



# Workshop on NLP in the Era of Generative AI, Cognitive Sciences, and Societal Transformation

## Day 1: NLP in the Era of Generative AI

8 h 30 AM Workshop opening session

### 9 h 00 AM **Session 1: Natural Language Processing**

- Claire Gardent, CNRS/LORIA, Nancy - Verbalising Graphs into High-, Medium- and Low-Resource Languages
- Philippe Langlais, Université de Montréal - But (good) evaluation is informative too
- Golnoosh Farnadi, McGill University/Mila - Algorithmic Fairness: From Traditional ML to Foundation Models

11 h 00 AM Coffee break

### 11 h 30 AM **Session 2: Multilinguality**

- François Yvon, CNRS, Paris - Towards Example Based Neural Machine Translation
- David Adelani, McGill University/Mila - How good are LLMs on under-resourced languages?

1 h 00 PM Lunch

### 2 h 15 PM **Session 3: Natural Language Processing**

- Siva Reddy, McGill University/Mila - Inductive Biases
- Benoît Sagot, INRIA, Almanach, Paris: Why do small language models underperform Studying Language Model Saturation via the Softmax Bottleneck
- Lili Mou - University of Alberta: Large language models are secretly your reward function

4 h 15 PM Poster session

5 h 30 PM End of day 1

## Day 2: Bridging Minds: Exploring the Intersection of Cognitive Sciences and AI in Language Learning

### 9 h 00 AM **Session 1: Cognitive Science**

- Yang Xu, University of Toronto: Reconstruction of the dynamic lexicon
- Abdellah Fourtassi, LIS, Marseille: NLP for the Ecological Study of Language Development

10 h 20 AM Coffee break

### 10 h 50 AM **Session 2: Neuroscience**

- Guillaume Dumas, Université de Montréal/Mila: Mind the Gap: Mechanistic Bridges Between Large Language Models and the Brain
- Benjamin Morillon - INSERM, INS, Marseille: Encoding the predictions of multidimensional sequences of natural speech and music in human auditory cortex

12 h 10 PM Lunch

### 1 h 30 PM **Session 3: Causal model for NLP**

- Maxime Peyrard, CNRS, LIG Grenoble: Interpretability of AI Systems: Overview and Future Directions
- Dhanya Sridhar, Université de Montréal/Mila: Can we find better in-context learning solutions with causal inductive biases?

2 h 50 PM Panel: A dialog between Machine Learning, NLP and Cognitive sciences with Aaron Courville, Université de Montréal/Mila

4 h 00 PM Poster session

5 h 30 PM End of day 2





# Workshop on NLP in the Era of Generative AI, Cognitive Sciences, and Societal Transformation

## Day 3: How Will Large Language Models Transform Society

### 9 h 00 AM **Session 1: Conversational AI**

- Dilek Hakkani-Tür, University of Illinois, Urbana-Champaign: AI over-reliance and dialogue systems accountability
- Mirco Ravanelli, Concordia University/Mila: Discrete Audio Tokens for Multimodal LLMs
- Roland Memisevic, Qualcomm, Toronto: End-to-end learning of camera-based, situated interactions

11 h 00 AM Coffee break

### 11 h 30 AM **Session 2: Information Retrieval and Argument Mining**

- Serena Villata, CNRS, I3S, Nice: The Long Road to Trustworthy Natural Language Argumentation
- Jimmy Lin, University of Waterloo: The Future of Information Retrieval and the Role of Evaluation

12 h 50 PM Lunch

### 2 h 00 PM **Session 3: Application Domain**

- Saif Mohammad, Research NRC, Ottawa: NLP for Affective Science: What are the big questions? And, how do we get there?
- Frank Rudzicz, Dalhousie University, Halifax: NLPri-mum Non Nocere
- Geraldine Damnati, Orange Innovation, Lannion: From benchmark assessments to In-Use evaluations: an even wider gap to bridge at the era of generative AI.

4 h 00 PM Closing remarks

4 h 30 PM End of day 3

