical sciences, and the same amount (also 44%) of participants coming from the social sciences and humanities (12% indicated a background in engineering and natural sciences) (F. Blom and K. Labib, personal communication, 17 May 2023). Guidance and governance on RERI, however, comes mainly from the (bio)medical field, with field specific resources for social sciences and humanities (SSH) lacking (Hastings et al., 2023; Ščepanović et al., 2021).

It is apparent field- or discipline specific approaches are needed to foster RE and RI. For example, recent European projects aimed to cover the breadth of disciplines and tailor RERI guidelines and interventions to specific disciplines (Evans et al., 2022; Sørensen et al., 2021; NESH 2021). Moreover, concepts such as 'open science' and 'replication' may not be suitable to be adopted in the fields of SSH, as exemplified by recent debates on these topics (Bekkers, 2023; de Rijcke & Penders, 2018; Knöchelmann, 2019).

Challenges for SSH are also apparent in the governance of RERI. Formal procedures for regulatory compliance and ethical preapproval might be problematic for research in SSH (Israel, 2015). Models of governance developed for the (bio)medical field extended into SSH can challenge the freedom and integrity of research (Schrag, 2010). In addition, strict application of legal regulations concerning data protection (GDPR) can limit research in SSH and the societal dimension of research. Therefore, it is necessary both in Europe and globally to explore alternatives and develop new modes of governance appropriate for SSH (van den Hoonaard & Hamilton 2016). Conceptual, empirical and policy work departing from and focusing on SSH may be beneficial to meet the needs of researchers in these fields. Hence, as a RERI community we could benefit from interaction between researchers, policy makers and integrity officers with different (disciplinary) backgrounds on issues and opportunities arising specifically in SSH. The ENRIO conference brings together a variety of stakeholders thereby presenting an ideal opportunity to share experiences and collectively draft an agenda for the (diverse) fields of SSH.

During this workshop we want to map the challenges and opportunities for the SSH in the field of RERI. We want to tap into the method of co-creation, where workshop participants are asked to do a series of exercises, followed by a dialogue about the findings (Sanders & Stappers, 2008). In the co-creative session we make use of materials such as images, drawings, post-it notes, etc. Using this fun and interactive method we aim to draft a shared agenda for RERI in SSH to be developed further in Europe. We moreover want to share experiences and resources from different countries and to initiate a European network for RERI in SSH within ENRIO. These efforts should be developed further within the framework of the 8th WCRI in Athens in 2024.

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References enrio abstract.png

# The impact of generative models for text and image creation on research funding

Thursday, 7th September - 16:00: Workshop 6 : The impact of generative models for text and image creation on research funding - Workshop

*Dr. Sonja Ochsenfeld-Repp* [1] , *Dr. Tobias Grimm* [1] , *Ms. Lydia Llaga* [1] , *Dr. Philip Ridder* [1]

**1.** *German Research Foundation (DFG)*

**Scope**

Questions about the possible fields of application, opportunities and risks of "artificial intelligence" (AI) are currently moving many parts of society. The reason for this is the development of generative models for text and image creation and their availability to the general public. These generative models are based on machine learning mechanisms and use "deep learning" algorithms to generate content (texts and images) that is close to works of human origin.

Today, generative models from various commercial providers are also used in research. The influence these models have and will have on scientific work and good research practice is being discussed by various actors in the science system.

The Deutsche Forschungsgemeinschaft (DFG, German Research Foundation), in its statutory task of funding knowledge-driven research, is affected in many ways by the current developments, especially regarding its application and research assessment processes. As a research funder, the DFG has to describe the framework conditions under which the use of generative AI in the various process steps is permissible; this includes support in the preparation of applications, any labelling obligations and the question of legal and content-related responsibility for corresponding texts, also with regard to research misconduct.

**Intended learning objectives**

The workshop is intended to map out the various considerations of the influence of generative AI on scientific work and funding activities. Potential approaches for the proper use of generative models in scientific work and in research funding shall be developed as outcome of the workshop. Emphasis is given on various aspects of good research practice.

The workshop is initiated and organized by the DFG. The workshop facilitators represent different departments at the DFG´s Head Office involved in the process of safeguarding research integrity and fostering a positive research culture as such.

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# Communicating Research Integrity to the masses – The Research Ethics Magazine

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Mrs. Elin Fugelsnes* [1]

*1. The National Research Ethics Committees*

The Research Ethics Magazine is a periodical and specialized magazine which has been published by the National research ethics committees in Norway since 2001. As far as we know, such a magazine is unique in an international context.

Awareness of research ethics among the general public is important for fostering trust in research. The Research Ethics Magazine contributes to creating such an awareness through publishing news and feature articles, book reviews and opinion pieces about research ethics in the broadest sense. We provide insight into issues related to ethics and integrity, including the societal dimension of RI, in all research and in the entire research system. We believe in communicating also complex topics in an easily understandable, comprehensible and engaging way. This makes us relevant and important to not just researchers and students, but also authorities, the media, and the general public.

The National Research Ethics Committees have overall responsibility for the magazine, but the editor in chief has full responsibility over the editorial content and decisions. In the same way as trust in research is important, this editorial independence helps enhancing public trust in the magazine and its content.

The magazine is published in print and as an online edition three or four times a year. Each issue is distributed free of charge to around 5,000 subscribers. We also collaborate with Norway's largest online science news magazine which allows the publication of our articles on their websites. In this way research ethics can be communicated to even more people.

At the ENRIO conference, we want to present some key facts about the magazine, including its organization and function, and give an insight into the journalistic work processes. We wish to present a specific example that illustrates how you can create good journalism about research ethics. We also plan to distribute an English edition with selected articles from the magazine.

Through our participation at ENRIO we hope to inspire others to make similar resources. We also want to create a meeting place for everyone working with communication of research ethics, and thus the opportunity to exchange experiences and ideas.

Link to The Research Ethics Magazine:

Norwegian: https://www.forskningsetikk.no/ressurser/magasinet/

English: https://www.forskningsetikk.no/en/resources/the-research-ethics-magazine/

Forskningsetikk 0123 forside.jpg

# POIESIS: How Research Integrity and Open Science affect Public Trust in Science

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Serge Horbach* [1], *Dr. Tine Ravn* [1], *Prof. Niels Mejlgaard* [1], *Dr. Panagiotis Kavouras* [2]

**1.** *Aarhus University,* **2.** *National Technical University of Athens*

While societal dependence on sound scientific research and responsible innovation has become increasingly visible, concerns about public trust and mistrust in science have simultaneously been mounting. The debate about societal trust in science is characterised by two intuitively appealing assumptions: First, that trust depends on scientists' capacity to demonstrate high standards of research integrity and ethics, and that breaches to research integrity will lead to mistrust. Second, that citizen and civil society's involvement in co-creating research agendas and contents makes research more relevant and responsive to society, consequently strengthening trust.

The POIESIS project sets out to study these assumptions. Despite the assumptions' plausibility and frequent use as motivation for addressing research integrity and open science issues, they are understudied and hitherto provide little guidance for practitioners to foster public trust. POIESIS addresses this through an extensive empirical programme, including an assessment of international public surveys on public perceptions of science, as well as elaborate primary data, collected through expert interviews, focus groups, public deliberative workshops and policy workshops. It aims to provide recommendations for tackling societal mistrust in science, research and innovation, as well as for strengthening the co-creation of research and innovation contents by society. In particular, it will have a strong focus on 'chains of mediation', i.e. channels that support the communication of research findings and practices to non-academic actors. This will lead to better understanding of the role of science communicators in fostering public trust in research through research integrity and open science practices.

The POIESIS project is currently ongoing and will just have celebrated its first anniversary by the time of the ENRIO congress. At the congress, we will present early findings from the analyses of international survey data, including the state of play on public trust in science, particularly in connection to covid-19 and climate science, and in the aftermath of misconduct cases. This work identifies an initial set of indicators affecting public trust in science. Second, we share findings from public deliberation workshops, conducted in seven countries with 280 participants, on the effects of research integrity and open science on public trust.

# For equitable, inclusive, and human-centered extended reality technologies

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Panagiotis Kavouras* [1] , *Prof. Rosemarie Bernabe* [2] , *Prof. Rigmor Baraas* [3]

**1.** *School of Chemical Engineering, National Technical University of Athens,* **2.** *Professor of Medical Research Ethics, University of Oslo,* **3.** *Professor of Optometry and Visual Neuroscience, University of South-Eastern Norway*

**Description of the project**

The potential benefits of eXtended Reality (XR) technologies – that encompass Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), Diminished Reality (DR) and Modulated Reality (ModR) – render them candidates for an expanding spectrum of applications in research and innovation (Engineering and Manufacturing, Food industry, Defence) and services (Education, eCommerce and Retail, Real Estate, Travel and Tourism, Entertainment and Gaming). This drive towards eventual ubiquity comes with potential risks that encompass a wide array of challenges, related to safety, privacy, security, interoperability, and research integrity. These challenges need to be tackled now, at a time when the European Research Area strives to achieve a place in the world market of XR technologies by integrating into the development of XR technologies the human-centered approach. The "Equitable, Inclusive, and Human-Centered eXtended Reality" (XR4HUMAN) project aims at co-creating living guidance on ethical and related policy, regulatory, governance, and interoperability issues of eXtended Reality (XR) technologies.

**Relevance to research integrity practice**

A common denominator of XR4HUMAN's outputs, listed below, is to provide safeguards for the protection of personal data of XR technologies' users (via the European Code of Conduct) and achieve transparent processes for the development of responsible regulation and governance of XR technologies (via a wide co-creation exercise with all relevant stakeholders).

**Expected or achieved outcomes of the project**

The operationalisation of XR4HUMAN's main aim is going to be achieved by:

- Guiding companies and regulators through (i) Interoperability Guidance Document; (ii) a European Code of Conduct for Equitable, Inclusive, and Human-Centered XR Technologies; (iii) recording and demonstrating the practical application of the XR Code of Conduct.
- Equipping companies and regulators with an online repository of test cases to allow developers to demonstrate evidence of adherence to best practices.
- Equiping and guiding users through a rating system and educational materials.
- Engaging companies and other stakeholders (i) to enhance the uptake of the XR Code of Conduct, the Guidance for Interoperability, and the empowerment of end-users; and (ii) to establish a permanent digital European Forum to facilitate stakeholder dialogue on issues of ethics and interoperability.

Xr4human logo vertical.png

# Learners' self-assessment and self-report as measures to evaluate the effectiveness of research ethics and integrity training: Can we rely on self-reports?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**Dr. Anu Tammeleht [1], Prof. Erika Löfström [2]**

*1. University of Helsinki, University of Tartu, 2. University of Helsinki*

**Background and research question**

To evaluate what works in research ethics and integrity education, self-assessment is among the most commonly used measures (Steele et al., 2016; Stoesz & Yudintseva, 2018). Self-assessment most commonly asks about content satisfaction (i.e., how useful was the content), and affective satisfaction (i.e., satisfaction with the course) (Turner et al., 2018). While self-assessment is the most popular measure to evaluate learning in integrity training, can we rely on these? The focal issue is the accuracy in which the learners can assess their learning outcomes. We asked the following research question: How accurately are learners able to assess their learning in RE/RI?

**Method**

Data were collected through paper-and-pencil forms and online forms from bachelor and master students about the clarity and level of material, role of the group, usability of the new knowledge, and from master's and doctoral students on self-evaluation of their level of understanding (on the SOLO taxonomy describing levels of understanding, Biggs 1999). Participation was voluntary and based on informed consent. A total of 381 participants contributed with data.

**Results**

The level of the training as well as clarity had been average; not too difficult or easy. Results showed that 87% of respondents accurately evaluate their level of understanding and support it with description when compared to facilitator ratings. In self-reflection, the participants tended to indicate mostly higher levels of understanding (according to SOLO taxonomy) while descriptions indicated a lower level. Still, data indicated that during a second reflection round the responses became more aligned.

**Conclusions and recommendations**

Self-reports are relatively reliable, and their reliability as measures of learning in integrity training improves as participants get more experience in assessing their learning. What makes self-reports useful are their feasibility and applicability in various training contexts. When setting up new training, it may be worthwhile to devote some time to comparing learner assessments with those of facilitators to establish that the course is filling its function in promoting research integrity and that facilitators have a realistic understanding of how the instruction and learning activities actually promote learning.

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# Can Norway investigate misconduct in research publications from another country?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**_Mrs. Ragnhild Aursnes Dammen_** [1]

**1.** _National Research Ethics Committees (Norway)_

Norwegian courts will discuss the following question starting in May 2023:

A researcher is now employed by, do research at, and publishes for a Norwegian research institution. The same researcher used to be employed by, do research at, and publish for a research institution in another country. Can Norway investigate misconduct related to articles published when the researcher was employed at, and published for, the research institution in the other country?

This has relevance to international research integrity practice because the research institution must clean up what is what and distinguish between several types of questions. First, one question is which country's law, if any, is applicable? This leads to wondering if this question is about law or if it is more a question about ethics and integrity? The law is applicable within the territory, but is the research ethics and integrity applicable for the researcher's overall research work? Could it be an argument for handling in Norway a misconduct case from another country, that the ethical and integrity norms in Norway differ from those in the other country? It is further relevant to ask what are the consequences for the Norwegian research institution, the consequences of knowing that an employee has committed possible misconduct abroad? And what are the consequences for the researcher, both of having it investigated in Norway or not? Finally, it could be relevant to ask what does it mean to have trust in science? Should research from one researcher be considered as a whole, and independent of national borders? It is possible that the Norwegian courts will touch upon all these questions.

The oral presentation will present the question regarding whether Norway has competence or not and it will give information about the status of the answer from the Norwegian courts. This will form the basis for a discussion of to what extent European handbooks, guides and codes of conduct mention the question, and to what extent they suggest or should suggest further practical solutions.

# Coordinated - yet fragmented?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

***Mrs. Anjam Latif Shuja**** [1]*

***1.** National Research Ethics Committees (Norway)*

The attention towards which type of influence the European Union (EU) has regarding decisions and national priorities in Norway, forms the basis for a discussion on what further role the EU should take in the field of Research Ethics (RE) and Research Integrity (RI). The focus of this poster is to elaborate the existing role of the EU and the limitations and opportunities that are present, but not leveraged for various reasons, thus leading to fragmented and comprehensive effort towards this field. Furthermore, the purpose is to propose the Norwegian model which consist of both RE and RI, as a measure to make the area more comparable between countries.

Since the RE and RI area varies from country-to-country more collective efforts from the EU, in addition to *European Code of Conduct for Research integrity,* will lead to harmonizing disparities across countries. These effort from the EU can thereby be a source for reducing fragmentation in this field. Viewed in this context, the Norwegian model for RE and RI is presented, as it is a framework based on Legislative regulations that provide transparent and predictable procedures for the management of RE and RI. The Norwegian way of organizing RE and RI reduces fragmentation and unclear responsibilities, while preserving the professional independence. This is also a model endorsed by the society and public sector, because the committees consist of researchers from different disciplines - in addition to laypeople, which means that different expressions, values and views are better safeguarded in the society.

The challenge of fragmentation within the field of RE and RI can be improved, if the EU takes more responsibility and ownership to facilitate even more coordinated effort, towards measures to harmonize this field. Norway's experience with a system that functions as intended, can be used in a learning context and to facilitate structures within the EU, that can help make the EU's effort more targeted with an integrative approach. Thereby leading to research excellence.

# The ERION network: Implementation matters in Ethics and Research Integrity

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

_**Ms. Teodora Konach** [1]_ , _**Ms. Borana Taraj** [1]_, _**Ms. Susan Hommerson** [2]_, _**Dr. Joana Porcel** [3]_

_**1.** EARMA, **2.** Eindhoven University of Technology, **3.** Barcelona Institute for Global Health_

We will reflect on the importance of ethics and research integrity and collaborations between researchers, institutional leaders and the community of ethics and research integrity experts, advisors and practitioners.

EARMA is the European Association of Research Managers and Administrators. In 2018, it established the Ethics and Research Integrity Officer Network[1] (ERION) thematic group. ERION is an open community to discuss the practical and implementation side of Research Ethics and Integrity. It is a community of practitioners, rules and procedure experts, and its main purpose is to provide a forum for knowledge-sharing, dissemination and collaboration in order to facilitate implementation of relevant policy and establishment of best practices.

ERION acts as a stakeholder for the European Commission DG R&I Ethics Sector. A key component of ERION are the European projects on ethics, integrity, responsible research: **SOPs4RI**, **iRECS**, **PATTERN** which are working for a strong responsible research integrity culture in Europe and increasing trust in science.

The community meets twice or more per year. Topics discussed in past ERION meetings included: Horizon Europe, Open Science, International collaborations, GDPR implementation, training, ethics support in times of COVID-19, implementing institutional research integrity promotion plans, research evaluation and assessment, and many others. More information on the **EARMA website** and **EARMA YouTube channel**.

[1] https://www.earma.org/about/governance/thematic-groups/ethics-and-research-integrity-officer-network-erion/

# How to solve research ethics issues? -Role of Certified Research Ethics Professionals (CReP) as an Ethical Review Expert-

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Yusuke Ebana* [1]

*1. Tokyo Medical and Dental University*

Responding to diverse values in the world, when conducting medical research, researchers and research institutions need to establish rules to protect research subjects. Japan has three rules for medical research: ICH-GCP, the Clinical Research Act, and the Ethical Guidelines for Medical Research Involving Human Subjects. A high level of expertise is required to confirm that the research protocol conforms to the relevant guidelines in Japan because the guidelines are frequently revised. A professional group of experts, CReP, has been established to ensure that ethics reviews are conducted.

Expertise is tested by multiple-choice questions on research ethics and ethical review. Exam questions are created by the CReP Certification Committee. After conducting the test, the committee will review the suitability of the questions again. Those that meet the passing criteria will be certified as CReP for three years. Renewal of accreditation is determined by credits earned through participation in academic meetings, training seminars, and study of teaching materials.

CReP system started in January 2019, and so far 268 people have been certified. Of the institutions to which the CRePs belonged, 73.8% were universities, 5.6% were national centers, 10.1% were hospitals and clinics, and 7.1% were companies. So far, we have held information exchange meetings 25 times, with about 30 to 120 participants. Satisfaction was 80 to 90%, including those who were satisfied and those who were somewhat satisfied.

In addition to ICH-GCP, Japan has a Clinical Research Act and ethical guidelines. Although the basic stance on research ethics remains the same, each of them operates differently. Here, especially with regard to ethical guidelines, the operation of each institution differs greatly, so a network such as CREP is necessary.

The established CReP system has produced 268 CRePs. At the information exchange meeting where CRePs gathered, they discussed the revision of the guideline and confirmation of compatibility, and the satisfaction level was high. It is believed that this will contribute to the standardization of ethical review.

# [online] Signs, Symptoms, and Situations of Moral Distress during the Pursuit of Research Excellence

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**_Dr. Katrina Bramstedt_** [1] , **_Ms. Anna Kang Liu_** [2]
**1.** _F. Hoffmann-La Roche AG,_ **2.** _Genentech_

This presentation identifies and explores signs, symptoms, and situations of moral distress during the pursuit of research excellence. Signs are objective, observable phenomena that can be identified by another person (such as a bioethicist, research integrity officer, or research colleague). Symptoms are subjective experiences that are reported by the researcher in distress. The context of this presentation is the research and development of pharmaceuticals in corporate industry; however, there is the potential for application to other settings such as research in academia, hospitals, and non-profit institutes. We argue that the research integrity ecosystem must include recognizing and addressing moral distress in researchers, in addition to RCR training, and identifying and sanctioning misconduct.

# Ten simple rules for scientific fraud and misconduct

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*__Mr. Nicolas Rougier__* [1]

*__1.__ Inria*

In 2018, I co-authored with John Timmer a preprint entitled "Ten simple rules for scientific fraud and misconduct". Our goal was obviously not to encourage scientific fraud nor misconduct but rather to alert the reader to problems that have arisen in part due to the Publish or Perish imperative, which has driven a number of researchers to cross the Rubicon without the full appreciation of the consequences. This article has been the base for several talks in the lab and for workshops with PhD Students in the Bordeaux area. Even though PhD students had to attend a mandatory course on scientific integrity, a lot of them came nonetheless to the workshop, even though it was not mandatory. The explanation for such popularity is certainly to be found in the provocative title and contents since during these lessons, I really explain how to cheat (based on numerous real-world cases, see cited paper). These lessons are also the place of interesting discussions with the students and between the students. For example, they asked questions about self-plagiarisms, code licences, etc. Unfortunately, there was no study following the workshops in order to assess whether this method of introducing scientific integrity is sound and/or better than a more traditional one. During this talk, I'll present the material I've been using and hopefully engage the audience in order to discuss this teaching approach and proably its limits.

# Integrity of the Scholarly Record. When research integrity met open science.

Friday, 8th September - 09:00: Plenary Session C - Responsible Open Science - Oral

**_Mr. Marin Dacos_** [1]

**1.** _French Ministry of Higher Education and Research_

TBA

# (tbc) Implementing a university policy for truthworthy, responsible and open science

Friday, 8th September - 09:00: Plenary Session C - Responsible Open Science - Oral

*Ms. Anne-Catherine Fritzinger* [1]

*1. Sorbonne Université*

TBA

# Fostering trust in science: the relevance of research integrity for EU policies at the age of the twin digital and ecological transition.

Friday, 8th September - 09:00: Plenary Session C - Responsible Open Science - Oral

*Mr. Clément Evroux* [1]

**1.** *European Parliament*

Fostering trust in science: the relevance of research integrity for EU policies at the age of the twin digital and ecological transition.

- research integrity is instrumental to the objectives set to EU research policy.

The EU policy response to research integrity is grounded on the principle of academic freedom enshrined in the Charter of fundamental rights (Article 13) , and in the legal framework for research policy set by the TFEU (Article 179) : a sui generis shared competence to developing the scientific basis and achieve the European research area (mobility of researchers and knowledge).

Whilst the EU investment instruments convey specific legal obligations to ensure research integrity of the processes and outcomes of the funded activities, the general definition of the notion remains under the remit of academic communities, entitled with institutional autonomy. The European federation of Academies of sciences adopted in 2017 the European Code of Conduct for Research Integrity (updated in 2023).

The digital transformation conveys new opportunities and risks to the safeguarding of research integrity.

- the growing importance of evidence-based knowledge across the sectoral policies and through the policy interventions magnifies the social relevance of research integrity.

The EU overarching political goals, such as achieving a carbon neutral economy by 2050 requires the need to design policy agenda on facts, and to follow their implementation with the appropriate set of expertise, including science.

Beyond the EU executive branch, the legislative and the judiciary are also increasingly relying on scientific expertise.

- the safeguard of research integrity: a common challenge for a global common, knowledge

Whereas geopolitical tensions might impact scientific international cooperation, the safeguard of research integrity as a common might contribute to scientific diplomacy.

# Establishing the structure for research integrity in Slovenia: Intertwining the role of individuals and those in positions of power responsible for action

Friday, 8th September - 10:30: Oral Session 5 : Fostering Research Integrity through institutional structures and policies - Oral

**_Dr. Urša Opara Krašovec_** [1]

**_1._** _University of Ljubljana_

Slovenia does not (yet) have a research integrity (RI) structure at the national level, although the legal foundations have been established by the new Research and Innovation Act. Nevertheless, improvements have been made at the institutional level. Recently, most research institutions have developed regulations for handling reports of research integrity violations, as this is also legally binding for institutions receiving research funding from the EU Framework Programmes for Research and Innovation. Some institutions offer a training programme, mainly for PhD students, while discussion of RI issues and promotion of RI rarely takes place.

Already in 2011, the Slovenian government adopted the Resolution on the National Research and Development Programme 2011-2020 (RISS), in which it recognised the need to adopt a national code of ethics and good scientific practise and establish a National Research Integrity Office (NRIO). Although the goals, actions, timelines, and responsibilities of the main actors, the Slovenian Academy of Sciences and Arts (SASA) and the government, were clearly defined, implementation has failed or been significantly delayed.

On the other hand, the Slovenian Commission for Women in Science (CWS) - an autonomous expert body of the Slovenian Ministry for Science (CWS changed its name to the Commission for Equal Opportunities in Science in 2018) has actively engaged in implementing and promoting research ethics and responsibility in Slovenia. It is worth emphasizing that personal initiatives gathered within the CWS have been the main driving force behind stimulating public debate on research integrity and implementing the objectives set in RISS. In 2014 the CWS has also played a pivotal role in organizing the international conference which took place at SASA. This conference openly presented and discussed scientific misconduct and unacceptable practices occurring within the Slovenian research environment. It has been emphasized that the issue of gender, in relation to power relations in research environment, cannot be separated from reflections on research integrity, guidelines, and practices. Furthermore, in 2014, the CWS became a member of the European Network of Research Integrity Offices (EN-RIO) to learn from ENRIO members. Undoubtedly, the alliance with ENRIO has not only raised awareness of the importance of research integrity in Slovenia but has also elevated research integrity on the national political agenda

In the period from 2014 to 2017, numerous initiatives were undertaken to develop national guidelines on ethics and scientific responsibility as foundational elements for a National Research Integrity Office (NRIO), for which the CWS was the main advocate. The Council consisting of all stakeholders has been constituted and reached an agreement that the NRIO should be located within SASA premises, funded by the government, while remaining independent of SASA and the government.

The new Law on Research and Innovation, which included the Council's Recommendation with a chapter on the NRIO (Nacionalni svet za etiko in integriteto v znanosti), had been under discussion since 2017 and came into force in November 2021. However, at the last minute, SASA abandoned its responsibility, which was then delegated to the Rectors' Conference and the Association of Public Research Institutions which now need to demonstrate the strength of their commitment to moving from words to actions.

# Experiences from the first three years of the National Board in Sweden

Friday, 8th September - 10:45: Oral Session 5 : Fostering Research Integrity through institutional structures and policies - Oral

*Dr. Sofia Bergstrom* [1] *, Ms. Karin Nylén* [1] *, Dr. Magnus Gudmundsson* [1] *, Dr. Dorota Green* [1]

**1.** *National Board for Assessment of Research Misconduct*

Since January 2020, research misconduct has been a legal matter in Sweden. Reported allegations of fabrication, falsification, and plagiarism (ffp) are since then investigated and assessed by a national governmental authority: The National Board for Assessment of Research Misconduct (Npof). Other allegations of research misconduct are assessed locally by the employer of the accused researcher, e.g. a University or a healthcare provider, like before. Part of the Boards assignment is to produce a yearly report where the statistics and short accounts of all the ffp allegations handled by the Board, and other allegations handled by the local employers, are presented. In our presentation, we will give an overview of the experiences presented in the reports from the first three years since the law came into effect.

# Building a system that enables research institutions to conduct RCR surveys on their initiatives

Friday, 8th September - 11:00: Oral Session 5 : Fostering Research Integrity through institutional structures and policies - Oral

**_Dr. Masaki Nakamura_** [1], **_Dr. Hideki Ichida_** [2], **_Dr. Asako Miura_** [1], **_Dr. Jin Higashijima_** [3]

**1.** *Osaka University*, **2.** *Osaka Metropolitan University*, **3.** *Chiba University*

In the past decade, Japan's research integrity landscape has transformed substantially. National guidelines revised in 2014 now mandate RCR education for almost all university researchers. The current challenge is enhancing the effectiveness of initiatives to promote research integrity, including but not limited to RCR education. Since we considered it essential to grasp the actual situation regarding research fairness, in 2021, with the cooperation of seven universities, we conducted a questionnaire survey on research integrity among faculty members and graduate students at those universities. The results revealed that there are problems in the recognition of gift authorship and duplicate submission, as well as in the recording and management of research data.

Based on the above survey, we are currently working on building a system that allows similar surveys to be utilized by many research institutes and conducted independently. Grasping the actual state of research integrity is effective not only for understanding issues, but also for research institutions to verify the effects of their efforts, and for research institutions to implement effective efforts to promote RCR.

To that end, we are currently working on two things:

(1) Conduct interviews with university personnel in charge of research integrity and revise survey items so that questionnaire surveys can be used effectively at research institutions.

(2) To develop a system that enables research institutions to conduct surveys on their own initiative, from the survey implementation to the analysis of the survey results, as automatically as possible.

# Scientific integrity scouts: A new approach to promote good scientific practice at the institutional level

Friday, 8th September - 11:15: Oral Session 5 : Fostering Research Integrity through institutional structures and policies - Oral

**_Prof. Andra Schromm_** [1]

**1.** _Research Center Borstel - Leibniz Lung Center_

Background: The "Borstel Model" of good scientific practice (GSP) is a workshop-based training curriculum developed after a severe case of misconduct and conducted 2012-14 at a German research center to foster responsible research.

Objective: How to sustainably implement knowledge on and awareness for responsible research practice in research teams after a GSP-training has been completed.

Approach: After completion of the GSP-training in 2014, a mixed concept approach was implemented including a coordination office, establishment of infrastructures, and assignment of trained individuals. Scientific integrity scouts were installed in all research groups of the institution in the final stage of the GSP-training program. Their task is to take up and address GSP topics in their research group, familiarize new staff members with the culture of GSP and give regular impulses for reflection of the practical research, data handling, problems, and communication in the research teams. The scouts meet on a regular basis and receive training and coaching as a team.

Results: The scientific integrity scouts provide valuable multiplication of competence supporting research integrity on a highly practical level and close the gap of implementation after GSP training. The number of active scouts as well as their activities developed positively over the last nine years. At the Research Center Borstel - Leibniz Lung Center, the scouts represent a novel pillar for safeguarding quality in science by promoting continuous awareness and reflection about the research process. The principles of setting up the team of scouts, institutional framework and supporting infrastructure, challenges and development will be presented.

# Family without kinship – Categorization of the regulatory research integrity environments in Europe

Friday, 8th September - 10:30: Oral Session 6 : Hard and soft laws, the regulatory landscape of Research Integrity - Oral

**Mr. Kalle Videnoja** [1]

**1.** University of Helsinki

This study investigates the divergences and similarities between European research integrity systems with the objective of gaining insights into their regulatory structures, national guidelines, and research integrity training. The findings highlight substantial variations among European countries in each of these categories, challenging simplistic categorizations (For previous studies, see: Desmond & Dierickx, 2021; Godecharle et al., 2013; Perković Paloš et al., 2023).

The study concentrates on the role of research integrity offices in the national research integrity landscapes. Research integrity offices are here defined as public administrative bodies, research funding organisations or academies of science with a national or subnational role in research misconduct investigation, drafting of codes of conduct for research integrity, or research integrity promotion.

Publicly available information on 27 research integrity systems across Europe was selected for this study. Three key variables were studied in more depth in order to gain more understanding on the broader regulatory environment where research integrity offices operate: 1) regulatory structure regarding research misconduct investigation and research integrity promotion, 2) national guidelines and their implementation, and 3) research integrity training.

The data was collected from the following sources: 1.) Country cards in Embassy of Good Science 2.) Country reports and 3.) member organisation information sheets on ENRIO's website, 4.) ENRIO member organisations' annual reports. Qualitative content analysis is used to analyse the data. Besides extracting objective content from the texts, themes that are manifested in the data were examined in order to gain more understanding on broader regulatory environment.

With the surge in international research collaboration, there is a need for universal ethical norms; however, the local contextualization, implementation and enforcement of these norms can result in significant disparities across regulatory environments. Such divergences raise concerns about fairness in international research collaborations. Despite these challenges, the study suggests that pluralist legal structures do not necessarily lead to conflict and friction but can also foster harmony and convergence. The interconnectedness of national research integrity frameworks allows for responsiveness to the needs of researchers and the wider academic community.

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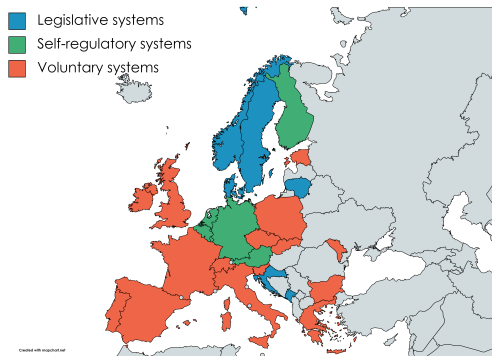
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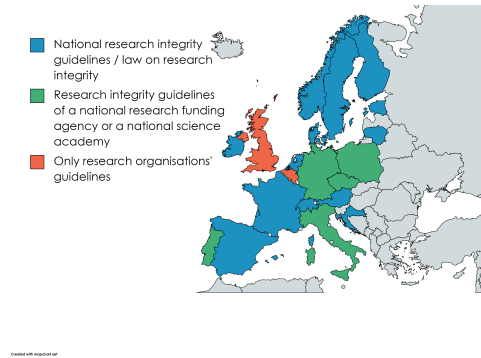


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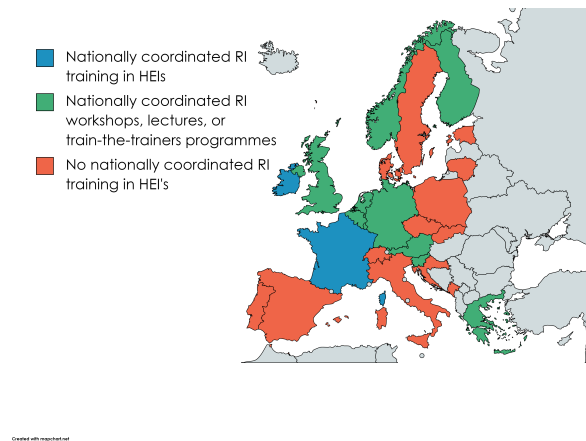


Figure 3 training.png

# Managing a new regulatory landscape: Collaboration, trust and openness in the research integrity ecosystem

Friday, 8th September - 10:45: Oral Session 6 : Hard and soft laws, the regulatory landscape of Research Integrity - Oral

**_Dr. Jonas Åkerman_** [1], **_Dr. Sara Belfrage_** [1]

**1.** _Stockholm University_

In 2020, Sweden introduced a new system for distributing responsibility for research integrity and handling deviations from good research practice. Research misconduct was defined in law in terms of FFP, and a national authority was tasked with investigating suspicions of research misconduct. The responsibility for other deviations remained at the institutional level and new rules in the higher education ordinance made it mandatory for universities to investigate suspicions of such deviations, to establish guidelines for such investigations, and to provide support in matters concerning good research practice. The responsibility for sanctions for research misconduct as well as (most) other deviations also remained at the institutional level. In practice however, the boundaries between different authorities' responsibilities turned out to be unclear in several respects, and apart from the general procedures specified in the law, very little guidance was provided on how the new rules were to be implemented. In this presentation, we describe some of the most central challenges for the universities in this new situation, and how dialogue with authorities and collaboration at the national level as well as involvement in and resources from EU-funded projects (e.g. PRINTEGER, VIRT2UE, and SOPs4RI) has helped us handle them. These experiences provide valuable lessons and underline the importance of nurturing a general spirit of trust and openness in the research integrity ecosystem. They also provide key insights for how to solve some of the practical problems that emerges in policy creation and implementation at the national and institutional level.

# Fostering research integrity in a regional collaboration. The case of the Berlin University Alliance

Friday, 8th September - 11:00: Oral Session 6 : Hard and soft laws, the regulatory landscape of Research Integrity - Oral

*Mrs. Nele Hofmann* [1] *, Mr. Viktor Ullmann* [1]

*1. Center for Open and Responsible Research, Berlin University Alliance*

The Berlin University Alliance (BUA) was founded in 2020 to promote an integrated research environment for the Berlin area. Though the four partners[1] have traditionally been tied by cooperation, their legal association is a novum that exceeds typical regional cooperation in Germany or Europe. It is a unique feature that goes along with great opportunities, but also faces challenges when it comes to the practical implementation of measures.[2] Challenges arise in particular from the need to develop common measures for different structural conditions, legal frameworks, or research traditions at the partner institutions without interfering with the autonomy of the partners and their individual internal processes. The overarching common goal, however, is to enable high-quality research and contribute to the development and promotion of an open and transparent research environment with spillover effects for the Berlin region.

To achieve this, the Alliance initiated a number of measures, among them the foundation of the Center for Open and Responsible Research (CORe).[3] CORe supports networking, education, and training measures and aims at enabling a process of mutual learning. It coordinates research projects to build up empirical evidence, e.g., on the Ombuds systems at the partner institutions, and engages in implementation-orientated activities, such as the introduction of an Open Science Mission for the BUA or the monitoring of the Alliance and its dynamics.

In our presentation, we will take a closer look at the variety of approaches used by CORe and the Alliance for overcoming structural differences of the collaborating partners to achieve the common goal of strengthening research integrity, and, ultimately, creating a research culture that supports researchers at all career levels while embracing the discourse on standards of good scientific practice across disciplines, and: institutions.

[1] Freie Universität Berlin, Humboldt-Universität zu Berlin, Technische Universität Berlin, Charité – Universitätsmedizin Berlin.

[2] See proposal „Crossing Boundaries toward an integrated Research Environment" in the framework of the Excellence Strategy of the Federal and State Governments, Universities of Excellence Funding Line. https://www.berlin-university-alliance.de/excellence-strategy/universities-of-excellence/berlin-university-alliance-proposal.pdf [accessed 25.04.2023]

3 See website of the Berlin University Alliance, Objective 3 – Advancing Research Quality and Value: https://www.berlin-university-alliance.de/en/commitments/research-quality/index.html [accessed 16.05.2023]
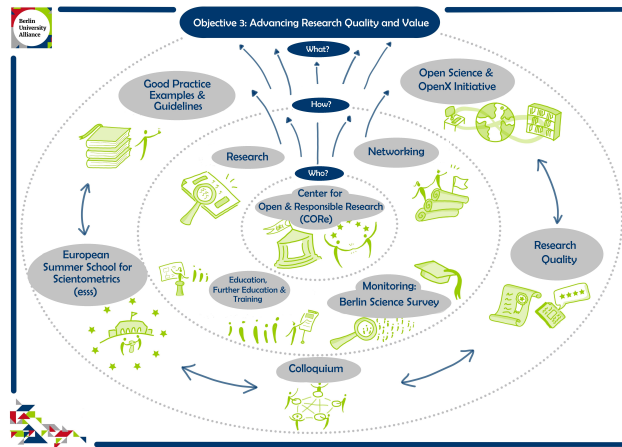
Visualization core.jpg

# Values in science closer to the ground: guidance on non-epistemic values in codes of conduct for research integrity

Friday, 8th September - 11:15: Oral Session 6 : Hard and soft laws, the regulatory landscape of Research Integrity - Oral

**Jacopo Ambrosj** [1] **, Prof. Hugh Desmond** [2] **, Prof. kris dierickx** [1]

**1.** *KU Leuven,* **2.** *Leibniz Universität Hannover Universiteit Antwerpen*

In offering normative guidance to researchers, research integrity (RI) codes of conduct must per definition make some assumptions about what *ideal scientific research* looks like. Far from being a mere intellectual curiosity, such ideals shape the content of codes, and, in turn, influence their functions as ethical documents, educational documents[2,3], and soft-legal documents[4,5]. Yet, there has not been much work investigating which ideals if any underlie codes, and how they relate to the traditional value-free ideal (VFI), according to which scientific research should be free from non-epistemic values (moral, social, political, economic...)[1].

To fill this gap, we conducted a content analysis[6,7] of 25 national RI codes. Do codes tend to endorse the VFI, or do they allow for some legitimate influence of non-epistemic values? In this presentation, we will offer an overview of our results, illustrating them with examples selected in such a way to stimulate discussion with the audience.

We found that a univocal position on the influence of values in science is lacking in current RI codes: most codes contain general statements deeming any external influence to be illegitimate, but also passages allowing many non-epistemic values (e.g. societal interests) to play a role in scientific decision-making. How should this tension be interpreted when RI codes are applied as ethical, educational and legal documents? Moreover, many passages ask researchers to decide for themselves whether the influence of the non-epistemic value at stake is legitimate or not. This helps RI documents to be flexible tools, but at the same time one may worry whether these pieces of guidance are *too* open and may underdetermine the behavior of researchers in problematic ways.

In the light of this, it seems safe to call for more precision and specificity concerning the role that values play in science. In other words, given the very unique nature of the profession they are aimed at, RI documents should include together with a jurisprudential and sociological dimension[4] an *epistemic* one. At the same time it is important to notice that to expect RI documents to solve the fundamental epistemic issues raised by the influence of values in science[8] would place an unreasonably heavy burden on them, and would not necessarily be compatible with their primary function as ethical documents.

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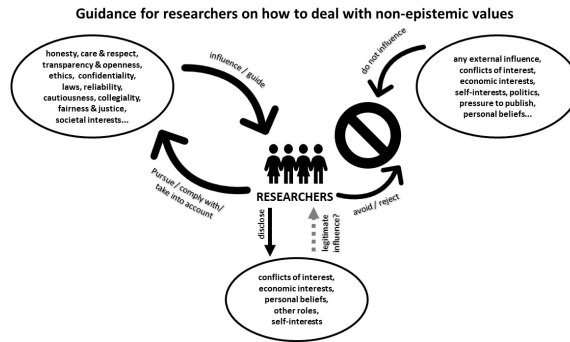
Figure 1.jpg

# Whistleblowing and Whistleblower Protection – ENRIO's new Handbook as Best Practice Guide

Friday, 8th September - 10:30: Oral Session 7 : Hard and soft laws, the regulatory landscape of Research Integrity - Oral

***Dr. Hjördis Czesnick*** [1] ***, Mrs. Helga Nolte*** [2]

***1.*** *German Research Ombudsman (OfdW),* ***2.*** *Ombuds Office Universität Hamburg*

Reports on alleged research misconduct are the foundation of a functional self-regulatory research system. However, reporting an observation or "blowing the whistle" on an alleged wrongdoing is often hampered by high thresholds as the observers fear retaliations by the persons accused or even by the research institution concerned. Therefore, strategies to ensure the protection of whistleblowers in research are of utmost importance. To address the topic, the European Network of Research Integrity Offices (ENRIO) has created a comprehensive "Handbook on Whistleblower Protection in Research". Developed by an ENRIO working group, the handbook, presented in this talk, addresses diverse aspects related to the treatment and the quite often necessary protection of whistleblowers. The handbook aims to give practical advice not only to research institutions, research integrity officers or ombudspersons and other institutions handling reports of alleged research misconduct but also to persons who themselves consider reporting an observation. The document also aims to shed light on previously less considered topics such as research integrity officers as whistleblowers or the provision of aftercare for whistleblowers. In addition to ENRIO's "Recommendations for the Investigation of Research Misconduct", this handbook presents the second compilation of recommendations for the conduct of proceedings handling alleged research misconduct based on the combined expertise by ENRIO's member offices. In this talk, we will give an overview of the handbook's development and content and highlight the document's relevance for the European research landscape.

# LERU advice paper: Defining responsible and equitable authorship by a principle-based approach.

Friday, 8th September - 10:45: Oral Session 7 : Hard and soft laws, the regulatory landscape of Research Integrity - Oral

*Prof. Mats Johansson [1], Dr. Inge Lerouge [2], Dr. Magdalena Morawska [3], Dr. Rhys Morgan [4], Prof. Frits Rosendaal [5]*

**1.** *Lund University,* **2.** *KU Leuven,* **3.** *University College London,* **4.** *University of Cambridge,* **5.** *Leiden University Medical Center*

Authorship is important for career progression but it also implies responsibility for the integrity of work undertaken. There are various guidelines for authorship, but with no clear definition and with tacitly agreed standards which vary between disciplines, it can be a matter of interpretation and negotiation who will be listed as an author. It is often not clear what contribution each person has made in the specific project and this can lead to authorship disputes.

Some recent studies make clear that responsible and equitable authorship is still far from being the norm. Well known authorship guidelines and criteria do exist, but do not seem to be widely used. While there can never be a fail-safe mechanism to prevent authorship malpractice, universities should always strive to raise awareness of what responsible authorship is amongst their researchers, encouraging an open dialogue on authorship early on in the research process and creating an environment where these good practices can flourish.

In this LERU paper (which will be launched in September 2023), we aim to develop a common understanding of what responsible and equitable authorship is, by using the four principles of the ALLEA Code as a basis. These principles are core values that one can refer to at any time when dealing with any aspect of research, including authorship. Depending on the stakeholder, their meaning in the context of attributing responsible and equitable authorship might slightly differ and have different weightings. To show how this could work in practice, based on the experience gained within the LERU universities, we formulated recommendations for some of the different stakeholders, such as a) researchers, b) universities and c) journals. We are aware that there are also other important stakeholders (such as funding agencies) but we did not address those in the paper. By raising awareness of the elements that form the basis for responsible and equitable authorship through shared European principles of research integrity, we hope to further contribute to the dialogue and reflection on what responsible and equitable authorship is.

# Virtue based interventions for fostering organizational climate: a randomised controlled trial

Friday, 8th September - 11:00: Oral Session 7 : Hard and soft laws, the regulatory landscape of Research Integrity - Oral

*Dr. Marin Viđak* [1]*, Dr. Ružica Tokalić* [1]*, Dr. Ivan Buljan* [1]*, Prof. Ana Marušić* [1]

**1.** *1. Department of Research in Biomedicine and Health, Center for Evidence-Based Medicine, University of Split School of Medicine, Split*

Background: Interventions on research integrity (RI) lack methodological rigour and are often inadequately reported and focused on rule-based education. As organizations play an important role in creating adequate research climate, RI interventions should be assessed at organizational level. Future Several virtue-based training modules were developed as a part of the „Virtue based ethics and Integrity of Research: Train-the-Trainer program" (VIRT2UE) project. The aim of our study was to assess such RI training could improve organizational climate.

Methods: We conducted a pilot, single-centre, single-blind, parallel, randomised controlled trial at University of Split School of Medicine in 2020 and 2021. First year medical students attending the mandatory methodology course were recruited and randomly assigned in a 1:1 ratio to receive a seminar on responsible research practices (control group) or a seminar on responsible research practices followed by a virtue-based integrity training (experimental group) based on the exercises developed as part of the EU-funded VIRT2UE project. The outcome was the perception of current and desired organizational ethical climate, measured by item Ethical Climate Questionnaire (ECQ) before and after the intervention. Both experimental and control groups were held online using Zoom platform following social distancing policy due to COVID-19 pandemic. Data was collected using Survey Monkey web-based platform. The Ethics Committee of the University of Split School of Medicine approved the study.

Results: We are currently analysing the results from 114 participants with fully completed questionnaires at both time points (63% response rate) (61 in the control and 53 in the experimental group).

Conclusion: This study will be the first, to our knowledge, methodologically rigorous study to provide information on the effects of virtue-based RI intervention on the perception of organizational ethical climate.

# Discussing the implementation of the HYBRIDA guiding documents for reliable organoid-based technologies

Friday, 8th September - 10:30: Workshop 7 : Discussing the implementation of the HYBRIDA guiding documents for reliable organoid-based technologies - Workshop

## Dr. Panagiotis Kavouras [1] , Dr. Hervé Chneiweiss [2] , Dr. Maxence Gaillard [3]

**1.** *School of Chemical Engineering, National Technical University of Athens & Institute of Health and Society, Centre for Medical Ethics, Faculty of Medicine, University of Oslo,* **2.** *Head of the Research Center "Neuroscience Paris Seine" at Sorbonne University, Research Director at CNRS, President of the INSERM Ethics Committee,* **3.** *Institute of Health and Society, Centre for Medical Ethics, Faculty of Medicine, University of Oslo*

**Organiser/Facilitator**

Panagiotis Kavouras (School of Chemical Engineering, National Technical University of Athens & Institute of Health and Society, Centre for Medical Ethics, Faculty of Medicine, University of Oslo)

**Co-animators**

- Hervé Chneiweiss (Head of the Research Center "*Neuroscience Paris Seine*" at Sorbonne University, Research Director at CNRS, President of the INSERM Ethics Committee)
- Maxence Gaillard (Institute of Health and Society, Centre for Medical Ethics, Faculty of Medicine, University of Oslo)

**Introduction**

The aim of the HYBRIDA (https://hybrida-project.eu/) project is the development of a comprehensive guiding framework related – among other – to research integrity for organoid research and organoid-related technologies. HYBRIDA initiated at the beginning of 2021 by studying the existing conceptual, epistemological and regulatory uncertainties in organoid research. The results of these studies provided the bedrock upon which the main outputs of HYBRIDA are being developed:

1. A Health Technology Assessment that provides a comprehensive assessment of the vision of developing personalised medicine through organoid technology
2. A set of Operational guidelines for organoid researchers, entitled "Minimal Information about Organoid and its Use for Researchers" (MIAOU) that streamlines certain working procedures, according to best practices that safeguard transparency and replicability
3. As a counterpart of MIAOU, the Evaluator checklist for organoid ethical studies (EChOES) describes how to evaluate the quality of organoid descriptions in a grant application for reproducibility, replicability and rationality of the proposed organoid research.
4. A set of Operational guidelines for Research Ethics Committees (RECs) and Research Integrity Offices (RIOs), the Research Integrity Committee Organoid checklist (RICOCheck) intends to provide a tool to ensure transparency and anticipate ethical issues
5. A Code of Responsible Conduct for organoid researchers that provides ethical standards of good practice and a guide on how to operationalise the principles of the European Code of Conduct for Research Integrity (ECoC), i.e. Reliability, Honesty, Respect, and Accountability.

**Motivation**

These outputs, among others, have been developed or are being developed in the form of comprehensive, yet lengthy reports. However, in order for them to be user-friendly, the HYBRIDA consortium has started developing concise versions of these outputs and plans to operationalize them as an interactive file to use on the web. This workshop aims to involve the audience in a dialogue with key HYBRIDA members, i.e. the co-animators, to:

- raise the visibility of the structure and the content of the concise versions of the HYBRIDA outputs
- discuss ways to implement the HYBRIDA outputs.

**Relevance to research integrity practice**

These outputs provide a comprehensive guide across the inherent uncertainties of the field of organoid-related technologies and increase the reliability of organoid research which is still currently at an emerging stage.

**Intended learning objectives**

To engage the participants into a discussion that will aim at:

- Conveying the structure and content of the concise versions of these main outputs
- Gaining feedback on the implementation of these main outputs.

**Workshop agenda**

Introduction to HYBRIDA - P. Kavouras (5 min)

A new approach to Health Technology Assessment - M. Gaillard (15 min)

Interaction with the audience (25 min)

Guiding documents in the making (MIAOU, ECHOES, RICOCheck) - H. Chneiweiss (15 min)

Interaction with the audience (25 min)

Wrap up - P. Kavouras (5 min)

# Fostering research integrity as a prerequisite for research quality

Friday, 8th September - 10:30: Workshop 8 : Fostering research integrity as a prerequisite for research quality - Workshop

*Dr. Sonja Ochsenfeld-Repp* [1], *Dr. Tobias Grimm* [1], *Ms. Lydia Llaga* [1], *Dr. Philip Ridder* [1]

**1.** *German Research Foundation (DFG)*

**Scope**

With an approach to research integrity, that sees its role as part of an overarching research culture, current challenges to the national, European and global research systems can be tackled in a more holistic way. In this sense, the substantive aspects of good research practice have to be expanded, updated and clarified; they relate to the entire research process, involve all phases of academic education and career development. Precisely, numerous challenges for research activities have to be addressed – e. g. reacting to publication pressure, responsible use of quantitative metrics, digital turn (including yet relatively un-regulated use of generative artificial intelligence), balancing global research collaborations, ensuring diversity among researchers, reviewers, counteracting power imbalances, considering sustainability in research processes – which otherwise would provide a breeding ground for undesirable developments that ultimately foster research misconduct and harm research quality.

**Intended learning objectives**

With reference to the above, but also with regard to other challenges – to be identified during the discussion – workshop participants shall develop an understanding of the intertwined dimensions of research integrity as part of the research culture, and their impact on research quality. They can contribute their own experiences, best and worst practices, and ideas with respect to the potential areas of action and options that research performing and funding organisations have at their disposal. The "Coalition for the Advancement of Research Assessment" (CoARA), initiated amongst others by the European Commission, is a relatively new approach to join forces of a variety of member organisations across Europe and worldwide to reconsider established practices and shape a common understanding of framework conditions that foster high quality research.

**Description of interactivity**

The outcome of the workshop should be recommendations for different types of organisations on how to foster research integrity and in the end quality through a holistic understanding of research culture. In this way, participants will gain an enhanced awareness of the various scopes for action of research performing and funding organisations, acquire suggestions for their national research systems and thus contribute to the development of standards across Europe.

The recommendations will be developed at themed and moderated tables (world café format). They will then be presented to the whole group for shared reflection (30 minutes).

The workshop is initiated and organized by the DFG. The workshop facilitators represent different departments at the DFG´s Head Office involved in the process of safeguarding research integrity and fostering a positive research culture as such.

**References**

The Agreement on reforming research assessment (2022)

https://coara.eu/app/uploads/2022/09/2022_07_19_rra_agreement_final.pdf

The DFG's Position Paper „Academic Publishing as a Foundation and Area of Leverage for Research Assessment - Challenges and Fields of Action" (2022)

https://www.dfg.de/en/research_funding/principles_dfg_funding/publishing/index.html

Dutch National Survey on Research Integrity (2022)

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0263023

The WCRI's Hong Kong Principles (2020)

https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000737

# Supervisors' role modeling of responsible research practices

Friday, 8th September - 10:30: Workshop 9 : Supervisors' role modeling of Responsible Research practices - Workshop

**_Dr. Tamarinde Haven_** [1] , **_Dr. Daniel Pizzolato_** [2] , **Ms. Susan Abunijela** [3] , **Prof. kris dierickx** [4] , **Ms. Nicole Hildebrand** [3]

**1.** Aarhus University, **2.** KU Leuven/EUREC, **3.** Charité Universitätsmedizin Berlin, **4.** KU Leuven

When conducted in a manner that emphasizes rigorous and transparent research, supervision can be an important means to socialize PhD candidates into responsible research practices. We will kick off with an overview of the status quo on responsible mentoring and supervision, including what institutions can do to support responsible supervision, and end on a case study that investigated role modeling of open science practices. However, it is less clear how to assess whether supervisors were successful in promoting responsible research, and how supervisors can be incentivised to supervise responsibly. Using a world-café set-up, participants will deliberate over these crucial questions. We will end on a prioritized list of suggestions for research groups, departments, and institutions.

# Communicating Research Integrity to the masses – The Research Ethics Magazine

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**_Mrs. Elin Fugelsnes_** [1]

**1.** *The National Research Ethics Committees*

The Research Ethics Magazine is a periodical and specialized magazine which has been published by the National research ethics committees in Norway since 2001. As far as we know, such a magazine is unique in an international context.

Awareness of research ethics among the general public is important for fostering trust in research. The Research Ethics Magazine contributes to creating such an awareness through publishing news and feature articles, book reviews and opinion pieces about research ethics in the broadest sense. We provide insight into issues related to ethics and integrity, including the societal dimension of RI, in all research and in the entire research system. We believe in communicating also complex topics in an easily understandable, comprehensible and engaging way. This makes us relevant and important to not just researchers and students, but also authorities, the media, and the general public.

The National Research Ethics Committees have overall responsibility for the magazine, but the editor in chief has full responsibility over the editorial content and decisions. In the same way as trust in research is important, this editorial independence helps enhancing public trust in the magazine and its content.

The magazine is published in print and as an online edition three or four times a year. Each issue is distributed free of charge to around 5,000 subscribers. We also collaborate with Norway's largest online science news magazine which allows the publication of our articles on their websites. In this way research ethics can be communicated to even more people.

At the ENRIO conference, we want to present some key facts about the magazine, including its organization and function, and give an insight into the journalistic work processes. We wish to present a specific example that illustrates how you can create good journalism about research ethics. We also plan to distribute an English edition with selected articles from the magazine.

Through our participation at ENRIO we hope to inspire others to make similar resources. We also want to create a meeting place for everyone working with communication of research ethics, and thus the opportunity to exchange experiences and ideas.

Link to The Research Ethics Magazine:

Norwegian: https://www.forskningsetikk.no/ressurser/magasinet/

English: https://www.forskningsetikk.no/en/resources/the-research-ethics-magazine/

Forskningsetikk 0123 forside.jpg

# POIESIS: How Research Integrity and Open Science affect Public Trust in Science

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**Dr. Serge Horbach** [1], **Dr. Tine Ravn** [1], **Prof. Niels Mejlgaard** [1], **Dr. Panagiotis Kavouras** [2]

**1.** *Aarhus University,* **2.** *National Technical University of Athens*

While societal dependence on sound scientific research and responsible innovation has become increasingly visible, concerns about public trust and mistrust in science have simultaneously been mounting. The debate about societal trust in science is characterised by two intuitively appealing assumptions: First, that trust depends on scientists' capacity to demonstrate high standards of research integrity and ethics, and that breaches to research integrity will lead to mistrust. Second, that citizen and civil society's involvement in co-creating research agendas and contents makes research more relevant and responsive to society, consequently strengthening trust.

The POIESIS project sets out to study these assumptions. Despite the assumptions' plausibility and frequent use as motivation for addressing research integrity and open science issues, they are understudied and hitherto provide little guidance for practitioners to foster public trust. POIESIS addresses this through an extensive empirical programme, including an assessment of international public surveys on public perceptions of science, as well as elaborate primary data, collected through expert interviews, focus groups, public deliberative workshops and policy workshops. It aims to provide recommendations for tackling societal mistrust in science, research and innovation, as well as for strengthening the co-creation of research and innovation contents by society. In particular, it will have a strong focus on 'chains of mediation', i.e. channels that support the communication of research findings and practices to non-academic actors. This will lead to better understanding of the role of science communicators in fostering public trust in research through research integrity and open science practices.

The POIESIS project is currently ongoing and will just have celebrated its first anniversary by the time of the ENRIO congress. At the congress, we will present early findings from the analyses of international survey data, including the state of play on public trust in science, particularly in connection to covid-19 and climate science, and in the aftermath of misconduct cases. This work identifies an initial set of indicators affecting public trust in science. Second, we share findings from public deliberation workshops, conducted in seven countries with 280 participants, on the effects of research integrity and open science on public trust.

# For equitable, inclusive, and human-centered extended reality technologies

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Panagiotis Kavouras* [1] *, Prof. Rosemarie Bernabe* [2] *, Prof. Rigmor Baraas* [3]

*1.* *School of Chemical Engineering, National Technical University of Athens, 2. Professor of Medical Research Ethics, University of Oslo, 3. Professor of Optometry and Visual Neuroscience, University of South-Eastern Norway*

**Description of the project**

The potential benefits of eXtended Reality (XR) technologies – that encompass Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), Diminished Reality (DR) and Modulated Reality (ModR) – render them candidates for an expanding spectrum of applications in research and innovation (Engineering and Manufacturing, Food industry, Defence) and services (Education, eCommerce and Retail, Real Estate, Travel and Tourism, Entertainment and Gaming). This drive towards eventual ubiquity comes with potential risks that encompass a wide array of challenges, related to safety, privacy, security, interoperability, and research integrity. These challenges need to be tackled now, at a time when the European Research Area strives to achieve a place in the world market of XR technologies by integrating into the development of XR technologies the human-centered approach. The "Equitable, Inclusive, and Human-Centered eXtended Reality" (XR4HUMAN) project aims at co-creating living guidance on ethical and related policy, regulatory, governance, and interoperability issues of eXtended Reality (XR) technologies.

**Relevance to research integrity practice**

A common denominator of XR4HUMAN's outputs, listed below, is to provide safeguards for the protection of personal data of XR technologies' users (via the European Code of Conduct) and achieve transparent processes for the development of responsible regulation and governance of XR technologies (via a wide co-creation exercise with all relevant stakeholders).

**Expected or achieved outcomes of the project**

The operationalisation of XR4HUMAN's main aim is going to be achieved by:

- Guiding companies and regulators through (i) Interoperability Guidance Document; (ii) a European Code of Conduct for Equitable, Inclusive, and Human-Centered XR Technologies; (iii) recording and demonstrating the practical application of the XR Code of Conduct.
- Equipping companies and regulators with an online repository of test cases to allow developers to demonstrate evidence of adherence to best practices.
- Equiping and guiding users through a rating system and educational materials.
- Engaging companies and other stakeholders (i) to enhance the uptake of the XR Code of Conduct, the Guidance for Interoperability, and the empowerment of end-users; and (ii) to establish a permanent digital European Forum to facilitate stakeholder dialogue on issues of ethics and interoperability.

Xr4human logo vertical.png

# Learners' self-assessment and self-report as measures to evaluate the effectiveness of research ethics and integrity training: Can we rely on self-reports?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**Dr. Anu Tammeleht [1], Prof. Erika Löfström [2]**

**1.** *University of Helsinki, University of Tartu,* **2.** *University of Helsinki*

**Background and research question**

To evaluate what works in research ethics and integrity education, self-assessment is among the most commonly used measures (Steele et al., 2016; Stoesz & Yudintseva, 2018). Self-assessment most commonly asks about content satisfaction (i.e., how useful was the content), and affective satisfaction (i.e., satisfaction with the course) (Turner et al., 2018). While self-assessment is the most popular measure to evaluate learning in integrity training, can we rely on these? The focal issue is the accuracy in which the learners can assess their learning outcomes. We asked the following research question: How accurately are learners able to assess their learning in RE/RI?

**Method**

Data were collected through paper-and-pencil forms and online forms from bachelor and master students about the clarity and level of material, role of the group, usability of the new knowledge, and from master's and doctoral students on self-evaluation of their level of understanding (on the SOLO taxonomy describing levels of understanding, Biggs 1999). Participation was voluntary and based on informed consent. A total of 381 participants contributed with data.

**Results**

The level of the training as well as clarity had been average; not too difficult or easy. Results showed that 87% of respondents accurately evaluate their level of understanding and support it with description when compared to facilitator ratings. In self-reflection, the participants tended to indicate mostly higher levels of understanding (according to SOLO taxonomy) while descriptions indicated a lower level. Still, data indicated that during a second reflection round the responses became more aligned.

**Conclusions and recommendations**

Self-reports are relatively reliable, and their reliability as measures of learning in integrity training improves as participants get more experience in assessing their learning. What makes self-reports useful are their feasibility and applicability in various training contexts. When setting up new training, it may be worthwhile to devote some time to comparing learner assessments with those of facilitators to establish that the course is filling its function in promoting research integrity and that facilitators have a realistic understanding of how the instruction and learning activities actually promote learning.

**References**

Biggs, J. (1999). What the student does: Teaching for enhanced learning. *Higher education research & development*, 18(1), 57-75.

Steele, L.M., Mulhearn, T.J., Medeiros, K.E., Watts, L.L., Connelly, S., & Mumford, M.D. (2016). How do we know what works? A review and critique of current practices in ethics training evaluation. *Accountability in research*,

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Stoesz, B.M., Yudintseva, A. (2018). Effectiveness of tutorials for pro-moting educational integrity: a synthesis paper. *International Journal for Educational Integrity*, 14(1), 1-22.

Turner, M.R., Watts, L.L., Steele, L.M., Mulhearn, T.J., Torrence, B.S., Todd, E.M., Mumford, M.D. and Connelly, S. (2018). How did you like this course? The advantages and limitations of reaction criteria in ethics education. *Ethics & Behavior*, 28(6), pp.483-496.

# Can Norway investigate misconduct in research publications from another country?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

_**Mrs. Ragnhild Aursnes Dammen**_ [1]

**1.** _National Research Ethics Committees (Norway)_

Norwegian courts will discuss the following question starting in May 2023:

A researcher is now employed by, do research at, and publishes for a Norwegian research institution. The same researcher used to be employed by, do research at, and publish for a research institution in another country. Can Norway investigate misconduct related to articles published when the researcher was employed at, and published for, the research institution in the other country?

This has relevance to international research integrity practice because the research institution must clean up what is what and distinguish between several types of questions. First, one question is which country's law, if any, is applicable? This leads to wondering if this question is about law or if it is more a question about ethics and integrity? The law is applicable within the territory, but is the research ethics and integrity applicable for the researcher's overall research work? Could it be an argument for handling in Norway a misconduct case from another country, that the ethical and integrity norms in Norway differ from those in the other country? It is further relevant to ask what are the consequences for the Norwegian research institution, the consequences of knowing that an employee has committed possible misconduct abroad? And what are the consequences for the researcher, both of having it investigated in Norway or not? Finally, it could be relevant to ask what does it mean to have trust in science? Should research from one researcher be considered as a whole, and independent of national borders? It is possible that the Norwegian courts will touch upon all these questions.

The oral presentation will present the question regarding whether Norway has competence or not and it will give information about the status of the answer from the Norwegian courts. This will form the basis for a discussion of to what extent European handbooks, guides and codes of conduct mention the question, and to what extent they suggest or should suggest further practical solutions.

# Coordinated - yet fragmented?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Mrs. Anjam Latif Shuja* [1]

**1.** *National Research Ethics Committees (Norway)*

The attention towards which type of influence the European Union (EU) has regarding decisions and national priorities in Norway, forms the basis for a discussion on what further role the EU should take in the field of Research Ethics (RE) and Research Integrity (RI). The focus of this poster is to elaborate the existing role of the EU and the limitations and opportunities that are present, but not leveraged for various reasons, thus leading to fragmented and comprehensive effort towards this field. Furthermore, the purpose is to propose the Norwegian model which consist of both RE and RI, as a measure to make the area more comparable between countries.

Since the RE and RI area varies from country-to-country more collective efforts from the EU, in addition to *European Code of Conduct for Research integrity*, will lead to harmonizing disparities across countries. These effort from the EU can thereby be a source for reducing fragmentation in this field. Viewed in this context, the Norwegian model for RE and RI is presented, as it is a framework based on Legislative regulations that provide transparent and predictable procedures for the management of RE and RI. The Norwegian way of organizing RE and RI reduces fragmentation and unclear responsibilities, while preserving the professional independence. This is also a model endorsed by the society and public sector, because the committees consist of researchers from different disciplines - in addition to laypeople, which means that different expressions, values and views are better safeguarded in the society.

The challenge of fragmentation within the field of RE and RI can be improved, if the EU takes more responsibility and ownership to facilitate even more coordinated effort, towards measures to harmonize this field. Norway's experience with a system that functions as intended, can be used in a learning context and to facilitate structures within the EU, that can help make the EU's effort more targeted with an integrative approach. Thereby leading to research excellence.

# The ERION network: Implementation matters in Ethics and Research Integrity

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Ms. Teodora Konach* [1] *, Ms. Borana Taraj* [1] *, Ms. Susan Hommerson* [2] *, Dr. Joana Porcel* [3]

*1. EARMA, 2. Eindhoven University of Technology, 3. Barcelona Institute for Global Health*

We will reflect on the importance of ethics and research integrity and collaborations between researchers, institutional leaders and the community of ethics and research integrity experts, advisors and practitioners.

EARMA is the European Association of Research Managers and Administrators. In 2018, it established the Ethics and Research Integrity Officer Network[1] (ERION) thematic group. ERION is an open community to discuss the practical and implementation side of Research Ethics and Integrity. It is a community of practitioners, rules and procedure experts, and its main purpose is to provide a forum for knowledge-sharing, dissemination and collaboration in order to facilitate implementation of relevant policy and establishment of best practices.

ERION acts as a stakeholder for the European Commission DG R&I Ethics Sector. A key component of ERION are the European projects on ethics, integrity, responsible research: **SOPs4RI**, **iRECS**, **PATTERN** which are working for a strong responsible research integrity culture in Europe and increasing trust in science.

The community meets twice or more per year. Topics discussed in past ERION meetings included: Horizon Europe, Open Science, International collaborations, GDPR implementation, training, ethics support in times of COVID-19, implementing institutional research integrity promotion plans, research evaluation and assessment, and many others. More information on the **EARMA website** and **EARMA YouTube channel**.

[1] https://www.earma.org/about/governance/thematic-groups/ethics-and-research-integrity-officer-network-erion/

# How to solve research ethics issues? -Role of Certified Research Ethics Professionals (CReP) as an Ethical Review Expert-

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

_**Dr. Yusuke Ebana**_ [1]

**1.** _Tokyo Medical and Dental University_

Responding to diverse values in the world, when conducting medical research, researchers and research institutions need to establish rules to protect research subjects. Japan has three rules for medical research: ICH-GCP, the Clinical Research Act, and the Ethical Guidelines for Medical Research Involving Human Subjects. A high level of expertise is required to confirm that the research protocol conforms to the relevant guidelines in Japan because the guidelines are frequently revised. A professional group of experts, CReP, has been established to ensure that ethics reviews are conducted.

Expertise is tested by multiple-choice questions on research ethics and ethical review. Exam questions are created by the CReP Certification Committee. After conducting the test, the committee will review the suitability of the questions again. Those that meet the passing criteria will be certified as CReP for three years. Renewal of accreditation is determined by credits earned through participation in academic meetings, training seminars, and study of teaching materials.

CReP system started in January 2019, and so far 268 people have been certified. Of the institutions to which the CRePs belonged, 73.8% were universities, 5.6% were national centers, 10.1% were hospitals and clinics, and 7.1% were companies. So far, we have held information exchange meetings 25 times, with about 30 to 120 participants. Satisfaction was 80 to 90%, including those who were satisfied and those who were somewhat satisfied.

In addition to ICH-GCP, Japan has a Clinical Research Act and ethical guidelines. Although the basic stance on research ethics remains the same, each of them operates differently. Here, especially with regard to ethical guidelines, the operation of each institution differs greatly, so a network such as CREP is necessary.

The established CReP system has produced 268 CRePs. At the information exchange meeting where CRePs gathered, they discussed the revision of the guideline and confirmation of compatibility, and the satisfaction level was high. It is believed that this will contribute to the standardization of ethical review.

# [online] Signs, Symptoms, and Situations of Moral Distress during the Pursuit of Research Excellence

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**_Dr. Katrina Bramstedt_** [1] , **_Ms. Anna Kang Liu_** [2]
**1.** *F. Hoffmann-La Roche AG,* **2.** *Genentech*

This presentation identifies and explores signs, symptoms, and situations of moral distress during the pursuit of research excellence. Signs are objective, observable phenomena that can be identified by another person (such as a bioethicist, research integrity officer, or research colleague). Symptoms are subjective experiences that are reported by the researcher in distress. The context of this presentation is the research and development of pharmaceuticals in corporate industry; however, there is the potential for application to other settings such as research in academia, hospitals, and non-profit institutes. We argue that the research integrity ecosystem must include recognizing and addressing moral distress in researchers, in addition to RCR training, and identifying and sanctioning misconduct.

# Ten simple rules for scientific fraud and misconduct

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Mr. Nicolas Rougier* [1]

*1. Inria*

In 2018, I co-authored with John Timmer a preprint entitled "Ten simple rules for scientific fraud and misconduct". Our goal was obviously not to encourage scientific fraud nor misconduct but rather to alert the reader to problems that have arisen in part due to the Publish or Perish imperative, which has driven a number of researchers to cross the Rubicon without the full appreciation of the consequences. This article has been the base for several talks in the lab and for workshops with PhD Students in the Bordeaux area. Even though PhD students had to attend a mandatory course on scientific integrity, a lot of them came nonetheless to the workshop, even though it was not mandatory. The explanation for such popularity is certainly to be found in the provocative title and contents since during these lessons, I really explain how to cheat (based on numerous real-world cases, see cited paper). These lessons are also the place of interesting discussions with the students and between the students. For example, they asked questions about self-plagiarisms, code licences, etc. Unfortunately, there was no study following the workshops in order to assess whether this method of introducing scientific integrity is sound and/or better than a more traditional one. During this talk, I'll present the material I've been using and hopefully engage the audience in order to discuss this teaching approach and proably its limits.

# Research Environments, Institutional Integrity, and Public Trust

Friday, 8th September - 13:30: Plenary Session D - Concepts to establish a fair research environment - Oral

**_Ms. C. K. Gunsalus_** [1]

**1.** *University of Illinois Urbana-Champaign*

Research Environments, Institutional Integrity, and Public Trust

A culture of research excellence demands more than a focus on what is done, it also requires attention to how the work is done.

Responsible science is done ethically, rigorously, transparently, in inclusive working environments, and with healthy interpersonal dynamics. This applies to individual researchers as well as to the organizations in which they work. While research integrity is first and foremost a personal obligation of individual researchers, individuals are powerfully influenced by the environments cultivated by their home institutions. Toxic climates are not always documented or addressed, and they take a toll on the well-being and career progression of members. Research institutions have primary responsibility for creating and maintaining organizational research climates. They are the "first responders" when allegations of misconduct are lodged. In the United States, institutional practices to both in prevention and responses to research misconduct are uneven, with marked failures appearing regularly in the scientific and popular press. To inspire and deserve public trust, key areas that require attention in institutional practices include: research integrity, institutional response to misconduct allegations, climate assessment, and the conceptualization and delivery of research ethics education.

Systemic problems require systemic approaches.

This presentation will explore the interconnectedness of:

1. Professional development for researchers: emphasizing real-world problems and providing practical tools for managing pervasive situation. By building practical as well as conceptual skills, researchers can navigate ethical dilemmas and challenging climates more effectively.
2. Regular climate assessments: conducting periodic assessments of the integrity and accountability of research environments. These assessments can help identify where things are working well to spread those practices, as well as identify potential issues to provide an opportunity to address them.
3. Institutional practices for responding to research misconduct: using practices that withstand public scrutiny and contribute to building public trust through timely procedures and sharing outcomes.

We can foster research environments that promote integrity, transparency, and accountability. This approach can benefit individual researchers as well as strengthen public trust in the scientific enterprise.

# [online] The three Rs in ReseaRch IntegRity – Respect, Reliability, Responsibility

Friday, 8th September - 13:45: Plenary Session D - Concepts to establish a fair research environment - Oral

*Dr. Heinz G. Fehrenbach* [1]

*1. University of Lübeck*

Integrity of researchers is one if not the central pillar on which trust in science is based upon. In most countries and scientific communities, specific committees have set up codes of conduct to provide the whole community of researchers with guiding principles as written norms for their research activities. The value of such guidelines, however, depends on the degree to which the codes are translated into everyday practice i.e., scientific culture. Scientific culture can be considered as the way how we as individual scientists establish norms of action by interacting with one another. Any action that is accepted, tolerated, or not objected by the majority of community members will establish as a norm. Such norms resulting from our scientific everyday life interactions will define the borders of research integrity. Actually, this is a great situation, because everything depends solely on our own behaviours.

Based on this idea, the presentation will discuss that we as individual researchers are responsible for re:searching and re:establishing a new concept of scientific integrity that encompasses not only research practices but also our behaviours as researches who interact with anyone who is part of the research process. Only if we succeed in setting up the everyday life norms to encompass respect, reliability, and individual responsibility for what we are doing or not doing, we as scientific community can expect to earn public trust in the scientific work we deliver.

The importance of respect, reliability and responsibility will be discussed using examples of the internal handling of cases of abuse of power at research institutions. Since science can be regarded as a closed system characterized by an enormously high degree of interdependencies between the participants, it is proposed that external appeal authorities be set up and equipped with a high degree of competences to handle such cases. Only external authorities will be able to guarantee the necessary degree of independence that is indispensable for a trustworthy investigation of allegations of abuse of power.

It is the speaker's strong personal conviction that this will be the only pathway to a confidence-building and sustainable new concept of **R**e:sea**R**ch Integ**R**ity.

# The CNRS research integrity office: a review of four years of investigations

Friday, 8th September - 14:30: Oral Session 8 : Local and national experiences to promote Research Integrity - Oral

*Prof. Christian Jutten [1], Dr. Lucienne Letellier [1], Dr. Cécile Michel [1], Dr. Rémy Mosseri [1], Ms. Dorothée Peitzmann [1], Dr. Caroline Strube [1], Dr. Irène Till-Bottraud [1]*

*1. CNRS MIS*

After more than 4 years of existence, and more than 90 investigations carried out, we present a first analysis of the CNRS research integrity office activities focusing on the typologies of misconducts. In particular, the CNRS being a multidisciplinary research organization, we analyze how misconducts are distributed according to the different scientific fields.

# Responsible Research Barometer in Lithuania

Friday, 8th September - 14:45: Oral Session 8 : Local and national experiences to promote Research Integrity - Oral

*Dr. Julija Umbrasaite* [1]

**1.** *Office of the Ombudsperson for Academic Ethics and Procedures of the Republic of Lithuania*

It is aimed to present two waves of the survey results on responsible research practices in Lithuania that the Office of the Ombudsperson for Academic Ethics and Procedures carried out in 2020 and 2022 (Ozolinčiūtė et al., 2020; Umbrasaitė & Ozolinčiūtė, 2022). The survey, adapted for the Lithuanian context from the Finnish National Board on Research Integrity, aims to provide insights into the current practices of research and publication ethics (RPE) in Lithuanian academic community (Ozolinčiūtė et al., 2020). It covers topics, such as awareness of RPE regulations and its implementation, practices of improving knowledge about RPE, personal ethical attitudes and experiences of unethical behaviour. Doctoral students and researchers (teaching staff, scientists and other researchers working in Lithuanian research and higher education institutions) participated in the survey (n (2020) = 384; n (2022) = 310).

The study revealed that there has been little change in the awareness of RPE regulations as well as in the share of respondents who improved their RPE knowledge, in comparison to 2020. However, the ways of RPE knowledge improvement have changed considerably since 47 percent of respondents indicated that they participated in virtual events (in comparison, 13 percent in 2020). In addition, the share of respondents participating in training events at other institutions has increased whereas it remained stable when considering training at home institution. The results of the study suggest that the external reasons for the improvement of RPE knowledge (e. g. attention from the institution's academic community, cooperation with foreign colleagues) as well as internal reasons (i.e., shortage of personal knowledge) have been less important in 2022 in comparison with the previous survey. The study results also indicate that 28 percent of respondents have encountered unethical behaviour of another researcher in the past three years; however, the majority (55 percent) did not report it anywhere because did not see any sense of that (in comparison, 49 percent in 2020). The study results suggest that more proactive position in providing training on RPE and more supportive environment for whistleblowing to prevent unethical behaviour is needed.

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# Insights from analysing annual research integrity reports by UK universities

Friday, 8th September - 15:00: Oral Session 8 : Local and national experiences to promote Research Integrity - Oral

**_Ms. Gillian Rendle_** [1]

**1.** *UK Committee on Research Integrity*

The UK Committee on Research Integrity has responsibility to promote and support research integrity in the UK and has been charged with producing an annual "state of the nation" report. Finding reliable indicators for good research practice is a challenge, and there is no central collection of data on research misconduct in the UK.

There is however a rich source of evidence in the annual statements on research integrity published by UK universities.

The UK's Concordat to Support Research Integrity aims to provide a national framework for good research conduct and its governance. Under the Concordat, universities are expected publish an annual statement on research integrity. The statement should set out what work they have undertaken to support research integrity, activities to foster good research practice, as well as the number of research misconduct investigations undertaken and any lessons learned.

These statements contain a wealth of data about organisations' approaches and activities related to research integrity but they are not centrally collected or analysed. For their first annual report in 2023, the UK Committee on Research Integrity, working in partnership with the Concordat Signatories Group and UK Research Integrity Office, commissioned the first full analysis of the statements, looking at 280 statements produced between 2019 and 2022.

This presentation will explore the findings of the analysis, and discuss the questions it raises about national reporting that is accessible and transparent for government and the public whilst respecting institutional autonomy and reducing bureaucracy.

# Developing research integrity methodology for capturing the status quo: a national survey from Estonia

Friday, 8th September - 15:15: Oral Session 8 : Local and national experiences to promote Research Integrity - Oral

*Dr. Kadri Simm [1], Dr. Mari-Liisa Parder [2], Dr. Anu Tammeleht [2], Ms. Kadri Lees [3]*

**1.** *Institute of Philosophy and Semiotics, University of Tartu,* **2.** *Centre for Ethics, University of Tartu,* **3.** *Centre for Applied Social Sciences, University of Tartu*

A number of surveys have been developed and conducted for analysing the research integrity (RI) situation in different contexts (often in particular institutions or disciplines), a few have attempted national coverage (Salmien and Pitkanen, 2019; Gopalakrishna et al., 2022; Kaiser et al. 2022).There is only one existing national survey from Central Eastern Europe (Ozolinčiūtė et al., 2020). Previous studies have focused on setting up the RI system in Estonia (Espenberg et al., 2020, Parder et al., 2022). The first study carried out among Estonian researchers had two aims – to develop the methodology suitable for Estonia; and to map the current RI landscape. An online standardised questionnaire was developed for researchers whose (self-assessed) research workload formed at least 20% of their full-time position. The questionnaire mapped the background information of the informant; the prevalence of FFP and different QRPs; the availability of elements of RI system; and ethical sensitivity (via evaluating ethicality of vignettes).

Overall, 354 respondents answered the questionnaire representing all the disciplines and research degrees, the response rate being generally proportionally comparable with similar national surveys.

Main results demonstrate that while FFP is considered to be very problematic, QRPs, especially salami-slicing (23% not problematic at all), serious and deliberate breach of the research protocol (11% not problematic at all) and pressure from third parties to change the study (10% not problematic at all) are seen less problematic.

Pertaining to the FFP and QRP in last five years, the results indicate that the most frequently noticed activities were using research funds for other purposes than they were intended for (43%); gift authorship (41%); salami-slicing (38%); inappropriately hampering the work of another researcher (32%). In reporting whether respondents themselves have done the activities, the most prevalent actions are salami-slicing (16%); gift authorship (16%) and using research funds for other purposes than they were intended for (15%). Policy recommendations are developed based on the results.

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# Developing the Strategic Policy Paper on Open Science as a (open) knowledge creation – lessons learned from the ROSiE project

Friday, 8th September - 14:30: Oral Session 9 : Local and national experiences to promote Research Integrity - Oral

*Ms. Teodora Konach* [1]

**1.** *Austrian Agency for Research Integrity*

The main aim of the EU Horizon2020 funded ROSiE-project is to develop, both a conceptual and a practice-oriented, framework for integrating research ethics and research integrity principles into Open Science (OS). One of the main outcomes of the project is the Strategic Policy Paper on Responsible Open Science, highlighting main topics and challenges to be addressed at the policy-level, as well as providing some action-oriented recommendations on fostering responsible practice of OS.

Recognising the importance of the OS framework, also as a quality measure, we have co-created the Strategic Policy Paper with a broad and international stakeholder group, representatives of many and diverse academic and research networks. Our goals were to involve as many actors as possible, also globally, to secure the engagement of representatives of the Quadruple Helix (government, academia, industry, civil society).

During this co-creation process, we have encountered many challenges and limitations, as the fragmentarisation and diversity of the OS movement, lack of evidence-based resources on how to make OS practices beneficial to all, inequalities between HICs and LMICs and a strong Western-centric approach to some OS practices (most significantly – to Open Access), limited channels for communication and interaction with broader stakeholders forums (civil society in general), and deficient skills within the academia to work with non-academic partners. How we have overcome these limitations and how we have developed a procedure of non-linear co-creation work will be discussed. Our model of OS as a multi-disciplinary and multi-agent ecosystem will be also presented, as opposed to the better-established conceptualisation of OS focusing on infrastructure and funding. We will further advocate for broadening the understanding of co-creation within the OS framework, by introducing a perspective beyond structural capital, and opening a discussion on human and relational (trust, confidence, understanding), intangible capital. Finally, lessons learned and practical implications of the proposed policy framework will be discussed, together with some recommendations for further actions and research.

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# Skills4EOSC: Creating a Collaborative Training Ecosystem for Responsible Open Science

Friday, 8th September - 14:45: Oral Session 9 : Local and national experiences to promote Research Integrity - Oral

*Dr. Emma Lazzeri [1] , Dr. Sara Di Giorgio [1] , Dr. Luca Schirru [2] , Dr. Sara Casati [3]*

**1.** GARR, **2.** KU Leuven, **3.** Consiglio Nazionale delle Ricerche

The Skills4EOSC project aims to establish a pan-European network of competence centres in open science and FAIR (Findable Accessible, Interoperable and Reusable) data management, with a strong focus on promoting Responsible Open Science, therefore referring to the broader concept that encompasses various aspects of research integrity.

Responsible Open Science not only emphasizes open and transparent practices but also promotes ethical conduct, reproducibility, data protection, privacy, and the responsible handling of research outputs. These elements are fundamental to maintaining the integrity of the research process and ensuring the trustworthiness of scientific outcomes.in other words, Open science as a central pillar of Responsible Research & Innovation deeply interconnected with Ethics, Multi-actor Engagement, innovative Governance, and Sustainability. By enhancing the potential of the European Open Science Cloud (EOSC) for data-intensive research, the project seeks to foster an ethical, inclusive, transparent, and responsible research culture. This translates into integrating the principles of RRI and open science into the overall development process of both specific projects and policies of science and to empower the extended scientific community accordingly.

Skills4EOSC addresses the critical need for a digitally skilled workforce in Responsible Open Science by defining competencies and skills required by each actor from researcher to policymaker. Each role in the ecosystem will be equipped with a Minimum Viable Skillset (Skills4EOSC MVS) defining key activities performed, outcomes expected and skills and competencies needed to effectively put Open Science principles into practice. Through Training of Trainers sessions, these competencies and skills are disseminated within the network of Competence Centres, empowering researchers to engage in responsible and open practices.

An integral part of the Skills4EOSC methodology is the analysis of Ethical, Legal, and Social Issues (ELSI) within Open Science career profiles, skill sets, and training materials. This comprehensive analysis allows us to identify and address the ethical implications of Open Science, ensuring that responsible, inclusive and transparent practices are embedded in the training ecosystem.

The project goes beyond technical considerations by aligning with Responsible Open Science principles and practices. It takes into account relevant regulations, policies, and frameworks that impact the development of Open Science skills, certification, and quality assurance mechanisms. By considering these factors, Skills4EOSC aims to create a training ecosystem that upholds ethical standards, embraces transparency, and encourages responsible behavior.

Through the presentation of Skills4EOSC, we aim to highlight the project's commitment to Responsible Open Science. We invite collaboration with like-minded initiatives and organizations that share our vision for promoting responsible, open, and inclusive research. By working together, we can shape a research landscape that is not only technologically advanced but also ethically sound and socially responsible.

Skills4EOSC's focus on promoting Responsible Open Science, combined with the consolidation of competence centres and the development of a collaborative training ecosystem, paves the way for a more ethical, transparent, and responsible research environment.

Figure proposal presentation enrio.jpg

# Revising a national guideline: Implementing international policy, optimising reception and managing expectations

Friday, 8th September - 15:00: Oral Session 9 : Local and national experiences to promote Research Integrity - Oral

*Dr. Jonas Åkerman* [1] *, Dr. Karolina Wallenborg Bjelic* [1] *, Dr. Teresa Ottinger* [1]

**1.** *The Swedish Research Council*

The Swedish Research Council's guideline Good Research Practice is not an official national code of conduct, but has in effect been treated as such. It is a central reference document at the national level, and is used both as a normative source in handling deviations and as an educational tool. This guideline is now being revised, in order to meet the need for more updated information and practical guidance. The new version takes the ALLEA-code as its starting point and primarily aims to give researchers and institutions the basic information they need in order to fulfil their responsibility in ensuring that good research practice is followed, promoted, and protected, although it is also designed to work in educational contexts. Various stakeholders have been invited to provide feedback, and it has been a challenge to balance the sometimes conflicting opinions and expectations. The structure and content of the new version differs substantially from the previous ones, and the initial plan has been revised in several respects during the process, as new insights have emerged. In this presentation, we describe the most important features of the new guideline as well as the most crucial take-home messages from the process. In particular, we focus on the practical challenge of designing a guideline in a way that both appeals to the very diverse intended audience and covers the most important topics in a sufficiently comprehensive way. Among other things, we explain how our experience from policy work at the institutional level and involvement in various research projects has helped us handle this challenge.

# ENRIO's Leading Pathway to Research Integrity Promotion

Friday, 8th September - 15:15: Oral Session 9 : Local and national experiences to promote Research Integrity - Oral

**Mrs. Helga Nolte** [1] **, Dr. Siret Rutiku** [2]

**1.** *Head of Ombuds Office Universität Hamburg,* **2.** *Head of Grant Office, University of Tartu*

This presentation focuses on the organizer of this conference itself, the European Network of Research Integrity Offices (ENRIO), and its continued development and importance. It describes the journey of this initially informal network of committed individuals who exchanged ideas on the topic of research integrity (RI) and the handling of academic misconduct to become the leading European network of institutions and individuals working in the field. This advancement is reflected on in the same-titled chapter of the Handbook on Academic Integrity to which we refer here. It first describes the evolution of ENRIO as an organization, beginning in its early years, continuing through its growing networking in more and more European countries, and culminating in the founding of the ENRIO Association. The importance that ENRIO has gained through its continued contribution to the European development of effective strategies for RI and the overall strengthening of values-based research practice and its transmission to the next generation of scientists is highlighted. Furthermore, examples from different countries represented at ENRIO are used to illustrate key achievements in the area of RI.

Based on this chapter, the presentation provides an overview of this continuous growth and clearly shows how ENRIO has gained particular leadership in RI-related issues and positions in Europe through continuous and effective networking. Exemplary of this was the ENRIO statement at the beginning of the pandemic, which emphasized the importance of RI in times of crisis.

Ref.:

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# Testing ChatGPT's capacity to write essays on ethical dilemmas: A cross-sectional study

Friday, 8th September - 14:30: Oral Session 10 : Local and national experiences to promote Research Integrity - Oral

*Dr. Mariano Kaliterna [1], Dr. Marija Franka Žuljević [1], Mr. Luka Ursić [2], Mr. Jakov Krka [2], Prof. Darko Duplančić [1], Prof. Ana Marusic [3]*

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**INTRODUCTION**

With recent advances in the field of artificial intelligence (AI) and large language models (LLMs), concerns have been raised about their impact on and ethical implications for public health, research, and education[1-3]. In the lattermost case, LLMs such as ChatGPT have shown the capacity to pass US medical licensing examinations[4,5] and write academic essays[6], raising concerns about possible breaches of integrity in the use of AI in education, especially in biomedicine[2,4]. In response to worries raised about the future use of essays in education[6], we aimed to use linguistic analysis methods to explore the capacity of ChatGPT for writing unstructured essays on medical students' personal experiences and ethical dilemmas and challenges faced during studies.

**METHODS AND AIMS**

We aim to collect seventy essays from fifth- and sixth-year medical students attending the Medical Ethics course at the University of Split School of Medicine on ethical dilemmas or challenges they encountered during their studies or clinical rotations. Following anonymization by a course professor (MFŽ), two researchers will extract 14 keywords from the essays. Two researchers will use them to design prompts of various complexity for Chat-GPT. More complex prompts will contain more keywords, up to three levels (with 6, 10, and 14 keywords); each level prompt will be used within ChatGPT to generate essays (n = 210, 70 per level) equal in length and structure to the students' essays.

We will use the Language Inquiry and Word Count (LIWC) 2022 software, a psychometrically validated text analysis tool,[7] to analyse the scores of the essays within the "Analytic", "Clout", "Authentic" and "Tone", as well as other cognitive-emotional categories. The comparisons of scores will be done between student essays and each ChatGPT-generated one (based on three prompt levels). All statistical analyses will be conducted in R, version 4.2.1.

**HYPOTHESIS**

We hypothesise that there will be no difference in the ratings within the LIWC categories between the student essays and the highest-level (most detailed) ChatGPT-generated ones.

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# Ensuring legitimacy in developing guidelines for research ethics in science and technology – experiences from Norway

Friday, 8th September - 14:45: Oral Session 10 : Local and national experiences to promote Research Integrity - Oral

***Prof. Hallvard Fossheim*** [1], ***Mr. Thomas Østerhaug*** [2]

**1.** *NENT and University of Bergen,* **2.** *NENT*

The National Committee for Research Ethics in Science and Technology (NENT) is currently revising their guidelines for research ethics in science and technology. The purpose of this paper is to share our experiences of the core choices and challenges in developing and revising research ethical guidelines.

The guidelines are important tools for promoting good scientific practice among the user groups in the Norwegian research system. Following principles of academic self-regulation, the guidelines should also express the standards to which the research community is committed.

Ethically speaking, a main objective throughout the process of revising the guidelines is *maximizing legitimacy* for the document by active choices pertaining to the process no less than to the results. How can this be ensured? We will describe four central *dimensions of legitimacy* (one legal, three ethical) for a document like the NENT guidelines, and how each such dimension can be given special attention through the process of revision.

1. *Legality*. The NENT guidelines are given their legal status through the Norwegian Research Ethics Act (2017). There is thus a clearly legal dimension to their legitimacy.
2. *Understandability*. The terminology and conceptual framing of the guidelines needs to be such that researchers and others understand – and are not unnecessarily alienated by – the wording.
3. *Recognizability*. Both researchers and other user groups (research participants, public servants, funders, journalists, members of the public at large) should be able to recognize their own research ethical values in the guidelines.
4. *Ownership*. Researchers, the group for whom the guidelines are a primary research ethical tool, should rightfully experience that they have a stake in the product.

Each dimension of legitimacy is strengthened or weakened by a series of *design choices*. We will explain what we take to be the most crucial choices pertaining to: the committee, the document, the dialogic interaction, and the public consultation.

# Updated measures to raise awareness of ethics and research integrity in research institute – experiences from the real world

Friday, 8th September - 15:00: Oral Session 10 : Local and national experiences to promote Research Integrity - Oral

### *Mr. Veikko IKONEN* [1]

*1. VTT Technical Research Centre of Finland*

VTT Technical Research Centre of Finland Ltd is one of the largest research institutes in Europe. This presentation will describe the updated and current measures at VTT on ethics and research integrity.
Naturally, as in any research organisation, we have rules we must follow:

- VTT own ethical principles mentioned in Code of Conduct: impartiality, reliability, integrity and responsibility
- VTT has committed to follow the guidance of The Finnish National Board on Research Integrity TENK: Responsible Conduct of Research, RCR (Hyvä tieteellinen käytäntö, HTK)
- Laws and regulations (e.g. copyright law) must be taken into account

We have established more than ten years ago position of compliance officer and VTT's Ethics Committee, which deals with questions and observations of good scientific practise. VTT Ethics Committee also reviews and provides statements on studies and projects where non-medical research is carried out and where VTT is involved. The duty of the VTT ethics committee is to issue ethical review statements on the ethics of research plans and other risks inherent in the research where researchers so request. The ethical principles and guidance of review by TENK serves as the starting point for ethical review. VTT has also nominated Research Integrity Advisors since 2017 to support researcher and other personnel in this theme.
Recently, VTT has started a couple of actions, in order to strengthen our capabilities to always act ethically and sustainably. First action in 2022 was to start to organise Ethics and safety research team workshops. Between 2022 June and 2023 June, we organised around 40 team workshops, which include short introductions to 4 themes (sustainability, ethics, safety and Diversity, Equity and Inclusion). This presentation will share experiences of those workshops and how we plan to continue with workshops in two other business areas. In December 2022 we launched an online course on research ethics, which was compulsory to the most of the VTT personnel. The course was based on TENK guidelines but did have some more specific guidance for publishing and general view to ethics in research as such. Next version of the course will be launched either 2024 or 2025. We have collected feedback about workshops and also from the online course, which will be used to find out potential needs from participants regarding the course and future workshops.

# The ROSiE General Guidelines for Responsible Open Science

Friday, 8th September - 14:30: Workshop 10 : The ROSiE General Guidelines for Responsible Open Science - Workshop

**_Prof. Rosemarie Bernabe_** [1] **_, Dr. Signe Mezinska_** [2] **_, Ms. Teodora Konach_** [3] **_, Dr. Maria Strecht Almeida_** [4]

**1.** *University of Oslo,* **2.** *University of Latvia,* **3.** *Austrian Agency for Research Integrity,* **4.** *University of Porto*

This proposal outlines a workshop aimed at examining the ROSiE General Guidelines for Responsible Open Science. These guidelines serve as a complementary framework to the European Code of Conduct for Research Integrity, focusing on open science practices. The guidelines cover a wide range of principles relevant to various stakeholders, including principles relevant to research environment; protection of research participants; preservation of the environment, ecosystems, and cultural heritage; open and reproducible research; open access publications; researcher evaluation; citizen science and stakeholder engagement; open science training and education; open science infrastructures and new technologies; and inclusivity in open science.

The ROSiE project, funded by Horizon 2020, drafted the guidelines through collaboration with stakeholders from Europe and beyond. This involved several consultation meetings and an open call for comments and inputs. The workshop aims to achieve several objectives, including: a) introducing the General Guidelines to conference participants, b) exploring the content of the guidelines, its nuances, and potential consequences, and c) gathering inputs from participants regarding the development of field-specific guidelines and training materials based on the General Guidelines.

# Using storytelling to spread knowledge on RE/RI

Friday, 8th September - 14:30: Workshop 11 : Using storytelling to spread knowledge on RE/RI - Workshop

**Ms. Ingrid Torp** [1] , **Dr. Lene Os Johannessen** [1]

**1.** *National Research Ethics Committees (Norway)*

Having children and young people participate in research is crucial to ensure relevance and quality of many studies [1]. Children also have the *right* to give their opinions freely on issues that affect them [2]. Fostering knowledge on the scientific process from childhood will help trust in science in the long run.

However, making sure the consent is informed can be particularly difficult for researchers working with children and young people, as these groups have a wide spread in maturity and perceptiveness. Supplying a traditional information letter with an animation film explaining key rights of research participants, would make the content more available.

In cooperation with the University of Oslo, the National Research Ethics Committees in Norway have developed the film *"Have you been invited to participate in research? Then you should watch this film"*. The film was developed as part of the Children Online: Research and Evidence (CO:RE) project with expert input from collaborators in nine European countries. It was published in 2022 and explains the rights of research participants through a simple example. The film can be used by researchers, but also teachers and other educators. It is available open access and can be translated freely by users. It is currently available in eight languages.

Presenting the film will be part of the presentation, but also explaining the process, since this might be useful for others creating similar resources. The most relevant challenges we faced were adaptation to the diversed age group, accommodating users in different countries and cultures and collaborating with a professional party in animation.

1. Deborah Harcourt & Johanna Einarsdottir (2011) Introducing children's perspectives and participation in research, *European Early Childhood Education Research Journal*, 19:3, 301-307, DOI: 10.1080/1350293X.2011.597962.
2. Convention on the rights of the child (1989) Treaty no. 27531, *United Nations Treaty Series*, 1577, pp. 3-178.

Link to the film:

https://www.youtube.com/watch?v=ehDrlcqaRfo&list=PLYwSkJsQT-91yoTuy9OI6CFodz_M-PNiB&index=2



Figure 1: Early draft from PowerPoint, illustrating the process of obtaining consent.

Figure 1 - early draft from powerpoint.jpg



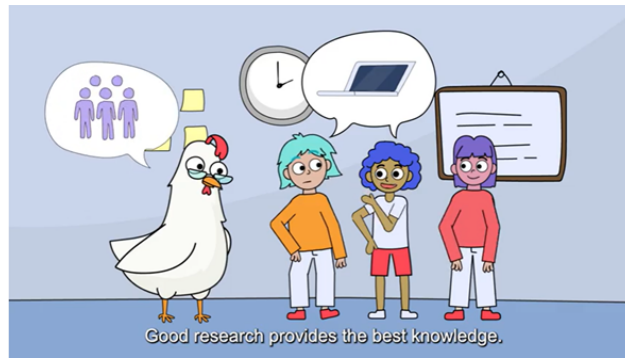Figure 2 - the finished result from the film.png

Figure 3 - from the finished film.png

# Teaching and Learning for Responsible Open Science

Friday, 8th September - 14:30: Workshop 12 : Teaching and Learning for Responsible Open Science - Workshop

**_Dr. Signe Mezinska_** [1] , **_Dr. Ivars Neiders_** [1]

**1.** *University of Latvia*

Responsible Open Science in Europe (ROSiE) (https://rosie-project.eu/) is a three-year project funded by HORIZON 2020. Part of its mission is to develop novel practical tools co-created with all related stakeholders to foster responsible Open Science. In line with this mission, one of the objectives of the ROSiE project is to develop training materials with and for students, researchers, and citizen scientists for acquiring skills required for practising responsible Open Science.

To accomplish this objective, ROSiE consortium has developed a didactic framework, identifying the skills trainees are expected to acquire, specific learning outcomes and indicators for their achievement, topics to be covered by training materials, teaching and learning strategies. Based on the 21st Centuries Skills approach (Griffin & Care, 2015) and the literature analysis, we have identified four domains and the respective skills and attitudes necessary for responsible practising of Open Science: (i) local and global citizenship, (ii) personal and social responsibility, (iii) epistemic skills, and (iv) collaborative problem-solving.

To achieve optimal results, the ROSiE training materials rely on several learning and teaching strategies:

1) Collaborative problem solving defined as *"approaching a problem responsively by working together and exchanging ideas"* based on *"readiness to participate, mutual understanding, and the ability to manage interpersonal conflicts"*. (Hesse et al., 2015) Considering the collaborative character of Open Science, the diversity of actors and stakeholders involved and the complexity of ethical and integrity aspects in the context of Open Science, collaborative problem solving offers an effective tool for teaching and learning which is applicable to real-life situations.

2) Case-based activities are another widely used teaching and learning strategy with proven value and effectiveness in research ethics and integrity training. Based on the literature analysis, and experience of the consortium members and stakeholders, we have developed a collection of cases for training.

3) Dialogical teaching and learning in the field of ethics goes back to the Socratic method. This approach starts by asking an abstract philosophical question (e.g., what is a good scientific practice?) which is followed by asking participants to give specific examples from their own experience relevant to the question, then one or several examples are used for facilitated group discussion. The trainees are encouraged to develop collaborative analysis, apply active listening and demonstrate respect and attentiveness.

4) Internalization of values is one of the most important and difficult tasks in teaching and learning ethics and developing a 'moral compass'. Transformative learning is one of the strategies encouraging internalization of values which is broadly used in adult education. By following this strategy, learning starts with a 'disorienting dilemma' - a situation that challenges learners' personal worldviews and is a catalyst for personal transformation. (Mezirow, 1991)

In our presentation, we will present training materials for different groups of trainees and different fields of science.

Griffin, P., Care, E. (Ed.) (2015b). *Assessment and teaching of 21st century skills: Methods and approach*: Springer.

Hesse, F., Care, E., Buder, J., Sassenberg, K., & Griffin, P. (2015). A framework for teachable collaborative problem solving skills. In *Assessment and teaching of 21st century skills* (pp. 37-56): Springer.

Mezirow, J. (1991). *Transformative dimensions of adult learning*: ERIC.

# Communicating Research Integrity to the masses – The Research Ethics Magazine

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Mrs. Elin Fugelsnes* [1]

*1. The National Research Ethics Committees*

The Research Ethics Magazine is a periodical and specialized magazine which has been published by the National research ethics committees in Norway since 2001. As far as we know, such a magazine is unique in an international context.

Awareness of research ethics among the general public is important for fostering trust in research. The Research Ethics Magazine contributes to creating such an awareness through publishing news and feature articles, book reviews and opinion pieces about research ethics in the broadest sense. We provide insight into issues related to ethics and integrity, including the societal dimension of RI, in all research and in the entire research system. We believe in communicating also complex topics in an easily understandable, comprehensible and engaging way. This makes us relevant and important to not just researchers and students, but also authorities, the media, and the general public.

The National Research Ethics Committees have overall responsibility for the magazine, but the editor in chief has full responsibility over the editorial content and decisions. In the same way as trust in research is important, this editorial independence helps enhancing public trust in the magazine and its content.

The magazine is published in print and as an online edition three or four times a year. Each issue is distributed free of charge to around 5,000 subscribers. We also collaborate with Norway's largest online science news magazine which allows the publication of our articles on their websites. In this way research ethics can be communicated to even more people.

At the ENRIO conference, we want to present some key facts about the magazine, including its organization and function, and give an insight into the journalistic work processes. We wish to present a specific example that illustrates how you can create good journalism about research ethics. We also plan to distribute an English edition with selected articles from the magazine.

Through our participation at ENRIO we hope to inspire others to make similar resources. We also want to create a meeting place for everyone working with communication of research ethics, and thus the opportunity to exchange experiences and ideas.

Link to The Research Ethics Magazine:
Norwegian: https://www.forskningsetikk.no/ressurser/magasinet/
English: https://www.forskningsetikk.no/en/resources/the-research-ethics-magazine/

Forskningsetikk 0123 forside.jpg

# POIESIS: How Research Integrity and Open Science affect Public Trust in Science

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**Dr. Serge Horbach** [1], **Dr. Tine Ravn** [1], **Prof. Niels Mejlgaard** [1], **Dr. Panagiotis Kavouras** [2]

**1.** *Aarhus University,* **2.** *National Technical University of Athens*

While societal dependence on sound scientific research and responsible innovation has become increasingly visible, concerns about public trust and mistrust in science have simultaneously been mounting. The debate about societal trust in science is characterised by two intuitively appealing assumptions: First, that trust depends on scientists' capacity to demonstrate high standards of research integrity and ethics, and that breaches to research integrity will lead to mistrust. Second, that citizen and civil society's involvement in co-creating research agendas and contents makes research more relevant and responsive to society, consequently strengthening trust.

The POIESIS project sets out to study these assumptions. Despite the assumptions' plausibility and frequent use as motivation for addressing research integrity and open science issues, they are understudied and hitherto provide little guidance for practitioners to foster public trust. POIESIS addresses this through an extensive empirical programme, including an assessment of international public surveys on public perceptions of science, as well as elaborate primary data, collected through expert interviews, focus groups, public deliberative workshops and policy workshops. It aims to provide recommendations for tackling societal mistrust in science, research and innovation, as well as for strengthening the co-creation of research and innovation contents by society. In particular, it will have a strong focus on 'chains of mediation', i.e. channels that support the communication of research findings and practices to non-academic actors. This will lead to better understanding of the role of science communicators in fostering public trust in research through research integrity and open science practices.

The POIESIS project is currently ongoing and will just have celebrated its first anniversary by the time of the ENRIO congress. At the congress, we will present early findings from the analyses of international survey data, including the state of play on public trust in science, particularly in connection to covid-19 and climate science, and in the aftermath of misconduct cases. This work identifies an initial set of indicators affecting public trust in science. Second, we share findings from public deliberation workshops, conducted in seven countries with 280 participants, on the effects of research integrity and open science on public trust.

# For equitable, inclusive, and human-centered extended reality technologies

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Panagiotis Kavouras* [1] *, Prof. Rosemarie Bernabe* [2] *, Prof. Rigmor Baraas* [3]

*1. School of Chemical Engineering, National Technical University of Athens, 2. Professor of Medical Research Ethics, University of Oslo, 3. Professor of Optometry and Visual Neuroscience, University of South-Eastern Norway*

**Description of the project**

The potential benefits of eXtended Reality (XR) technologies – that encompass Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), Diminished Reality (DR) and Modulated Reality (ModR) – render them candidates for an expanding spectrum of applications in research and innovation (Engineering and Manufacturing, Food industry, Defence) and services (Education, eCommerce and Retail, Real Estate, Travel and Tourism, Entertainment and Gaming). This drive towards eventual ubiquity comes with potential risks that encompass a wide array of challenges, related to safety, privacy, security, interoperability, and research integrity. These challenges need to be tackled now, at a time when the European Research Area strives to achieve a place in the world market of XR technologies by integrating into the development of XR technologies the human-centered approach. The "Equitable, Inclusive, and Human-Centered eXtended Reality" (XR4HUMAN) project aims at co-creating living guidance on ethical and related policy, regulatory, governance, and interoperability issues of eXtended Reality (XR) technologies.

**Relevance to research integrity practice**

A common denominator of XR4HUMAN's outputs, listed below, is to provide safeguards for the protection of personal data of XR technologies' users (via the European Code of Conduct) and achieve transparent processes for the development of responsible regulation and governance of XR technologies (via a wide co-creation exercise with all relevant stakeholders).

**Expected or achieved outcomes of the project**

The operationalisation of XR4HUMAN's main aim is going to be achieved by:

- Guiding companies and regulators through (i) Interoperability Guidance Document; (ii) a European Code of Conduct for Equitable, Inclusive, and Human-Centered XR Technologies; (iii) recording and demonstrating the practical application of the XR Code of Conduct.
- Equipping companies and regulators with an online repository of test cases to allow developers to demonstrate evidence of adherence to best practices.
- Equiping and guiding users through a rating system and educational materials.
- Engaging companies and other stakeholders (i) to enhance the uptake of the XR Code of Conduct, the Guidance for Interoperability, and the empowerment of end-users; and (ii) to establish a permanent digital European Forum to facilitate stakeholder dialogue on issues of ethics and interoperability.

Xr4human logo vertical.png

# Learners' self-assessment and self-report as measures to evaluate the effectiveness of research ethics and integrity training: Can we rely on self-reports?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

***Dr. Anu Tammeleht [1], Prof. Erika Löfström [2]***

***1.** University of Helsinki, University of Tartu,* ***2.** University of Helsinki*

**Background and research question**

To evaluate what works in research ethics and integrity education, self-assessment is among the most commonly used measures (Steele et al., 2016; Stoesz & Yudintseva, 2018). Self-assessment most commonly asks about content satisfaction (i.e., how useful was the content), and affective satisfaction (i.e., satisfaction with the course) (Turner et al., 2018). While self-assessment is the most popular measure to evaluate learning in integrity training, can we rely on these? The focal issue is the accuracy in which the learners can assess their learning outcomes. We asked the following research question: How accurately are learners able to assess their learning in RE/RI?

**Method**

Data were collected through paper-and-pencil forms and online forms from bachelor and master students about the clarity and level of material, role of the group, usability of the new knowledge, and from master's and doctoral students on self-evaluation of their level of understanding (on the SOLO taxonomy describing levels of understanding, Biggs 1999). Participation was voluntary and based on informed consent. A total of 381 participants contributed with data.

**Results**

The level of the training as well as clarity had been average; not too difficult or easy. Results showed that 87% of respondents accurately evaluate their level of understanding and support it with description when compared to facilitator ratings. In self-reflection, the participants tended to indicate mostly higher levels of understanding (according to SOLO taxonomy) while descriptions indicated a lower level. Still, data indicated that during a second reflection round the responses became more aligned.

**Conclusions and recommendations**

Self-reports are relatively reliable, and their reliability as measures of learning in integrity training improves as participants get more experience in assessing their learning. What makes self-reports useful are their feasibility and applicability in various training contexts. When setting up new training, it may be worthwhile to devote some time to comparing learner assessments with those of facilitators to establish that the course is filling its function in promoting research integrity and that facilitators have a realistic understanding of how the instruction and learning activities actually promote learning.

**References**

Biggs, J. (1999). What the student does: Teaching for enhanced learning. *Higher education research & development*, 18(1), 57-75.

Steele, L.M., Mulhearn, T.J., Medeiros, K.E., Watts, L.L., Connelly, S., & Mumford, M.D. (2016). How do we know what works? A review and critique of current practices in ethics training evaluation. *Accountability in research*,

23(6), 319-350.

Stoesz, B.M., Yudintseva, A. (2018). Effectiveness of tutorials for pro-moting educational integrity: a synthesis paper. *International Journal for Educational Integrity*, 14(1), 1-22.

Turner, M.R., Watts, L.L., Steele, L.M., Mulhearn, T.J., Torrence, B.S., Todd, E.M., Mumford, M.D. and Connelly, S. (2018). How did you like this course? The advantages and limitations of reaction criteria in ethics education. *Ethics & Behavior*, 28(6), pp.483-496.

# Can Norway investigate misconduct in research publications from another country?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Mrs. Ragnhild Aursnes Dammen* [1]

*1. National Research Ethics Committees (Norway)*

Norwegian courts will discuss the following question starting in May 2023:
A researcher is now employed by, do research at, and publishes for a Norwegian research institution. The same researcher used to be employed by, do research at, and publish for a research institution in another country. Can Norway investigate misconduct related to articles published when the researcher was employed at, and published for, the research institution in the other country?

This has relevance to international research integrity practice because the research institution must clean up what is what and distinguish between several types of questions. First, one question is which country's law, if any, is applicable? This leads to wondering if this question is about law or if it is more a question about ethics and integrity? The law is applicable within the territory, but is the research ethics and integrity applicable for the researcher's overall research work? Could it be an argument for handling in Norway a misconduct case from another country, that the ethical and integrity norms in Norway differ from those in the other country? It is further relevant to ask what are the consequences for the Norwegian research institution, the consequences of knowing that an employee has committed possible misconduct abroad? And what are the consequences for the researcher, both of having it investigated in Norway or not? Finally, it could be relevant to ask what does it mean to have trust in science? Should research from one researcher be considered as a whole, and independent of national borders? It is possible that the Norwegian courts will touch upon all these questions.

The oral presentation will present the question regarding whether Norway has competence or not and it will give information about the status of the answer from the Norwegian courts. This will form the basis for a discussion of to what extent European handbooks, guides and codes of conduct mention the question, and to what extent they suggest or should suggest further practical solutions.

# Coordinated - yet fragmented?

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Mrs. Anjam Latif Shuja* [1]

**1.** *National Research Ethics Committees (Norway)*

The attention towards which type of influence the European Union (EU) has regarding decisions and national priorities in Norway, forms the basis for a discussion on what further role the EU should take in the field of Research Ethics (RE) and Research Integrity (RI). The focus of this poster is to elaborate the existing role of the EU and the limitations and opportunities that are present, but not leveraged for various reasons, thus leading to fragmented and comprehensive effort towards this field. Furthermore, the purpose is to propose the Norwegian model which consist of both RE and RI, as a measure to make the area more comparable between countries.

Since the RE and RI area varies from country-to-country more collective efforts from the EU, in addition to *European Code of Conduct for Research integrity,* will lead to harmonizing disparities across countries. These effort from the EU can thereby be a source for reducing fragmentation in this field. Viewed in this context, the Norwegian model for RE and RI is presented, as it is a framework based on Legislative regulations that provide transparent and predictable procedures for the management of RE and RI. The Norwegian way of organizing RE and RI reduces fragmentation and unclear responsibilities, while preserving the professional independence. This is also a model endorsed by the society and public sector, because the committees consist of researchers from different disciplines - in addition to laypeople, which means that different expressions, values and views are better safeguarded in the society.

The challenge of fragmentation within the field of RE and RI can be improved, if the EU takes more responsibility and ownership to facilitate even more coordinated effort, towards measures to harmonize this field. Norway's experience with a system that functions as intended, can be used in a learning context and to facilitate structures within the EU, that can help make the EU's effort more targeted with an integrative approach. Thereby leading to research excellence.

# The ERION network: Implementation matters in Ethics and Research Integrity

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Ms. Teodora Konach* [1] *, Ms. Borana Taraj* [1] *, Ms. Susan Hommerson* [2] *, Dr. Joana Porcel* [3]

*1. EARMA, 2. Eindhoven University of Technology, 3. Barcelona Institute for Global Health*

We will reflect on the importance of ethics and research integrity and collaborations between researchers, institutional leaders and the community of ethics and research integrity experts, advisors and practitioners.

EARMA is the European Association of Research Managers and Administrators. In 2018, it established the Ethics and Research Integrity Officer Network[1] (ERION) thematic group. ERION is an open community to discuss the practical and implementation side of Research Ethics and Integrity. It is a community of practitioners, rules and procedure experts, and its main purpose is to provide a forum for knowledge-sharing, dissemination and collaboration in order to facilitate implementation of relevant policy and establishment of best practices.

ERION acts as a stakeholder for the European Commission DG R&I Ethics Sector. A key component of ERION are the European projects on ethics, integrity, responsible research: **SOPs4RI**, **iRECS**, **PATTERN** which are working for a strong responsible research integrity culture in Europe and increasing trust in science.

The community meets twice or more per year. Topics discussed in past ERION meetings included: Horizon Europe, Open Science, International collaborations, GDPR implementation, training, ethics support in times of COVID-19, implementing institutional research integrity promotion plans, research evaluation and assessment, and many others. More information on the **EARMA website** and **EARMA YouTube channel**.

[1] https://www.earma.org/about/governance/thematic-groups/ethics-and-research-integrity-officer-network-erion/

# How to solve research ethics issues? -Role of Certified Research Ethics Professionals (CReP) as an Ethical Review Expert-

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

*Dr. Yusuke Ebana* [1]

*1. Tokyo Medical and Dental University*

Responding to diverse values in the world, when conducting medical research, researchers and research institutions need to establish rules to protect research subjects. Japan has three rules for medical research: ICH-GCP, the Clinical Research Act, and the Ethical Guidelines for Medical Research Involving Human Subjects. A high level of expertise is required to confirm that the research protocol conforms to the relevant guidelines in Japan because the guidelines are frequently revised. A professional group of experts, CReP, has been established to ensure that ethics reviews are conducted.

Expertise is tested by multiple-choice questions on research ethics and ethical review. Exam questions are created by the CReP Certification Committee. After conducting the test, the committee will review the suitability of the questions again. Those that meet the passing criteria will be certified as CReP for three years. Renewal of accreditation is determined by credits earned through participation in academic meetings, training seminars, and study of teaching materials.

CReP system started in January 2019, and so far 268 people have been certified. Of the institutions to which the CRePs belonged, 73.8% were universities, 5.6% were national centers, 10.1% were hospitals and clinics, and 7.1% were companies. So far, we have held information exchange meetings 25 times, with about 30 to 120 participants. Satisfaction was 80 to 90%, including those who were satisfied and those who were somewhat satisfied.

In addition to ICH-GCP, Japan has a Clinical Research Act and ethical guidelines. Although the basic stance on research ethics remains the same, each of them operates differently. Here, especially with regard to ethical guidelines, the operation of each institution differs greatly, so a network such as CREP is necessary.

The established CReP system has produced 268 CRePs. At the information exchange meeting where CRePs gathered, they discussed the revision of the guideline and confirmation of compatibility, and the satisfaction level was high. It is believed that this will contribute to the standardization of ethical review.

# [online] Signs, Symptoms, and Situations of Moral Distress during the Pursuit of Research Excellence

Thursday, 7th September - 11:00: Break and Posters - Poster

Thursday, 7th September - 15:30: Break & Posters - Poster

Thursday, 7th September - 17:30: Poster Session - Poster

Friday, 8th September - 12:00: Lunch & Poster - Poster

Friday, 8th September - 16:00: Break & Poster - Poster

**_Dr. Katrina Bramstedt_** [1] **_, Ms. Anna Kang Liu_** [2]
**_1._** _F. Hoffmann-La Roche AG,_ **_2._** _Genentech_

This presentation identifies and explores signs, symptoms, and situations of moral distress during the pursuit of research excellence. Signs are objective, observable phenomena that can be identified by another person (such as a bioethicist, research integrity officer, or research colleague). Symptoms are subjective experiences that are reported by the researcher in distress. The context of this presentation is the research and development of pharmaceuticals in corporate industry; however, there is the potential for application to other settings such as research in academia, hospitals, and non-profit institutes. We argue that the research integrity ecosystem must include recognizing and addressing moral distress in researchers, in addition to RCR training, and identifying and sanctioning misconduct.

# Ten simple rules for scientific fraud and misconduct

Thursday, 7th September - 11:00: Break and Posters - Poster

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Friday, 8th September - 16:00: Break & Poster - Poster

*Mr. Nicolas Rougier* [1]

*1. Inria*

In 2018, I co-authored with John Timmer a preprint entitled "Ten simple rules for scientific fraud and misconduct". Our goal was obviously not to encourage scientific fraud nor misconduct but rather to alert the reader to problems that have arisen in part due to the Publish or Perish imperative, which has driven a number of researchers to cross the Rubicon without the full appreciation of the consequences. This article has been the base for several talks in the lab and for workshops with PhD Students in the Bordeaux area. Even though PhD students had to attend a mandatory course on scientific integrity, a lot of them came nonetheless to the workshop, even though it was not mandatory. The explanation for such popularity is certainly to be found in the provocative title and contents since during these lessons, I really explain how to cheat (based on numerous real-world cases, see cited paper). These lessons are also the place of interesting discussions with the students and between the students. For example, they asked questions about self-plagiarisms, code licences, etc. Unfortunately, there was no study following the workshops in order to assess whether this method of introducing scientific integrity is sound and/or better than a more traditional one. During this talk, I'll present the material I've been using and hopefully engage the audience in order to discuss this teaching approach and proably its limits.

# Integrity and Security in the Global Research Ecosystem

Friday, 8th September - 16:30: Plenary Session E & Closing session: Challenges and perspectives - Oral

***Dr. Carthage Smith*** [1]

*1. Global Science Forum, OECD*

Research integrity can be variously defined but, however it is conceived, it links closely to growing concerns about research security and interference in research processes from unwelcome actors. Many governments are concerned about foreign state interference in research, including information leakage and threats to academic freedom. These concerns relate to both military and economic security and have implications for many aspects of science from peer review and funding to the recruitment of researchers, research collaborations and the sharing of data and information. It is important that the academic community and its institutions respond effectively to these concerns. Whilst continuing to promote an open and inclusive international research environment, proportionate and evidence-based risk assessments need to be embedded into routine scientific practices. The recent OECD report on integrity and security in a global research environment, explores some of the challenges and potential solutions for balancing scientific freedom and exchange in a changing geopolitical environment. One of the main conclusions is that frameworks and established structures for managing research integrity can play a critical role also in responding to many aspects of research security.

# Challenges of Generative Artificial Intelligence for Research Integrity

Friday, 8th September - 16:30: Plenary Session E & Closing session: Challenges and perspectives - Oral

*__Dr. Tomáš Foltýnek__* [1]

*__1.__ Masaryk University*

Recent advancements in large language models and generative artificial intelligence allowed for a wide availability of tools capable to generate various kinds of content (namely text, images and computer code) which looks like produced by a human. These kinds of content are crucial for scientific communication, raising a number of concerns and challenges related to authorship, intellectual property rights and especially trust - one of the fundamental academic integrity values. Does generative AI bring new threats, or does it just exacerbate existing ones that have not been addressed properly? How shall we prepare for the time when AI-based tools become an integral part of scientific work, and scientific papers will be a result of human-AI collaboration? What should be allowed, and what should be declared? The talk does not aim to answer all these questions, but rather provide the audience with food for thought and outline the key research integrity issues that have to be addressed concerning generative AI.

# Closing Keynote : Messages to take home

Friday, 8th September - 16:30: Plenary Session E & Closing session: Challenges and perspectives - Oral

***Dr. Maura Hiney*** [1]

*1. University College Dublin*

TBA

Friday, 8th September - 16:30: Plenary Session E & Closing session: Challenges and perspectives - Oral

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