

Summer school

How Artificial Intelligence is revolutionizing Biology and Genetics

July 9, 2024 FONTAINEBLEAU

- ▶ 9h30 : Registration and welcome
- ▶ 10-11h30 *AI : a long history of convolution and attention*, N. Loménie & S. Lobry
- ▶ 11h30-12h30 *Tokens, embeddings and prompts: welcome to the world of large language models*, P. Poulain

Lunch

- ▶ 14h-15h30 *Deciphering protein-protein interactions using AlphaFold*, practical by T. Tubiana
- ▶ 15h30-16h *Unveiling the Invisible: Analyzing Microscopic Images with Deep Learning*, A. Bourou
- ▶ 16h-16h45 *Mentoring* by J. Weitzman
- ▶ Student Social activity in the forest
- ▶ 19h: Garden party and campfire evening

July 10, 2024 FONTAINEBLEAU

- ▶ 9h00-10h30 *Ethical Questioning in AI: A Historical Perspective to Understand Current Issues*, J. Haiech
- ▶ 10h30-11h15 *Round table*
- ▶ 11h15-12h *Exploring language in the brain using Large Language Models*, C. Pallier
- ▶ 14h-14h45 *Neuroimaging has changed our understanding of the human brain*, D. Wassermann
- ▶ 14h45-16h15 *Reconstructing the demographic history of Homo sapiens: AI-based inference methods in human population genetics*, P. Verdu
- ▶ 17h: Departure

July 11, 2024 Université Paris Cité, Buffon Amphitheatre

- ▶ 9h Registration and welcome
- ▶ 9h30-10h *Predicting genomic signature from tissue images*, N. Loménie
- ▶ 10-10h40 *Generating new DNA sequences with AI*, J. Mozziconacci
- ▶ 10h40-11h10 *Artificial and Human Intelligence in Bioimage Analysis*, JC. Olivo-Marín

Coffee break

- ▶ 11h30-12h10 *Neural posterior inference for evolutionary genomics*, L. Jacob
- ▶ 12h10-12h40 *AI and education: beyond the misunderstanding*, P. Poulain

Buffet, lunch

- ▶ 14h15-15h *The impact of AI and Language Models on Genomic Research in Industry*, M. Lopez
- ▶ 15h-15h30 *AI and health: news and perspectives*, S. Allasonnière
- ▶ 15h30-16h10 *Uncovering dynamics of infectious diseases with deep learning from phylogenies*, A. Zhukova
- ▶ 16h10-16h50 *Deep estimation of the intensity and timing of natural selection from ancient genomes*, G. Laval
- ▶ 16h50-17h15 *A diiP Look at the Challenges and Opportunities of AI*, T. Palpanas
- ▶ 17h15 Concluding remarks