

23rd ACM International Conference on
Multimodal Interaction

ICMI 2021



October 18–22, 2021
Montreal, Canada

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Instructions and General Information

Physical attendance:

Presentations and keynotes on main conference days will be located in the Ballroom Montreal (entire 11th floor), with ample capacity for over 400 attendees. The venue offers free Wi-Fi and has audiovisual support for multiple projection screens.

Coffee breaks will be held just outside the Ballroom in the Foyer.

The conference rooms will be on the 9th floor. All plenary sessions will be in the Fortifications room. The Villa-Marie (round table setup) and St-Antoine (classroom setup) will be open for people to use to attend virtual sessions (on their laptops, with headphones on).

The registration desk will be on the 9th floor.

The in-person posters and demos will be at the foyer of the Fortifications room (9th floor).

Lunches will be served on Tuesday, Wednesday, and Thursday in Villa-Marie (9th floor).

The banquet on Wednesday will be in Fortifications (9th floor).

The happy hour reception on Tuesday will be held at the Reporter room on the 3rd floor — This is the only event that happens outside of the 9th floor.

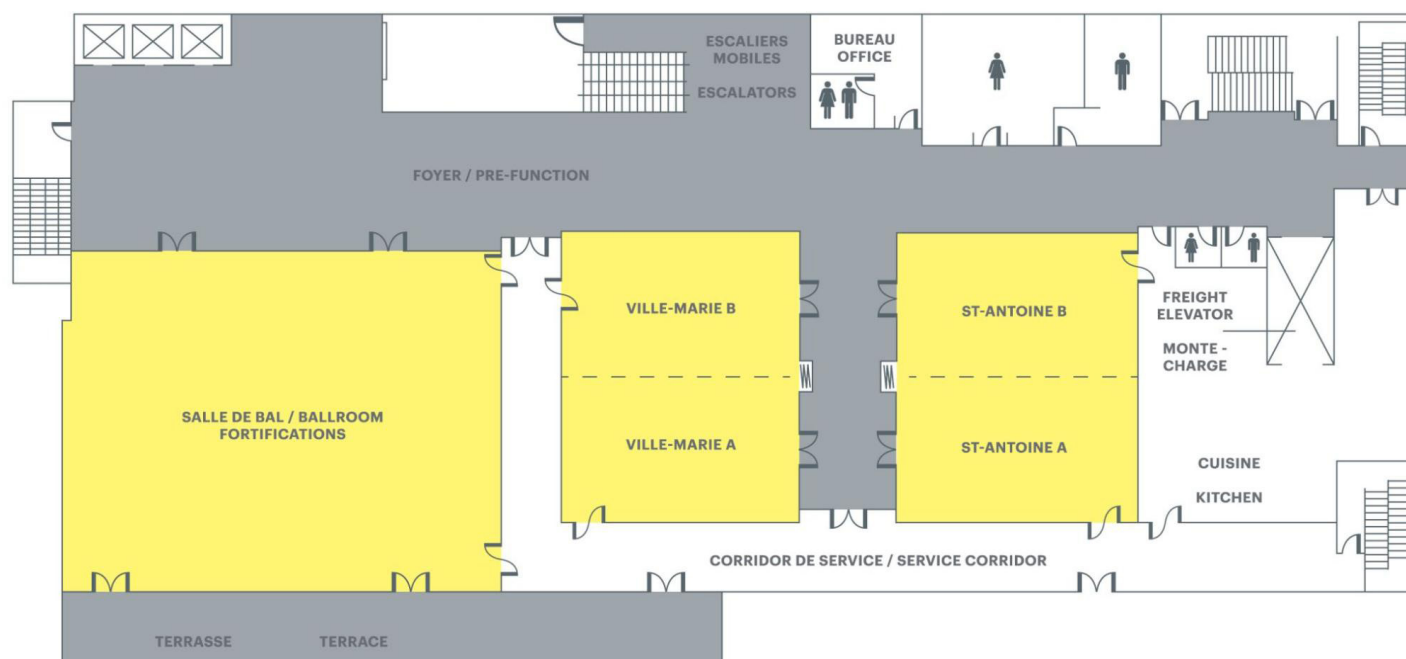
All health measures are implemented rigorously by the hotel for a safe and healthy meeting.

Wifi Information:

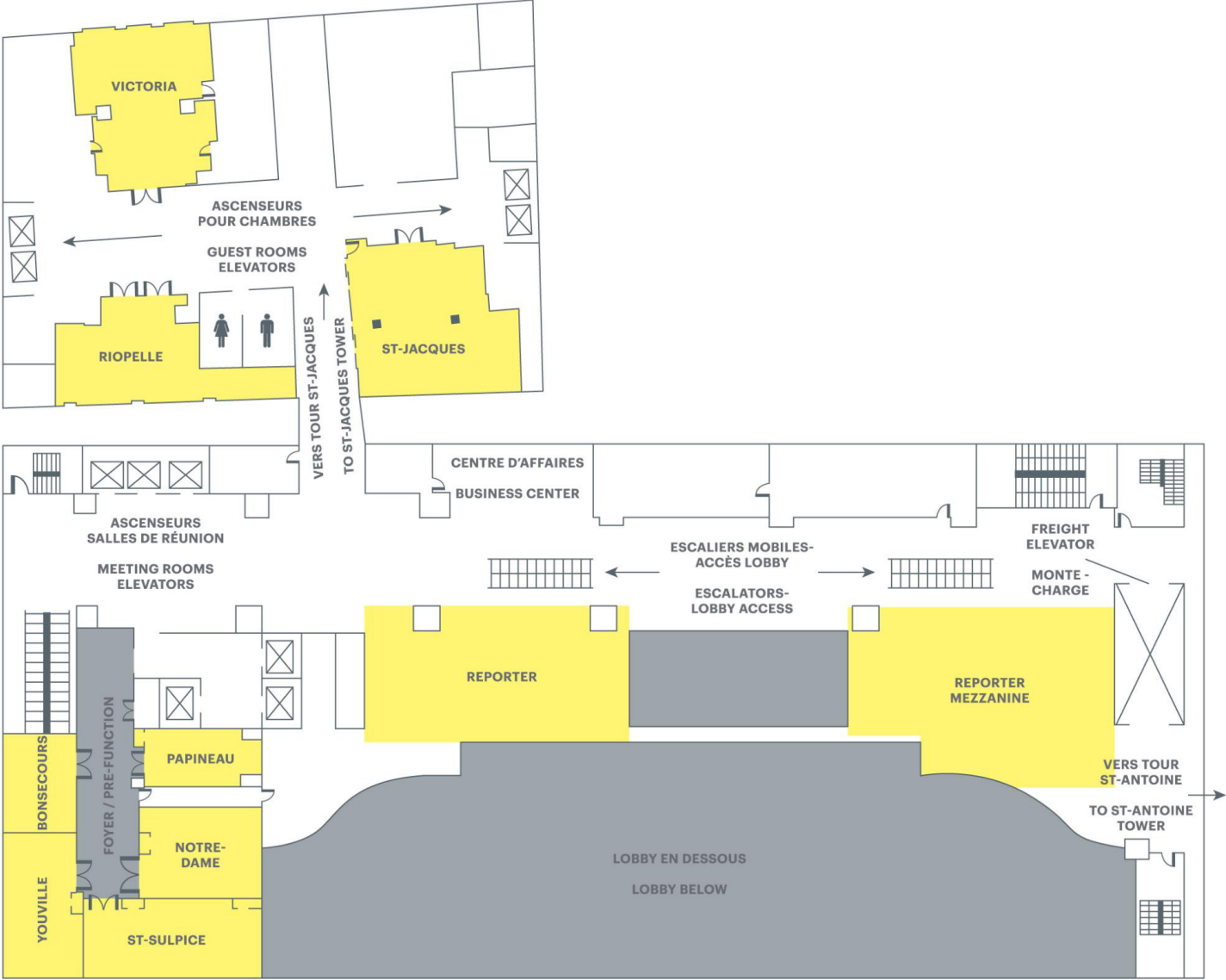
Wifi: ICM2021

Password: Montreal!Westin

Floor Plan: 9th Floor



Floor Plan: 3rd Floor



Welcome Note

It is our great pleasure to welcome you to the 23rd ACM International Conference on Multimodal Interaction – ICMI 2021, held in Montreal, Canada. ICMI is the premier international forum for multidisciplinary research on multimodal human-human and human-computer interaction, interfaces, and system development. The conference focuses on theoretical and empirical foundations, component technologies, and combined multimodal processing techniques that define the field of multimodal interaction analysis, interface design, and system development. ICMI 2021 features a single-track main conference which includes keynote speakers, technical full and short papers (including oral and poster presentations), special sessions, late breaking papers, demonstrations, and doctoral spotlight papers. Two days were devoted to eleven satellite workshops and a special tutorial on ethical issues in multimodal interaction, open to all participants of the conference.

In the past years, the questions of behavioral health and virtual connectivity have become central to our life. In particular, COVID-19 has disrupted our normal social life and interactions at work, bringing challenges, but also opportunities to improve our team sociability and productivity. This situation calls for multimodal systems to enhance social and emotional remote interaction, as well as to increase productivity during remote collaboration. Our behavioral health has been severely impacted the past months. The needs for non-intrusive sensing technology, smart environments (e.g., elderly home monitoring), wearable and assistive devices for rehabilitation, well-being and ageing population and multimodal interfaces to support behavioral changes have become a crucial necessity. As such, the conference theme for ICMI 2021 was selected as Behavioral Health and Virtual Connectivity.

The call for papers attracted submissions from the Americas, Asia, Australia, Europe, and Africa. A Senior Program Committee supervised the review process together with the Program Chairs, and an extensive Program Committee helped with the reviewing. Each paper in the main track was reviewed by at least three reviewers from the Program Committee. The authors had the opportunity to submit a rebuttal, and the Senior Program Committee members initiated discussions following the rebuttals to finalize their recommendations. Furthermore, the authors were given the opportunity to object to the final decision, and an independent Adjudication Committee investigated such objections. Eight papers were considered, two investigated, and both of these two papers were accepted by the independent senior Adjudication Committee. Finally, for papers that were accepted in principle, but required substantial clarifications, a shepherding process was initiated in which a volunteer Senior Program Committee member guided the authors to ensure that the final version met reviewers' concerns and was acceptable. Six papers were guided by such shepherds, invited for this task by the Program Chairs. The reviewing of the late breaking papers, doctoral consortium submissions, and demonstrations, were performed by different committees. The final program statistics are as follows: 247 papers were reviewed for the Main track, of which 93 papers (38% acceptance rate) were accepted. For the Late Breaking Papers track, 7 papers (28%) were accepted from 25 submissions. The Doctoral Consortium track accepted 9 papers (69%) out of 13 submissions, and the Demonstrations track 7 (54%) out of 13 submissions. This year's conference also included a new Blue Sky Papers track, including papers selected for their innovative vision and potential of opening new research directions for the ICMI community. Three papers (27%), authored by Alex 'Sandy' Pentland, Georgios Rizos, and Philippe Palanque, were selected from 11 submissions by a special committee.

ICMI 2021 features several valuable and insightful keynote and invited talk presentations, for guiding the community to a better understanding of the future.

One of these talks is by Prof. Elisabeth André (University of Augsburg), who will be receiving the ICMI Sustained Accomplishment Award 2021. Her invited talk is entitled “Socially Interactive Artificial Intelligence: Past, Present and Future”. The three keynote talks of the conference are:

- *“Theory Driven Approaches to the Design of Multimodal Assessments of Learning, Emotion, and Self-Regulation in Medicine”* by Prof. Susanne P. Lajoie (McGill University)
- *“Incorporating haptics into the theatre of multimodal experience design; and the ecosystem this requires”* by Prof. Karon MacLean (University of British Columbia)
- *“From Differentiable Reasoning to Self-supervised Embodied Active Learning”* by Prof. Ruslan Salakhutdinov (Carnegie Mellon University).

Putting together ICMI 2021 was a team effort. We first thank the authors for providing the content of the program. We are grateful to the Program Committee and the Senior Program Committee, who worked very hard in reviewing papers and providing feedback for authors. Finally, we thank our publishing firm Sheridan Communications Inc., ACM SIGCHI, and our generous corporate supporters, our Platinum Sponsor Openstreams.ai, Gold Sponsors IVADO and Microsoft Research, Silver Sponsor Google Research, Bronze Sponsor CCC Computing Community Consortium, and Tourism Montreal for their general support. We hope that you will find ICMI interesting and thought-provoking and that the conference

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Carnegie Mellon University, USA

Carlos Busso
ICMI’21 General Chair
University of Texas at Dallas, USA

Catherine Pelachaud
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ICMI’21 Program Chair
Monash University, Australia

Albert Ali Salah
ICMI’21 Program Chair
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Bogazici University, Turkey

Guoying Zhao
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- Soheil Kianzad (University of British Columbia, Canada)

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Zakia Hammal (Carnegie Mellon University, USA)
Steffen Walter (University Hospital Ulm, Germany)
Nadia Bianchi-Berthouze (University College London, UK)
- **(2nd Workshop on Social Affective Multimodal Interaction for Health)**
Hiroki Tanaka (Nara Institute of Science and Technology, Japan)
Satoshi Nakamura (Nara Institute of Science and Technology, Japan)
Jean-Claude Martin (CNRS-LIMSI, France)
Catherine Pelachaud (CNRS - ISIR, Sorbonne University, France)
- **(Insights on Group & Team Dynamics)**
Hayley Hung (Delft University of Technology, the Netherlands)
Joann Keyton (North Carolina State University, USA)
Joe Allen (University of Utah, USA)
Giovanna Varni (Télécom Paris, Institut Polytechnique de Paris, France)
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Catharine Oertel (Delft University of Technology, the Netherlands)
Gabriel Murray (University of the Fraser Valley & University of British Columbia, Canada)
- **(International Workshop on Corpora and Tools for Social Skills Annotation)**
Beatrice Biancardi (Télécom Paris, Institut Polytechnique de Paris, France)
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Chloé Clavel (Télécom Paris, Institut Polytechnique de Paris, France)
Mathieu Chollet (IMT Atlantique, France)
Tanvi Dinkar (Télécom Paris, Institut Polytechnique de Paris, France)
- **(Workshop on Modelling Socio-Emotional and Cognitive Processes from Multimodal Data in the Wild)**
Dennis Küster (University of Bremen, Germany)
Felix Putze (University of Bremen, Germany)
David St-Onge (École de Technologie Supérieure, Canada)
Pascal E. Fortin (McGill University, Canada)
Nerea Urrestilla (École de Technologie Supérieure, Canada)
Tanja Schultz (University of Bremen, Germany)
- **(2nd ICMI Workshop on Bridging Social Sciences and AI for Understanding Child Behaviour)**
Heysem Kaya (Utrecht University, the Netherlands)
Roy Hessels (Utrecht University, the Netherlands)
Maryam Najafian (MIT, USA)
Sandra Hanekamp (University of Texas at Austin, USA)
Saeid Safavi (University of Surrey, UK)

Lei Xie (Northwestern Polytechnical University, P.R. of China)
Jie Yang (National Science Foundation, USA)

- **(Workshop on Multimodal Affect and Aesthetic Experience)**

Michal Muszynski (University of Geneva, Switzerland)
Leimin Tian (Monash University, Australia)
Edgar Roman-Rangel (Instituto Tecnológico Autónomo de México, Mexico)
Theodoros Kostoulas (University of the Aegean, Greece)
Theodora Chaspari (Texas A&M University, USA)
Panos Amelidis (Bournemouth University, UK)

- **(Empowering Interactive Robots by Learning Through Multimodal Feedback Channels)**

Cigdem Turan (TU Darmstadt, Germany)
Dorothea Koert (TU Darmstadt, Germany)
Karl David Neergaard (University of Macau, P.R. of China)
Rudolf Lioutikov (University of Texas, USA)

- **(Generation and Evaluation of Non-verbal Behaviour for Embodied Agents)**

Taras Kucherenko (KTH Royal Institute of Technology, Sweden)
Zerrin Yumak (Utrecht University, the Netherlands)
Gustav Eje Henter (KTH Royal Institute of Technology, Sweden)
Pieter Wolfert (Ghent University, Belgium)
Youngwoo Yoon (ETRI, South Korea)
Patrik Jonell (KTH Royal Institute of Technology, Sweden)

- **(Socially-Informed AI for Healthcare – Understanding and Generating Multimodal Nonverbal Cues)**

Oya Celiktutan (King's College London, UK)
Alexandra Georgescu (King's College London, UK)
Nicholas Cummins (King's College London, UK)

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- David Robb
- Euan Freeman
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- Shreya Ghosh
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- Radiah Rivu
- Shiro Kumano
- Teruhisa Misu
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Conference Program

Keynotes at a glance

From Differentiable Reasoning to Self-supervised Embodied Active Learning

Russ Salakhutdinov

Incorporating haptics into the theatre of multimodal experience design; and the ecosystem this requires

Karon MacLean

Theory Driven Approaches to the Design of Multimodal Assessments of Learning, Emotion, and Self-Regulation in Medicine

Susanne P. Lajoie, FRSC

Socially Interactive Artificial Intelligence: Past, Present and Future

Elisabeth André

ICMI 2021 Keynotes

From Differentiable Reasoning to Self-supervised Embodied Active Learning



Russ Salakhutdinov

Professor of Computer Science
Microsoft Faculty Fellow
Sloan Fellow
Carnegie Mellon University

Abstract: In this talk, I will first discuss deep learning models that can find semantically meaningful representations of words, learn to read documents and answer questions about their content. I will introduce methods that can augment neural representation of text with structured data from Knowledge Bases (KBs) for question answering, and show how we can answer complex compositional questions over long structured documents using a text corpus as a virtual KB. In the second part of the talk, I will show how we can design modular hierarchical reinforcement learning agents for visual navigation that can handle multi-modal inputs, perform tasks specified by natural language instructions, perform efficient exploration and long-term planning, build and utilize 3D semantic maps to learn both action and perception models in self-supervised manner, while generalizing across domains and tasks.

Bio: Russ Salakhutdinov is a UPMC Professor of Computer Science in the Department of Machine Learning at CMU. He received his PhD in computer science from the University of Toronto. After spending two post-doctoral years at MIT, he joined the University of Toronto and later moved to CMU. Russ's primary interests lie in deep learning, machine learning, and large-scale optimization. He is an action editor of the Journal of Machine Learning Research, served as a program co-chair for ICML2019, served on the senior programme committee of several top-tier learning conferences including NeurIPS and ICML. He is an Alfred P. Sloan Research Fellow, Microsoft Research Faculty Fellow, Canada Research Chair in Statistical Machine Learning, a recipient of the Early Researcher Award, Google Faculty Award, and Nvidia's Pioneers of AI award.

Incorporating haptics into the theatre of multimodal experience design; and the ecosystem this requires



Karon MacLean

Professor, Computer Science

Director, UBC Designing for People Research Cluster University of British Columbia, Canada

Abstract : When novice - and sometimes expert - hapticians need to ideate about how to implement haptic media in given applications, they often struggle to get beyond variations of vibrotactile notification or directional guidance, even given examples — of alternative framings of how tactile and force sensations could be utilized, of how such sensations can be delivered and what they can feel like. Why is our imagination of haptic technology so limited, when touch in the “real” world is bogglingly rich and essential? What stands in the way of innovation in how we use haptics in multimodal design, as the technology itself becomes more mature and diverse? How can we expand our vision of the roles it could take in the multimodal theatre of a designed experience? I trace these questions to four major gaps: in (I) Inspiration - the lack of interesting examples available to most of us; (II) Theory - of diverse ways to conceptualize the role of haptics in UX design; (III) Process - the many challenges of working with the technology itself and integrating it into multimodal workflows; and (IV) Value - the difficulty of making a hard-edged business case for an element which often enriches rather than enables. To discuss both these gaps and approaches to surmounting them, I will draw on decades of design experience in my group as well as work with expert and novice hapticians and industry leaders, framed in the rich use cases of learning technology and mental health applications.

Bio: Karon MacLean is Professor in Computer Science at UBC, with degrees in Biology and Mechanical Engineering (BSc, Stanford; M.Sc. / Ph.D, MIT) and time spent as a professional robotics engineer (Center for Engineering Design, University of Utah) and haptics / interaction researcher (Interval Research, Palo Alto). At UBC since 2000, MacLean's research is at the intersection of robotics, human-computer and human-robot interaction (HCI and HRI), psychology and social practices. She is most known for her work in communicating functional and affective/emotional information through our sense of touch (haptics), and in supporting haptic and multimodal design. She has contributed design practices, inventions, and findings in cognition, affective modelling and complex sociotechnical systems, and acted as a bridge between dispersed haptic communities from robotics and human-computer interaction. With her group, MacLean has published over 150 peer-reviewed publications, many of them garnering awards. She has received distinctions such as the Charles A McDowell Award (UBC's highest research award), was named an IEEE Distinguished Lecturer (2019) and placed in the "Top 30 Women in Robotics" in 2020. As a leader in her respective fields, MacLean co-founded the IEEE Transactions on Haptics, 2008), reinvented top conferences as their general chair (IEEE HAPTICS, 2012; ACM Virtual UIST, 2020), advises on numerous international academic and industry boards, and has led award juries for all major conferences in her area. She is currently Special Advisor, Innovation and Knowledge Mobilization to UBC's Faculty of Science. MacLean founded and directs UBC's multi-disciplinary Designing for People (DFP) Research Cluster and NSERC CREATE training program (25 researchers spanning 11 departments and 5 faculties - dfp.ubc.ca), which has transformed UBC's HCI presence worldwide, and the practice of researchers across campus.

Theory Driven Approaches to the Design of Multimodal Assessments of Learning, Emotion, and Self-Regulation in Medicine



Susanne P. Lajoie, FRSC

Professor of Educational and Counselling Psychology
Canadian Research Chair Tier 1, Advanced Technologies for Learning Authentic Settings
McGill University

Abstract: Psychological theories can inform the design of technology rich learning environments (TREs) to provide better learning and training opportunities. Research shows that learners do better when interacting with material that is situated in meaningful, authentic contexts. Recently, psychologists are interested in the role that emotion plays in learning with technology.

Lajoie investigates the situations under which technology works best to facilitate learning and performance by examining the relations between cognition (problem solving, decision making), metacognition (self-regulation) and affect (emotion, beliefs, attitudes, interests, etc.) in medicine. Examples of advanced technologies to support medical students during critical thinking and problem solving, collaboration, and communication will be presented along with a description of multimodal methodologies for assessing the relationship between affect and learning in medical contexts.

These methodologies include physiological and behavioral indices, think aloud protocols, eye tracking, self report, etc. Examples will be presented of how TREs can determine when learners are engaged and happy as opposed to bored and angry while learning. Findings from this type of research helps identify the best way to tailor the learning experience to the cognitive and affective needs of the learner.

Bio: Professor Lajoie is a Canada Research Chair in Advanced Technologies for Learning in Authentic Settings in the Department of Educational and Counselling Psychology and a member of the Institute for Health Sciences Education at McGill University. She is a Fellow of the Royal Society of Canada, the American Psychological Association as well as the American Educational Research Association (AERA). She received the ACFAS Thérèse Guin-Décarie Prize for Social Sciences along with the AERA-TICL Outstanding International Research Collaboration Award. Dr. Lajoie directs the Learning Environments Across Disciplines partnership grant funded by the Social Sciences and Humanities Research Counsel in Canada. Dr. Lajoie explores how theories of learning and affect can be used to guide the design of advanced technology rich learning environments to promote learning in medicine.

Socially Interactive Artificial Intelligence: Past, Present and Future



Elisabeth André

Chair for Human-Centered Artificial Intelligence
University of Augsburg, Augsburg, Germany

Abstract: Socially interactive artificial agents are no longer mere fiction. For many, they are already part of everyday life. Due to technical advances in multimodal behavior analysis and synthesis, the asymmetry of communication between machines and humans is dissolving. Consequently, the interaction with robots and virtual characters has become more intuitive and natural, particularly for everyday users.

Nevertheless, there is still some work to be done until artificial agents are able to smoothly interact with people over more extended periods in their homes and to cope with unforeseen situations. In my talk, I will recall my journey into the field of socially interactive Artificial Intelligence starting in the 1990s with the development of the Personalized Plan-Based Presenter (in short, the PPP Persona). This cartoon character explained technical devices to users by combining speech, gestures, and facial expressions. We quickly realized that we had to equip such characters with a certain amount of social and emotional intelligence to keep users engaged over a more extended period. Furthermore, it became clear that creating such agents is not a job that can be done by computer scientists alone. In collaboration with social and medical sciences, dramaturgy, and media art colleagues, we developed a wide range of applications with socially interactive characters or robots over the past years, including art and entertainment, cultural training and social coaching, and more recently, personal wellbeing and health. sciences, I will discuss empirical approaches that enable an artificial agent to learn socially interactive behaviors from recordings of human-human interactions or life interactions with human interlocutors. I will highlight opportunities and challenges that arise from neural behavior generation approaches that promise to achieve the next level of human-likeness in virtual agents and social robots. Finally, I will share lessons we learnt during the development of socially interactive agents. To benefit users, we do not just have to work on technical solutions, but go beyond disciplinary boundaries to encompass ethical, legal, and social implications of employing such agents.

Bio: Elisabeth André is a full professor of Computer Science and Founding Chair of Human-Centered Artificial Intelligence at Augsburg University in Germany. She has a long track record in multimodal human-machine interaction, embodied conversational agents, social robotics, affective computing and social signal processing. Her work has won many awards including the Gottfried Wilhelm Leibniz Prize 2021, with 2.5 Mio € the highest endowed German research award. In 2010, Elisabeth André was elected a member of the prestigious Academy of Europe, and the German Academy of Sciences Leopoldina. In 2017, she was elected to the CHI Academy, an honorary group of leaders in the field of Human-Computer Interaction. To honor her achievements in bringing Artificial Intelligence techniques to Human-Computer Interaction, she was awarded a EurAI fellowship (European Coordinating Committee for Artificial Intelligence) in 2013. In 2019, she was named one of the 10 most influential figures in the history of AI in Germany by the National Society for Informatics (GI). Since 2019, she is serving as the Editor-in-Chief of IEEE Transactions on Affective Computing.

Week's schedule at a glance

Workshops 18th:

- The Second International Workshop on Automated Assessment of Pain (AAP) (Half day)
- Insights on Group & Team Dynamics (Full day)
- CATS2021: International Workshop on Corpora and Tools for Social Skills Annotation (Full day)
- The 6th International Workshop on Affective Social Multimedia Computing (ASMMC 2021) (Full day)
- Workshop on Multimodal Affect and Aesthetic Experience (Full day)
- Socially-Informed AI for Healthcare – Understanding and Generating Multimodal Nonverbal Cues (Full day)
- Doctoral Consortium (Full day)
- Ethics tutorial (Half day)

Main Program (19th, 20th, 21st Oct)

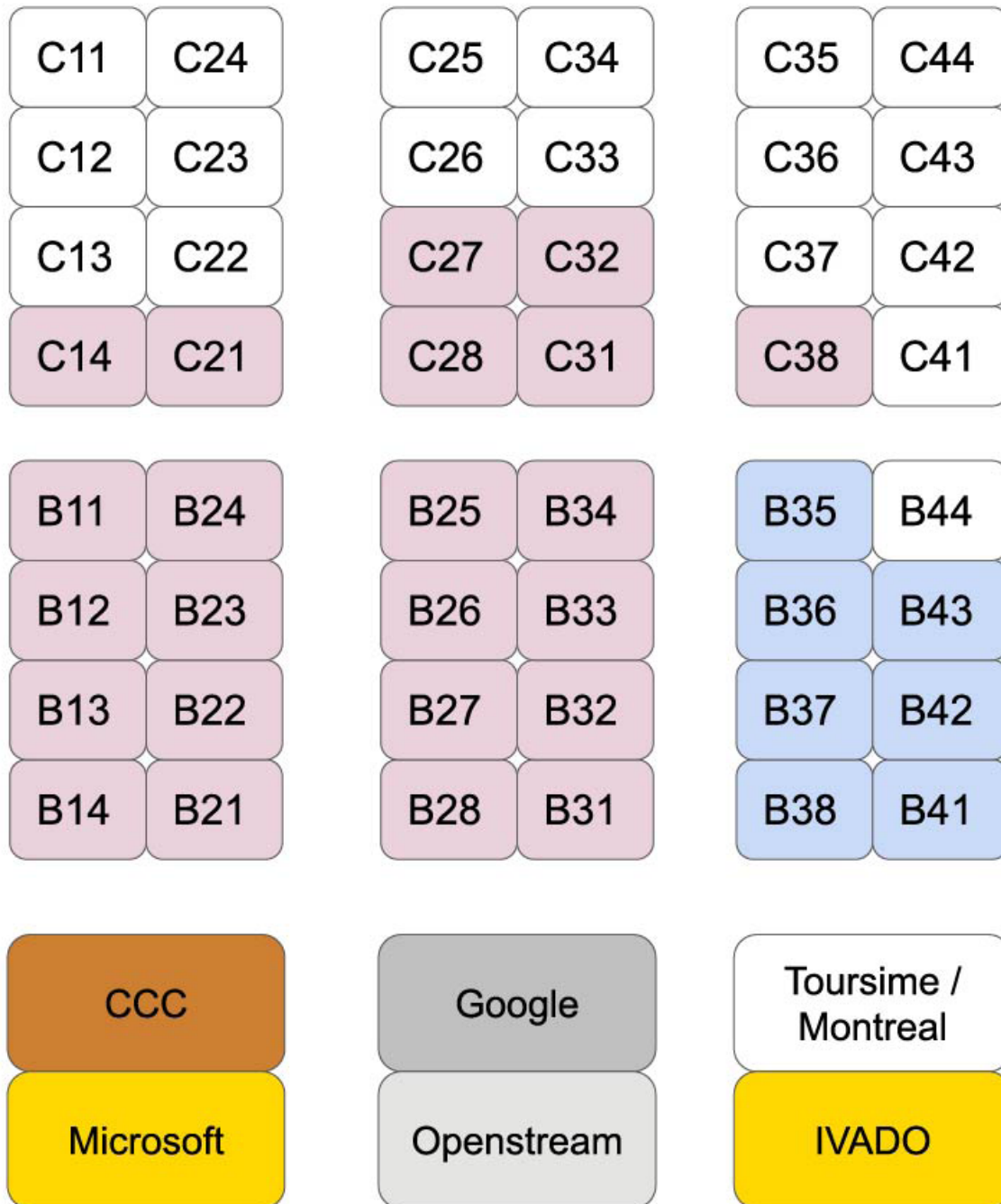
	Day 1	Day 2	Day 3
8:00-9:00	Keynote (Russ Salakhutdinov) Presenter: virtual Audience: hybrid	Keynote (Karon MacLean) Presenter: physical Audience: hybrid	Keynote (Susanne P. Lajoie) Presenter: physical Audience: hybrid
9:00-10:15	Oral Session Presenter: hybrid Audience: hybrid	Oral Session Presenter: hybrid Audience: hybrid	Oral Session Presenter: hybrid Audience: hybrid
10:15-10:30	Break	Break	Break
10:30-12:00	Oral Session Presenter: hybrid Audience: hybrid	Oral Session Presenter: hybrid Audience: hybrid	Oral Session Presenter: hybrid Audience: hybrid
12:00-12:15	Break	Break	Break
12:15-13:15	ICMI Sustained Accomplishment Award Keynote (Elisabeth Andre) Presenter: hybrid Audience: hybrid	Blue Sky Special Session, Awards and Moderated Audience Discussion Presenter: hybrid Audience: hybrid	ICMI Open Public Forum
13:15-15:00	Lunch/Discussion all physical	Lunch/Discussion all physical	Lunch/Discussion all physical
15:00-17:00	Posters physical and virtual	Posters/Demos physical and virtual	Posters physical and virtual
17:00-18:00	Happy Hour Reception physical and virtual	Demos virtual only	
18:00-20:00	Dinner all physical: on your own in the beautiful Old Port or at the Hotel	Award Banquet physical and virtual audience: hybrid	Dinner all physical: on your own in the beautiful Old Port or at the Hotel
20:00-22:00	Repeat Posters (Virtual)	Repeat Posters (Virtual)	Repeat Posters (Virtual)

Workshops 22nd:

- 2nd Workshop on Social Affective Multimodal Interaction for Health (SAMIH) (Half day)
- Workshop on modelling socio-emotional and cognitive processes from multimodal data in the wild (Half day)
- 2nd ICMI Workshop on Bridging Social Sciences and AI for Understanding Child Behaviour (Half day)
- Empowering Interactive Robots by Learning Through Multimodal Feedback Channels (Half day)
- GENE Workshop 2021: Generation and Evaluation of Non-verbal Behaviour for Embodied Agents (Half day)

Virbela Booth Layout and Schedule

Booth Layout:



Entrance

Day 1:

Booth	Title	Authors
B11	ML-PersRef: A Machine Learning-based Personalized Multimodal Fusion Approach for Referencing Outside Objects From a Moving Vehicle	Amr Goma, Guillermo Reyes, Michael Feld
B12	Advances in Multimodal Behavioral Analytics for Early Dementia Diagnosis: A Review	Chathurika Palliya Guruge, Sharon Oviatt, Pari Delir Haghighi, Elizabeth K Pritchard
B13	ConAn: A Usable Tool for Multimodal Conversation Analysis	Anna Penzkofer, Philipp Müller, Felix Christian Bühler, Sven Mayer, Andreas Bulling
B14	Prediction of Interlocutor's Subjective Impressions based on Functional Head-Movement Features in Group Meetings	Shumpei Otsuchi, Yoko Ishii, Momoko Nakatani, Kazuhiro Otsuka
B21	Improved Speech Emotion Recognition using Transfer Learning and Spectrogram Augmentation	Sarala Padi, Seyed Omid Sadjadi, Ram Sriram, Dinesh Manocha
B22	ThermEarhook: Investigating Spatial Thermal Haptic Feedback on the Auricular Skin Area	Arshad Nasser, Kexin Zheng, Kening Zhu
B23	Investigating the Effect of Polarity in Auditory and Vibrotactile Displays Under Cognitive Load	Jamie Ferguson, Euan Freeman, Stephen Brewster
B24	User Preferences for Calming Affective Haptic Stimuli in Social Settings	Shaun Alexander Macdonald, Euan Freeman, Stephen Brewster, Frank Pollick
B25	Improving the Movement Synchrony Estimation with Action Quality Assessment in Children Play Therapy	Jicheng Li, Anjana Bhat, Roghaye Barmaki
B26	Learning Oculomotor Behaviors from Scanpath	Beibin Li, Nicholas Nuechterlein, Erin Barney, Claire Foster, Minah Kim, Monique Mahony, Adham Atyabi, Li Feng, Quan Wang, Pamela Ventola, Linda Shapiro, Frederick Shic
B27	Multimodal Detection of Drivers Drowsiness and Distraction	Kapotaksha Das, Salem Sharak, Kais Riani, Mohamed Abouelenien, Mihai Burzo, Michalis Papakostas
B28	On the Transition of Social Interaction from In-Person to Online: Predicting Changes in Social Media Usage of College Students during the COVID-19 Pandemic based on Pre-COVID-19 On-Campus Colocation	Weichen Wang, Jialing Wu, Subigya Kumar Nepal, Alex daSilva, Elin Hedlund, Ellis Murphy, Courtney Rogers, Jeremy F. Huckins
B31	Head Matters: Explainable Human-centered Trait Prediction from Head Motion Dynamics	Surbhi Madan, Monika Gahalawat, Tanaya Guha, Ramanathan Subramanian
B32	An Automated Mutual Gaze Detection Framework for Social Behavior Assessment in Therapy for Children with Autism	Zhang Guo, Kangsoo Kim, Anjana Bhat, Roghaye Barmaki
B33	Inclusive Voice Interaction Techniques for Creative Object Positioning	Farkhandah Aziz, Chris Creed, Maite Frutos-Pascual, Ian Williams
B34	Graph Capsule Aggregation for Unaligned Multimodal Sequences	Jianfeng Wu, Sijie Mai, Haifeng Hu
C14	PARA: Privacy Management and Control in Emerging IoT Ecosystems using Augmented Reality	Carlos Bermejo Fernandez, Lik Hang Lee, Petteri Nurmi, Pan Hui
C21	Feature Perception in Broadband Sonar Analysis - Using the Repertory Grid to Elicit Interface Designs to Support Human-Autonomy Teaming	Faye McCabe, Christopher Baber
C28	To Rate or Not To Rate: Investigating Evaluation Methods for Generated Co-Speech Gestures	Pieter Wolfert, Jeffrey M. Girard, Taras Kucherenko, Tony Belpaeme
C31	Audiovisual Speech Synthesis using Tacotron2	Ahmed Hussen Abdelaziz, Anushree Prasanna Kumar, Chloe Seiwright, Gabriele Fanelli, Justin Binder, Yannis Stylianou, Sachin Kajareker
C32	What's This? A Voice and Touch Multimodal Approach for Ambiguity Resolution in Voice Assistants	Jaewook Lee, Sebastian S. Rodriguez, Raahul Natarajan, Jacqueline Chen, Harsh Deep, Alex Kirlik
C27	Interaction Modalities for Notification Signals in Augmented Reality	May Jorella Lazaro, Sungho Kim, Jaeyong Lee, Jaemin Chun, Myung-Hwan Yun
C38	Design and Development of a Low-cost Device for Weight and Center of Gravity Simulation in Virtual Reality	Diego Vilela Monteiro, Hai-Ning Liang, Xian Wang, Wenge Xu, Huawei Tu

Day 2:

Booth	Title	Authors
B11	Cross-modal Assisted Training for Abnormal Event Recognition in Elevators	Xinmeng Chen, Xuchen Gong, Ming Cheng, Qi Deng, Ming Li
B12	Towards Automatic Narrative Coherence Prediction	Filip Bendeviski, Jumana Ibrahim, Tina Krulec, Theodore Waters, Nizar Habash, Hanan Salam, Himadri Mukherjee, Christin Camia
B13	TaxoVec: Taxonomy Based Representation for Web User Profiling	Qinpei Zhao, Xiongbaixue Yan, Yinja Zhang, Weixiong Rao, Jiangfeng Li, Chao Mi, Jessie Chen
B14	Approximating the Mental Lexicon from Clinical Interviews as a Support Tool for Depression Detection	Esau Villatoro Tello, Gabriela Ramirez-de-la-Rosa, Daniel Gatica-Perez, Mathew Magimai Doss, Héctor Jiménez-Salazar
B21	Long-Term, in-the-Wild Study of Feedback about Speech Intelligibility for K-12 Students Attending Class via a Telepresence Robot	Matthew Rueben, Mohammad Syed, Emily London, Mark Camarena, Eunsook Shin, Yulun Zhang, Timothy S. Wang, Thomas R. Groechel, Rhianna Lee, Maja J. Mataric
B22	EyeMU Interactions: Gaze + IMU Gestures on Mobile Devices	Andy Kong, Karan Ahuja, Mayank Goel, Chris Harrison
B23	Multimodal User Satisfaction Recognition for Non-task Oriented Dialogue Systems	Wenqing Wei, Sixia Li, Shogo Okada, Kazunori Komatani
B24	Cross Lingual Video and Text Retrieval: A New Benchmark Dataset and Algorithm	Jayaprakash Akula, Abhishek, Rishabh Dabral, Preethi Jyothi, Ganesh Ramakrishnan
B25	Interaction Techniques for 3D-positioning Objects in Mobile Augmented Reality	Carl-Philipp Hellmuth, Miroslav Bachinski, Jörg Müller
B26	Engagement Rewarded Actor-Critic with Conservative Q-Learning for Speech-Driven Laughter Backchannel Generation	Öykü Zeynep Bayramoğlu, Engin Erzın, T. Metin Sezgin, Yucel Yemez
B27	Knowing Where and What to Write in Automated Live Video Comments: A Unified Multi-Task Approach	Hao Wu, Gareth James Francis Jones, Francois Plite
B28	Tomato Dice: A Multimodal Device to Encourage Breaks during Work	Marissa A. Thompson, Lynette Tan, Cecilia Soto, Jaitra Dixit, Mounia Ziat
B31	Looking for Laughs: Gaze Interaction with Laughter Pragmatics and Coordination	Chiara Mazzocco, Vladislav Maraev, Vidya Somashekarappa, Christine Howes
B32	Inflation-Deflation Networks for Recognizing Head-Movement in Face-to-Face Conversations	Kazuki Takeda, Kazuhiro Otsuka
B33	Perception of Ultrasound Haptic Focal Point Motion	Euan Freeman, Graham Wilson
B34	Sensorimotor Synchronization in Blind Musicians: Does Lack of Vision Influence non-verbal Musical Communication?	Erica Volta, Giulia Cappagli, Monica Gori, Gualtiero Volpe
C14	Group-Level Focus of Visual Attention for Improved Active Speaker Detection	Christopher Birmingham, Maja Mataric, Kalin Stefanov
C21	Knock&Tap: Classification and Localization of Knock and Tap Gestures using Deep Sound Transfer Learning	Jung-Hwa Kim, Jae-Yeop Jeong, Ha yeong Yoon, Jin-Woo Jeong
C28	How Do HCI Researchers Describe Their Software Tools? Insights From a Synopsis Survey of Tools for Multimodal Interaction	Mihail Terenti, Radu-Daniel Vatavu
C31	Multisensor-Pipeline: A Lightweight, Flexible, and Extensible Framework for Building Multimodal-Multisensor Interfaces	Michael Barz, Omair Shahzad Bhatti, Bengt Lüers, Alexander Prange, Daniel Sonntag
C38	Detecting Face Touching with Dynamic Time Warping on Smartwatches: A Preliminary Study	Yu-Peng Chen, Cehn Bai, Adam Wolach, Mamoun T. Mardini, Lisa Anthony
C22	Predicting Worker Accuracy from Nonverbal Behaviour: Benefits and Potential for Algorithmic Bias	Yuushi Toyoda, Gale Lucas, Jonathan Gratch

Day 3:

Booth	Title	Authors
B11	Deep Transfer Learning for Recognizing Functional Interactions via Head Movements in Multiparty Conversations	Takashi Mori, Kazuhiro Otsuka
B12	Gaze-based Multimodal Meaning Recovery for Noisy/Complex Environments	Ozge Alacam, Eugen Ruppert, Ganeshan Malhotra, Chris Biemann
B13	Semi-supervised Visual Feature Integration for Language Models through Sentence Visualization	Lisai Zhang, Qingcai Chen, Joanna Siebert, Buzhou Tang
B14	Speech Guided Disentangled Visual Representation Learning for Lip Reading	Ya Zhao, Cheng Ma, Zunlei Feng, Mingli Song
B21	Enhancing Ultrasound Haptics with Parametric Audio Effects	Euan Freeman
B22	Mass-deployable Smartphone-based Objective Hearing Screening with Otoacoustic Emissions	Nils Heilmann, Thomas Rosner, Samarjit Chakraborty
B23	Intra- and Inter-Contrastive Learning for Micro-expression Action Unit Detection	Yante Li, Guoying Zhao
B24	HEMViP: Human Evaluation of Multiple Videos in Parallel	Patrik Jonell, Youngwoo Yoon, Pieter Wolfert, Taras Kucherenko, Gustav Eje Henter
B25	Knowledge- and Data-Driven Models of Multimodal Trajectories of Public Speaking Anxiety in Real and Virtual Settings	Ehsanul Haque Nirjhar, Amir H. Behzadan, Theodora Chaspari
B26	Predicting Gaze from Egocentric Social Interaction Videos and IMU Data	Sanket Kumar Thakur, Cigdem Beyan, Pietro Morerio, Alessio Del Bue
B27	An Interpretable Approach to Hateful Meme Detection	Tanvi Deshpande, Nitya Mani
B28	Human-Guided Modality Informativeness for Affective States	Torsten Wörtwein, Lisa B. Sheeber, Nicholas Allen, Jeffrey F. Cohn, Louis-Philippe Morency
B31	Direct Gaze Triggers Higher Frequency of Gaze Change: An Automatic Analysis of Dyads in Unstructured Conversation	Georgiana Cristina Dobre, Marco Gillies, Patrick Falk, Jamie A. Ward, Antonia F. de C. Hamilton, Xueni Pan
B32	Online Study Reveals the Multimodal Effects of Discrete Auditory Cues in Moving Target Estimation Task	Katsutoshi Masai, Akemi Kobayashi, Toshitaka Kimura
B33	DynGeoNet: Fusion Network for Micro-expression Spotting	Thuong-Khanh Tran, Quang-Nhat Vo, Guoying Zhao
B34	Earthquake Response Drill Simulator based on a 3-DOF Motion base in Augmented Reality	Namkyoo Kang, SeungJoon Kwon, JongChan Lee, Sang-Woo Seo
C14	States of Confusion: Eye and Head Tracking Reveal Surgeons' Confusion during Arthroscopic Surgery	Benedikt Hosp, Myat Su Yin, Peter Haddawy, Rattaphum Watcharopas, Paphon Sa-Ngasoonsong, Enkelejda Kasneci
C21	Personality Prediction with Cross-Modality Feature Projection	Daisuke Kamisaka, Yuichi Ishikawa
C28	Attention-based Multimodal Feature Fusion for Dance Motion Generation	Kosmas Kritsis, Aggelos Gkiokas, Aggelos Pikrakis, Vassilis Katsouras
C31	Multimodal Approach for Assessing Neuromotor Coordination in Schizophrenia Using Convolutional Neural Networks	Yashish M. Siriwardena, Carol Espy-Wilson, Chris Kitchen, Deanna L. Kelly
C38	M2H2: A Multimodal Multiparty Hindi Dataset For Humor Recognition in Conversations	Dushyant Singh Chauhan, Gopendra Vikram Singh, Navonil Majumder, Amir Zadeh, Asif Ekbal, Pushpak Bhattacharyya, Louis-Philippe Morency, Soujanya Poria

Monday, 18th October 2021

Doctoral Consortium (Via Zoom)

09:00 - 09:30	Invited talk: <i>Sean Andrist</i> Situated Interaction with Socially Intelligent Systems
09:30 - 10:50	DC talks Using Generative Adversarial Networks to Create Graphical User Interfaces for Video Games <i>Christopher Acornley</i> Semi-Supervised Learning for Multimodal Speech and Emotion Recognition <i>Yuanchao Li</i> Development of an Interactive Human/Agent Loop using Multimodal Recurrent Neural Networks <i>Jieyeon Woo</i> Assisted End-User Robot Programming <i>Gopika Ajaykumar</i>
10:50 - 11:10	Break
11:10 - 12:30	DC talks What if I Interrupt You <i>Liu Yang</i> Natural Language Stage of Change Modelling for “Motivationally-driven” Weight Loss Support <i>Selina Meyer</i> Photogrammetry-based VR Interactive Pedagogical Agent for K12 Education <i>Laduona Dai</i> Understanding Personalised Auditory-Visual Associations in Multi-Modal Interactions <i>Patrick O’Toole</i>
12:30 - 12:40	Break
12:40 - 13:40	Panel Discussion
13:40 - 14:00	Closing

Monday, 18th October 2021

Half Day

The Second International Workshop on Automated Assessment of Pain AAP

7:00 - 7:05	Opening <i>Zakia Hammal, Nadia Berthouze, Steffen Walter</i>
7:05 - 7:45	Keynote: <i>Ken Prkachin</i> Behavioural perspectives on automated pain assessment: forty years in the trenches
7:45 - 8:00	Break
8:00- 8:10	Towards Chatbot-Supported Self-Reporting for Increased Reliability and Richness of Ground Truth for Automatic Pain Recognition: Reflections on Long-Distance Runners and People with Chronic Pain <i>Tao Bi, Raffaele Buono</i>
8:10 - 8:50	Panellists short keynotes <i>Prof. Amanda CdC Williams</i> (Unversity College London - UK) Pain and chronic pain in animals <i>Dr Marwa Mahmoud</i> (Cambridge University - UK) Automatical detection of pain in non-human animals <i>Prof. Lola Canamero</i> (CY Cergy Paris University , France) Modeling and understanding pain and mood in robots
8:50 - 9:20	Panel or round table Pain in humans and other animals and the role and design of ethical technology

Monday, 18th October 2021

Full Day

Insights on Group & Team Dynamics

9:00 - 09:15	Opening <i>Hayley Hung</i>
09:15 - 10:00	Keynote: <i>Scott Poole</i> Session Chair: <i>Joann Keyton</i> A Social Media Based Decision Support System: Combining Participant Input with Interaction Analytics in Decision Making
10:00 - 10:40	Session 1 Session Chair: <i>Giovanna Varni</i>
	On the Sound of Successful Meetings: How Speech Prosody predicts Meeting Performance <i>Oliver Niebuhr, Ronald Böck and Joseph A. Allen.</i>
	Self-assessed Emotion Classification from Acoustic and Physiological Features within Small-group Conversation <i>Woan-Shiuan Chien, Huang-Cheng Chou and Chi-Chun Lee.</i>
10:40 - 11:00	Break
11:00 - 11:50	Session 2 Session Chair: <i>Catharine Oertel</i>
	A Hitchhiker's Guide towards Transactive Memory System Modeling in Small Group Interactions <i>Enzo Tartaglione, Maurizio Mancini, Beatrice Biancardi and Giovanna Varni.</i>
	Discovering where we excel: Investigating the mechanism of inclusive turn-taking in teams <i>Ki-Won Haan, Christoph Riedl and Anita Woolley.</i>
	Clustering and Multimodal Analysis of Participants in Task-Based Discussions <i>David Johnson and Gabriel Murray</i>
11:50 - 12:10	Break
12:10 - 12:55	Keynote: <i>Giovanna Varni</i> Session Chair: <i>Hayley Hung</i> A look at automated groups' analysis
12:55 - 13:35	Break
13:35 - 14:30	Session 3 Session Chair: <i>Gabriel Murray</i>
	An Exploratory Computational Study on the Effect of Emergent Leadership on Social and Task Cohesion <i>Soumaya Sabry, Lucien Maman and Giovanna Varni</i>
	Belongingness and Satisfaction Recognition from Physiological Synchrony with A Group-Modulated Attentive BLSTM under Small-group Conversation <i>Woan-Shiuan Chien, Huang-Cheng Chou and Chi-Chun Lee</i>
	Get Together in the Middle-earth: a First Step Towards Hybrid Intelligence Systems <i>Giovanna Varni, André-Marie Pez and Maurizio Mancini</i>

14:30 - 14:40	Break
14:40 - 15:25	Plenary Discussion: Bottlenecks to Bridging the Gap / Happy hour <i>Joseph Allen</i>
15:25 - 15:40	Closing / Going for Coffee for in person participants <i>Joann Keyton, Hayley Hung, Giovanna Varni</i>

Monday, 18th October 2021

Full Day

CATS2021: International Workshop on Corpora and Tools for Social Skills

Annotation

9:00-9:10	Welcome and Workshop introduction CATS2021 Organizing Committee
9:10-10:10	Keynote: <i>Tobias Baur</i>
10:10-10:55	Oral presentations - Annotations Session Chair: <i>Eleonora Ceccaldi</i>
10:10-10:25	A Development of a Multimodal Behavior Analysis System for Evaluating Dementia Care Interaction <i>Shogo Ishikawa, Masashi Onozuka, Atsushi Omata, Ayumi Nakanome, Sota Kayama and Shinya Kiriya</i>
10:25-10:40	An Opportunity to Investigate the Role of Specific Nonverbal Cues and First Impression in Interviews using Deepfake Based Controlled Video Generation <i>Rahil Vijay, Kumar Shubham, Laetitia Renier, Emmanuelle Kleinlogel, Marianne Schmid Mast and Dinesh Babu Jayagopi</i>
10:40-10:55	Setting Up a Health-related Quality of Life Vocabulary <i>Paula Alexandra Silva and Renato Santos</i>
10:55-11:30	q/a + Panel - Annotations Session Chair: <i>Eleonora Ceccaldi</i>
11:30-11:50	Break
11:50-12:50	Keynote: <i>Daniel Gatica-Perez</i>
12:50-13:40	Break
13:40-14:40	Keynote: <i>Laura Cabrera-Quiròs</i>
14:40-15:40	Oral presentations - Datasets Session Chair: <i>Beatrice Biancardi</i>
14:40-14:55	ChiCo: A Multimodal Corpus for the Study of Child Conversation <i>Kübra Bodur, Mitja Nikolaus, Fatima Kassim, Laurent Prévot and Abdellah Fourtassi</i>
14:55-15:10	IdlePose : a dataset of spontaneous idle motions <i>Brian Ravenet</i>
15:10-15:25	Making Automatic Movement Features Extraction Suitable for Non-engineer Students <i>Nicola Corbellini and Gualtiero Volpe</i>

15:25-15:40	A Systematic Review on Dyadic Conversation Visualizations <i>Joshua Kim, Rafael Calvo, Nick Enfield and Kalina Yacef</i>
15:40-16:20	q/a + Panel - Datasets Session Chair: <i>Beatrice Biancardi</i>
16:20-16:40	Break
16:40-17:30	Closing + Mini Networking

Monday, 18th October 2021

Full Day

Workshop on Multimodal Affect and Aesthetic Experience

08:00-08:15	Opening Remarks
08:15-09:15	Keynote: <i>Sarah Kenderdine</i>
09:15-09:45	Multimodal Assessment of Network Music Performance <i>Konstantinos Tsioutas, Konstantinos Ratzos, George Xylomenos and Ioannis Doumanis</i>
09:45-09:55	Break
09:55-10:55	Keynote: <i>Marinos Koutsomichalis</i>
10:55-11:25	When Emotions are Triggered by Single Musical Notes: Revealing the Underlying Factors of Auditory-Emotion Associations <i>Patrick O'Toole, Donald Glowinski, Ian Pitt and Maurizio Mancini</i>
11:25-11:35	Break
11:35-12:35	Keynote: <i>Florence Dozol</i>
12:35-13:05	ArtBeat - Deep Convolutional Networks for Emotional Inference to Enhance Art with Music <i>Liam Hebert, Elizabeth Eddy, Will Harrington, Lauryn Marchand, Jason d'Eon and Sageev Oore</i>
13:05-13:35	Discussion/Closing Remarks

Monday, 18th October 2021

Full Day

6th International Workshop on Affective Social Multimedia Computing (ASMMC 2021)

08.00-08.15	Opening statement: <i>Youjun Xiong</i> , Session Chair: <i>Dong-Yan Huang</i>
08.15-09.15	Keynote: <i>Jin Qin</i> Session Chair: <i>Dong-Yan Huang</i> Multimodal Emotion Recognition
	Session 1: Multimodal Emotion Recognition Session Chair: <i>Jianhua Tao</i>
09.15-10.05	FER by Modeling the Conditional Independence between the Spatial Cues and the Spatial Attention Distributions <i>Wan Ding, Dongyan Huang, Jingjun Liang, Jinlong Jiao and Zhiping Zhao</i>
10.05-10.25	Efficient Gradient-based Neural Architecture Search for end-to-end ASR <i>Xian Shi, Pan Zhou, Wei Chen and Lei Xie</i>
10.25-10.45	Temporal Attentive Adversarial Domain Adaption for Cross Cultural Affect Recognition <i>Haifeng Chen, Yifan Deng and Dongmei Jiang</i>
10.45-11.05	A Multimodal Dynamic Neural Network for Call for Help Recognition in Elevators <i>Ran Ju, Huangrui Chu, Yechen Wang, Qi Deng, Ming Cheng and Ming Li</i>
11.05-11.25	A Web-Based Longitudinal Mental Health Monitoring System <i>Zhiwei Chen, Weizhao Yang, Jinrong Li, Jiale Wang, Shuai Li, Ziwen Wang and Lei Xie</i>
11.25-11.35	Break
	Session 2: Multimodal Emotion Synthesis Session Chair: <i>Jie Yang</i>
11.35-11.55	Semantic and Acoustic-Prosodic Entrainment of Dialogues in Service Scenarios <i>Liu Yuning, Jianwu Dang, Aijun Li and Di Zhou</i>
11.55-12.15	Improving Model Stability and Training Efficiency in Fast Speed High Quality Expressive Voice Conversion System <i>Zhiyuan Zhao, Jingjun Liang, Zehong Zheng, Linhuang Yan, Zhiyong Yang, Wan Ding, and Dongyan Huang</i>
11.55-12.15	TeNC: Low Bit-Rate Speech Coding with VQ-VAE and GAN <i>Yi Chen, Shan Yang, Na Hu, Lei Xie and Dan Su</i>
12.15-12.35	Noise Robust Singing Voice Synthesis Using Gaussian Mixture Variational Autoencoder <i>Heyang Xue, Xiao Zhang, Jie Wu, Jian Luan, Yujun Wang and Lei Xie</i>
12.35-12.45	Break
12.45-13.45	Keynote: <i>Erik Cambria</i> Session Chair: <i>Björn Schuller</i> Neurosymbolic AI for Affective Computing and Sentiment Analysis
13.45-13.55	Break
	Session 3: Sentiment, Micro-expression and Paralinguistic analysis Session Chair: <i>Lei Xie</i>

13.55-14.15	BERT Based Cross-Task Sentiment Analysis with Adversarial Learning <i>Zhiwei He, Xiangmin Xu, Xiaofen Xing and Yirong Chen</i>
14.15-14.35	Facial Micro-Expression Recognition Based on Multi-Scale Temporal and Spatial Features <i>Hao Zhang, Bin Liu, Jianhua Tao and Zhao Lv</i>
14.35-14.55	Aspect based sentiment analysis is a branch of sentiment analysis <i>Yingtao Huo, Dongmei Jiang and Hichem Sahli</i>
14.55-15.15	Call For Help Detection In Emergent Situations Using Keyword Spotting And Paralinguistic Analysis <i>Huangrui Chu, Yechen Wang, Ran Ju, Yan Jia, Haoxu Wang, Ming Li and Qi Deng</i>
15.15-15.40	Panel discussion and closing remarks Session Chair: <i>Dong-Yan Huang</i>
10.35-10.55	Computational Measurement of Motor Imitation and Imitative Learning Differences in Autism Spectrum Disorder <i>Casey J. Zampella, Evangelos Sariyanidi, Anne G. Hutchinson, G. Keith Bartley, Robert T. Schultz and Birkan Tunc</i>
10.55-11.15	Listen to the Real Experts: Detecting Need of Caregiver Response in a NICU using Multimodal Monitoring Signals <i>Laura Cabrera-Quiros, Gabriele Varisco, Zhuozhao Zhan, Xi Long, Peter Andriessen, Eduardus J. E. Cottaar and Carola van Pul</i>
11.15-11.35	Differentiating Surgeons' Expertise solely by Eye Movement Features <i>Benedikt Hosp, Myat Su Yin, Peter Haddawy and Enkelejda Kasneci</i>
11.35-12.00	Break
12.00-13.00	Keynote: <i>Stefan Scherer</i>
13.00-14.00	Keynote: <i>Laurel Riek</i>

Monday, 18th October 2021

Half Day

Ethics Tutorial

09:00-09:30	Part 1 Session Chair: <i>Raja Chatila</i> General introduction to ethical issues in AI and Human-machine interaction
09:30-10:00	Part 2 Session Chair: <i>Monique Morrow</i> Ethics in Extended Reality
10:00-10:30	Part 3 Session Chair: <i>Johanna Seibt</i> Philosophical perspective and issues in social robots
10:30-10:45	Break
10:45-11:15	Part 4 Ethics in Natural Language Processing
11:15-11:45	Part 5 Session Chair: <i>Mohamed Chetouani and David Cohen</i> Ethics in Human robot interaction and vulnerable persons
11:45-12:15	Final discussion and closing remarks

Tuesday, 19th October 2021

7:45-8:00	Opening session
8:00-9:00	Keynote: <i>Russ Salakhutdinov</i> Session Chair: <i>Carlos Busso and Catherine Pelachaud</i>
9:00-10:15	Oral session “New Analytic and Machine Learning Techniques”
9:00-9:15	A Contrastive Learning Approach for Compositional Zero-Shot Learning <i>Muhammad Umer Anwaar, Rayyan Ahmad Khan, Zhihui Pan, Martin Kleinstember</i>
9:15-9:30	Exploiting the Interplay between Social and Task Dimensions of Cohesion to Predict its Dynamics Leveraging Social Sciences* <i>Lucien Maman, Laurence Likforman-Sulem, Mohamed Chetouani, Giovanna Varni</i>
9:30-9:45	Dynamic Mode Decomposition with Control as a Model of Multimodal Behavioral Coordination <i>Lauren Klein, Victor Ardulov, Alma Gharib, Barbara Thompson, Pat Levitt, Maja Mataric</i>
9:45-10:00	Bi-Bimodal Modality Fusion for Correlation-Controlled Multimodal Sentiment Analysis* <i>Wei Han, Hui Chen, Alexander Gelbukh, Amir Zadeh, Louis-philippe Morency, Soujanya Poria</i>
10:00-10:15	Efficient Deep Feature Calibration for Cross-Modal Joint Embedding Learning <i>Zhongwei Xie, Ling Liu, Lin Li, Luo Zhong</i>
10:15-10:30	Break
10:30-12:00	Oral session “Support for Health, Mental Health and Disability” Session Chair: <i>Mohamed Abouelenien and Mathieu Chollet</i>
10:30-10:45	A Multimodal Dataset and Evaluation for Feature Estimators of Temporal Phases of Anxiety* <i>Hashini Senaratne, Levin Kuhlmann, Kirsten Ellis, Glenn Melvin, Sharon Oviatt</i>
10:45-11:00	Inclusive Action Game Presenting Real-time Multimodal Presentations for Sighted and Blind Persons <i>Masaki Matsuo, Takahiro Miura, Ken-ichiro Yabu, Atsushi Katagiri, Masatsugu Sakajiri, Junji Onishi, Takeshi Kurata, Tohru Ifukube</i>
11:00-11:15	ViCA: Combining visual, Social, and Task-oriented conversational AI in a Healthcare Setting* <i>George Pantazopoulos, Jeremy Bruyere, Malvina Nikandrou, Thibaud Boissier, Supun Hemanthage, Binha Kumar Sachish, Vidyul Shah, Christian Dondrup, Oliver Lemon</i>
11:15-11:30	Towards Sound Accessibility in Virtual Reality <i>Dhruv Jain, Sasa Junuzovic, Eyal Ofek, Mike Sinclair, John R. Porter, Chris Yoon, Swetha Machanavajhala, Meredith Ringel Morris</i>
11:30-11:45	Am I Allergic to This? Assisting Sight Impaired People in the Kitchen <i>Elisa Ramil Brick, Vanesa Caballero Alonso, Conor O'Brien, Sheron Tong, Emilie Tavernier, Amit Parekh, Angus Addlesee, Oliver Lemon</i>
11:45-12:00	MindfulNest: Strengthening Emotion Regulation with Tangible User Interfaces <i>Samantha Speer, Emily Hamner, Michael Tasota, Lauren Zito, Sarah Byrne-Houser</i>
12:00-12:15	Break

* denotes a best paper award candidate

12:15-13:15	ICMI Sustained Accomplishment Award keynote: <i>Elisabeth Andre</i> Session Chair: <i>Yukiko Nagano and Raj Tumuluri</i> Socially Interactive Artificial Intelligence: Past, Present and Future notes
13:15-15:00	Lunch
15:00-17:00	Posters (Hybrid) Session Chair: <i>Catherine Pelachaud</i>
	<p>ML-PersRef: A Machine Learning-based Personalized Multimodal Fusion Approach for Referencing Outside Objects From a Moving Vehicle <i>Amr Gomaa, Guillermo Reyes, Michael Feld</i></p> <p>Advances in Multimodal Behavioral Analytics for Early Dementia Diagnosis: A Review <i>Chathurika Palliya Guruge, Sharon Oviatt, Pari Delir Haghighi, Elizabeth K Pritchard</i></p> <p>ConAn: A Usable Tool for Multimodal Conversation Analysis <i>Anna Penzkofer, Philipp Müller, Felix Christian Bühler, Sven Mayer, Andreas Bulling</i></p> <p>Prediction of Interlocutor's Subjective Impressions based on Functional Head-Movement Features in Group Meetings <i>Shumpei Otsuchi, Yoko Ishii, Momoko Nakatani, Kazuhiro Otsuka</i></p> <p>Improved Speech Emotion Recognition using Transfer Learning and Spectrogram Augmentation <i>Sarala Padi, Seyed Omid Sadjadi, Ram Sriram, Dinesh Manocha</i></p> <p>ThermEarhook: Investigating Spatial Thermal Haptic Feedback on the Auricular Skin Area <i>Arshad Nasser, Kexin Zheng, Kening Zhu</i></p> <p>Investigating the Effect of Polarity in Auditory and Vibrotactile Displays Under Cognitive Load <i>Jamie Ferguson, Euan Freeman, Stephen Brewster</i></p> <p>User Preferences for Calming Affective Haptic Stimuli in Social Settings <i>Shaun Alexander Macdonald, Euan Freeman, Stephen Brewster, Frank Pollick</i></p> <p>Improving the Movement Synchrony Estimation with Action Quality Assessment in Children Play Therapy <i>Jicheng Li, Anjana Bhat, Roghayeh Barmaki</i></p> <p>Learning Oculomotor Behaviors from Scanpath <i>Beibin Li, Nicholas Nuechterlein, Erin Barney, Claire Foster, Minah Kim, Monique Mahony, Adham Atyabi, Li Feng, Quan Wang, Pamela Ventola, Linda Shapiro, Frederick Shic</i></p> <p>Multimodal Detection of Drivers Drowsiness and Distraction <i>Kapotaksha Das, Salem Sharak, Kais Riani, Mohamed Abouelenien, Mihai Burzo, Michalis Papakostas</i></p> <p>On the Transition of Social Interaction from In-Person to Online: Predicting Changes in Social Media Usage of College Students during the COVID-19 Pandemic based on Pre-COVID-19 On-Campus Colocation</p>

	<p><i>Weichen Wang, Jialing Wu, Subigya Kumar Nepal, Alex daSilva, Elin Hedlund, Eilis Murphy, Courtney Rogers, Jeremy F. Huckins</i></p> <p>Head Matters: Explainable Human-centered Trait Prediction from Head Motion Dynamics <i>Surbhi Madan, Monika Gahalawat, Tanaya Guha, Ramanathan Subramanian</i></p> <p>An Automated Mutual Gaze Detection Framework for Social Behavior Assessment in Therapy for Children with Autism <i>Zhang Guo, Kangsoo Kim, Anjana Bhat, Roghayeh Barmaki</i></p> <p>Inclusive Voice Interaction Techniques for Creative Object Positioning <i>Farkhandah Aziz, Chris Creed, Maite Frutos-Pascual, Ian Williams</i></p> <p>Interaction Modalities for Notification Signals in Augmented Reality <i>May Jorella Lazaro, Sungho Kim, Jaeyong Lee, Jaemin Chun, Myung-Hwan Yun</i></p> <p>PARA: Privacy Management and Control in Emerging IoT Ecosystems using Augmented Reality <i>Carlos Bermejo Fernandez, Lik Hang Lee, Petteri Nurmi, Pan Hui</i></p> <p>Feature Perception in Broadband Sonar Analysis - Using the Repertory Grid to Elicit Interface Designs to Support Human-Autonomy Teaming <i>Faye McCabe, Christopher Baber</i></p> <p>To Rate or Not To Rate: Investigating Evaluation Methods for Generated Co-Speech Gestures <i>Pieter Wolfert, Jeffrey M. Girard, Taras Kucherenko, Tony Belpaeme</i></p> <p>Audiovisual Speech Synthesis using Tacotron2 <i>Ahmed Hussen Abdelaziz, Anushree Prasanna Kumar, Chloe Seivwright, Gabriele Fanelli, Justin Binder, Yannis Stylianou, Sachin Kajareker</i></p> <p>What's This? A Voice and Touch Multimodal Approach for Ambiguity Resolution in Voice Assistants <i>Jaewook Lee, Sebastian S. Rodriguez, Raahul Natarrajan, Jacqueline Chen, Harsh Deep, Alex Kirlik</i></p> <p>Graph Capsule Aggregation for Unaligned Multimodal Sequences <i>Jianfeng Wu, Sijie Mai, Haifeng Hu</i></p> <p>Design and Development of a Low-cost Device for Weight and Center of Gravity Simulation in Virtual Reality <i>Diego Vilela Monteiro, Hai-Ning Liang, Xian Wang, Wenge Xu, Huawei Tu</i></p>
17:00-18:00	Happy Hour Reception
18:00-20:00	Dinner
20:00-22:00	Repeat posters (Virtual) Session Chair: <i>Catherine Pelachaud</i>

* denotes a best paper award candidate

Wednesday, 20th October 2021

8:00-9:00	Keynote: Karon MacLean Session Chair: Zakia Hammal and Louis-Philippe Morency Incorporating Haptics into the Theatre of Multimodal Experience Design: and the Eco-system this Requires
9:00-10:15	Oral session “Conversation, Dialogue Systems and Language Analytics” Session Chair: Theodora Chaspari and Chee Wee Leong
9:00-9:15	A Systematic Cross-Corpus Analysis of Human Reactions to Robot Conversational Failures* <i>Dimosthenis Kontogiorgos, Minh Tran, Joakim Gustafson, Mohammad Soleymani</i>
9:15-9:30	Modelling and Predicting Trust for Developing Proactive Dialogue Strategies in Mixed-Initiative Interaction <i>Matthias Kraus, Nicolas Wagner, Wolfgang Minker</i>
9:30-9:45	Recognizing Perceived Interdependence in Face-to-Face Negotiations through Multimodal Analysis of Nonverbal Behavior <i>Bernd Dudzik, Simon Columbus, Tiffany Matej Hrkalic, Daniel Balliet, Hayley Hung</i>
9:45-10:00	Recognizing Social Signals with Weakly Supervised Multitask Learning for Multimodal dialogue Systems <i>Yuki Hirano, Shogo Okada, Kazunori Komatani</i>
10:00-10:15	Decision-Theoretic Question Generation for Situated Reference Resolution: An Empirical Study and Computational Model <i>Felix Gervits, Gordon Briggs, Antonio Roque, Genki A. Kadomatsu, Dean Thurston, Matthias Scheutz, Matthew Marge</i>
10:15-10:30	Break
10:30-12:00	Oral session “Speech, Gesture and Haptics” Session Chair: Hayley Hung and Karon MacLean
10:30-10:45	Digital Speech Makeup: Voice Conversion Based Altered Auditory Feedback for Transforming Self-Representation <i>Riku Arakawa, Zendai Kashino, Shinnosuke Takamichi, Adrien Verhulst, Masahiko Inami</i>
10:45-11:00	Hierarchical Classification and Transfer Learning to Recognize Head Gestures and Facial Expressions Using Earbuds <i>Shkurta Gashi, Aaqib Saeed, Alessandra Vicini, Elena Di Lascio, Silvia Santini</i>
11:00-11:15	Integrated Speech and Gesture Synthesis <i>Siyang Wang, Simon Alexanderson, Joakim Gustafson, Jonas Beskow, Gustav Eje Henter, Éva Székely</i>
11:15-11:30	Co-Verbal Touch: Enriching Video Telecommunications with Remote Touch Technology <i>Angela Chan, Francis Quek, Takashi Yamauchi, Jinsil Hwaryoung Seo</i>
11:30-11:45	HapticLock: Eyes-Free Authentication for Mobile Devices <i>Gloria Dhandapani, Jamie Ferguson, Euan Freeman</i>
11:45-12:00	The Impact of Prior Knowledge on the Effectiveness of Haptic and Visual Modalities for Teaching Forces <i>Kern Qi, David Borland, Emily Brunsen, James Minogue, Tabitha C. Peck</i>
12:00-12:15	Break

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12:15-13:15	Blue Sky Special Session, Awards, and Moderated Audience Discussion Session Chair: <i>Sharon Oviatt</i>
12:15-12:35	Optimized Human-AI Group Decision Making: A Personal View <i>Alex Pentland</i>
12:35-12:55	Towards Sonification in Multimodal and User-friendly Explainable Artificial Intelligence <i>Björn Schuller, Tuomas Virtanen, Maria Riveiro, Georgios Rizos, Jing Han, Annamaria Mesaros, Konstantinos Drossos</i>
12:55-13:15	Dependability and Safety: Two Clouds in the Blue Sky of Multimodal Interaction <i>Philippe Palanque, David Navarre</i>
13:15-15:00	Lunch
15:00-17:00	Posters/Demos (Hybrid) Session Chair: <i>Nina Knieriemen</i>
	<p>Cross-modal Assisted Training for Abnormal Event Recognition in Elevators <i>Xinmeng Chen, Xuchen Gong, Ming Cheng, Qi Deng, Ming Li</i></p> <p>Towards Automatic Narrative Coherence Prediction <i>Filip Bendevski, Jumana Ibrahim, Tina Krulec, Theodore Waters, Nizar Habash, Hanan Salam, Himadri Mukherjee, Christin Camia</i></p> <p>TaxoVec: Taxonomy Based Representation for Web User Profiling <i>Qinpei Zhao, Xiongbaixue Yan, Yinja Zhang, Weixiong Rao, Jiangfeng Li, Chao Mi, Jessie Chen</i></p> <p>Approximating the Mental Lexicon from Clinical Interviews as a Support Tool for Depression Detection <i>Esaú Villatoro Tello, Gabriela Ramírez-de-la-Rosa, Daniel Gatica-Perez, Mathew Magimai Doss, Héctor Jiménez-Salazar</i></p> <p>Long-Term, in-the-Wild Study of Feedback about Speech Intelligibility for K-12 Students Attending Class via a Telepresence Robot <i>Matthew Rueben, Mohammad Syed, Emily London, Mark Camarena, Eunsook Shin, Yulun Zhang, Timothy S. Wang, Thomas R. Groechel, Rhianna Lee, Maja J. Mataric</i></p> <p>EyeMU Interactions: Gaze + IMU Gestures on Mobile Devices <i>Andy Kong, Karan Ahuja, Mayank Goel, Chris Harrison</i></p> <p>Multimodal User Satisfaction Recognition for Non-task Oriented Dialogue Systems <i>Wenqing Wei, Sixia Li, Shogo Okada, Kazunori Komatani</i></p> <p>Cross Lingual Video and Text Retrieval: A New Benchmark Dataset and Algorithm <i>Jayaprakash Akula, Abhishek, Rishabh Dabral, Preethi Jyothi, Ganesh Ramakrishnan</i></p> <p>Interaction Techniques for 3D-positioning Objects in Mobile Augmented Reality <i>Carl-Philipp Hellmuth, Miroslav Bachinski, Jörg Müller</i></p>

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	<p>Engagement Rewarded Actor-Critic with Conservative Q-Learning for Speech-Driven Laughter Backchannel Generation <i>Öykü Zeynep Bayramoglu, Engin Erzin, T. Metin Sezgin, Yucel Yemez</i></p> <p>Knowing Where and What to Write in Automated Live Video Comments: A Unified Multi-Task Approach <i>Hao Wu, Gareth James Francis Jones, Francois Pitie</i></p> <p>Tomato Dice: A Multimodal Device to Encourage Breaks during Work <i>Marissa A. Thompson, Lynette Tan, Cecilia Soto, Jaitra Dixit, Mounia Ziat</i></p> <p>Looking for Laughs: Gaze Interaction with Laughter Pragmatics and Coordination <i>Chiara Mazzocchi, Vladislav Maraev, Vidya Somashekarappa, Christine Howes</i></p> <p>Inflation-Deflation Networks for Recognizing Head-Movement in Face-to-Face Conversations <i>Kazuki Takeda, Kazuhiro Otsuka</i></p> <p>Perception of Ultrasound Haptic Focal Point Motion <i>Euan Freeman, Graham Wilson</i></p>
	<p>Sensorimotor Synchronization in Blind Musicians: Does Lack of Vision Influence non-verbal Musical Communication? <i>Erica Volta, Giulia Cappagli, Monica Gori, Gualtiero Volpe</i></p> <p>Group-Level Focus of Visual Attention for Improved Active Speaker Detection <i>Christopher Birmingham, Maja Mataric, Kalin Stefanov</i></p> <p>Knock&Tap: Classification and Localization of Knock and Tap Gestures using Deep Sound Transfer Learning <i>Jung-Hwa Kim, Jae-Yeop Jeong, Ha yeong Yoon, Jin-Woo Jeong</i></p> <p>How Do HCI Researchers Describe Their Software Tools? Insights From a Synopsis Survey of Tools for Multimodal Interaction <i>Mihail Terenti, Radu-Daniel Vatavu</i></p> <p>Multisensor-Pipeline: A Lightweight, Flexible, and Extensible Framework for Building Multimodal-Multisensor Interfaces <i>Michael Barz, Omair Shahzad Bhatti, Bengt Lüers, Alexander Prange, Daniel Sonntag</i></p> <p>Detecting Face Touching with Dynamic Time Warping on Smartwatches: A Preliminary Study <i>Yu-Peng Chen, Cehn Bai, Adam Wolach, Mamoun T. Mardini, Lisa Anthony</i></p> <p>Predicting Worker Accuracy from Nonverbal Behaviour: Benefits and Potential for Algorithmic Bias <i>Yuushi Toyoda, Gale Lucas, Jonathan Gratch</i></p>

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	<p>NLP-guided Video Thin-slicing for Automated Scoring of Non-Cognitive, Behavioral Performance Tasks <i>Chee Wee Leong, Xianyang Chen, Vinay Basheerabad, Chong Min Lee, Patrick Houghton</i></p> <p>Haply 2diy: An Accessible Haptic Platform Suitable for Remote Learning <i>Antoine Weill-Duflos, Nicholas Ong, Felix Desourdy, Benjamin Delbos, Steve Ding, Colin Gallacher</i></p>
17:00-18:00	<p>Demonstrations and Exhibits (Virtual) Session Chair: <i>Dan Bohus and Brandon Booth</i></p>
	<p>Multimodal Interaction in the Production Line - An OPC UA-based Framework for Injection Molding machinery <i>Ferdinand Fuhrmann, Anna Weber, Stefan Ladstätter, Stefan Dietrich, Johannes Rella</i></p> <p>Introducing an Integrated VR Sensor Suite and Cloud Platform <i>Kai-min Kevin Chang, Yueran Yuan</i></p> <p>Web-ECA: A Web-based ECA Platform <i>Fumio Nihei, Yukiko I. Nakano</i></p> <p>Combining Visual and Social Dialogue for Human-Robot Interaction <i>Nancie Gunson, Daniel Hernandez Garcia, Jose L. Part, Yanchao Yu, Weronika Sieińska, Christian Dondrup, Oliver Lemon</i></p> <p>Haply 2diy: An Accessible Haptic Platform Suitable for Remote Learning <i>Antoine Weill-Duflos, Nicholas Ong, Felix Desourdy, Benjamin Delbos, Steve Ding, Colin Gallacher</i></p> <p>NLP-guided Video Thin-slicing for Automated Scoring of Non-Cognitive, Behavioral Performance Tasks <i>Chee Wee Leong, Xianyang Chen, Vinay Basheerabad, Chong Min Lee, Patrick Houghton</i></p> <p>The EMPATHIC Virtual Coach: A Demo <i>Javier M. Olaso, Alain Vázquez, Jofre Tenorio-Laranga, Begoña Fernández-Ruanova, Eduardo González-Fraile, Kristin Beck Gjellesvik, Maria Stylianou Kornos, Anna Torp Johansen, Anna Esposito, Luigi Vinvitelli, Gennaro Cordasco, Aymen Mtibaa, Mohamed Amine Hman, Dijana Petrovska-Delacrétaz, Mikel de Velasco, Leila Ben Letaifa, Raquel Justo, Pau Buch-Cardona, Cristina Palmero, Sergio Escalera, César Montenegro, Asier López-Zorrilla, Roberto Santana, Jose Antonio Lozano, Olga Gordeeva, Olivier Deroo, Anaïs Fernández, Daria Kyslitska, Colin Pickard, Cornelius Glackin, Stephan Schlögl, Gérard Chollet, Gary Cahalane, María Inés Torres</i></p>
18:00-20:00	Awards Banquet (Via Zoom)
20:00-22:00	<p>Repeat posters (Virtual) Session Chair: <i>Nina Knieriemen</i></p>

Thursday, 21st October 2021

8:00-9:00	Keynote: <i>Susanne P. Lajoie</i> Session Chair: <i>Giovanna Varni and Guoying Zhao</i> Theory Driven Approaches to the Design of Multimodal Assessments of Learning, Emotion, and Self-Regulation in Medicine
9:00-10:20	Oral session “Behavioral Analytics and Applications” Session Chair: <i>Hung-Hsuan Huang and Philippe Palanque</i>
9:00-9:10	Conversational Group Detection with Graph Neural Networks <i>Sydney Thompson, Abhijit Gupta, Anjali W. Gupta, Austin Chen, Marynel Vázquez</i>
9:10-9:25	Attachment Recognition in School Age Children Based on Automatic Analysis of Facial Expressions and Nonverbal Vocal Behaviour <i>Huda Alsofyani, Alessandro Vinciarelli</i>
9:25-9:40	Characterizing Children’s Motion Qualities: Implications for the Design of Motion Applications for Children <i>Aishat Aloba, Lisa Anthony</i>
9:40-9:55	Temporal Graph Convolutional Network for Multimodal Sentiment Analysis <i>Jian Huang, Zehang Lin, Zhenguo Yang, Wenyin Liu</i>
9:55-10:10	Toddler-Guidance Learning: Impacts of Critical Period on Multimodal AI Agents <i>Junseok Park, Kwanyoung Park, Hyunseok Oh, Ganghun Lee, Minsu Lee, Youngki Lee, Byoung-Tak Zhang</i>
10:10-10:20	Self-supervised Contrastive Learning of Multi-view Facial Expressions <i>Shuvendu Roy, Ali Etemad</i>
10:20-10:30	Break
10:30-12:00	Oral session “Multimodal Ethics, Interfaces and Applications” Session Chair: <i>Mary Czerwinski and Mohamed Soleymani</i>
10:30-10:45	Bias and Fairness in Multimodal Machine Learning: A Case Study of Automated Video Interviews <i>Brandon M. Booth, Louis Hickman, Shree Krishna Subburaj, Louis Tay, Sang Eun Woo, Sidney K. D’Mello</i>
10:45-11:00	Impact of the Size of Modules on Target Acquisition and Pursuit for Future Modular Shape-changing Physical User Interfaces* <i>Laura Pruszkó, Yann Laurillau, Benoît Piranda, Julien Bourgeois, Céline Coutrix</i>
11:00-11:15	Why Do I Have to Take Over Control? Evaluating Safe Handovers with Advance Notice and Explanations in HAD <i>Frederik Wiehr, Anke Hirsch, Lukas Schmitz, Nina Knieriemen, Antonio Krüger, Alisa Kovtunova, Stefan Borgwardt, Ernie Chang, Vera Demberg, Marcel Steinmetz, Jörg Hoffmann</i>
11:15-11:30	Technology as Infrastructure for Dehumanization: Three Hundred Million People with the Same Face <i>Sharon Oviatt</i>
11:30-11:45	Investigating Trust in Human-Machine Learning Collaboration: A Pilot Study on Estimating Public Anxiety from Speech <i>Abdullah Aman Tutul, Ehsanul Haque Nirjhar, Theodora Chaspari</i>

* denotes a best paper award candidate

11:45-12:00	What's Fair is Fair: Detecting and Mitigating Encoded Bias in Multimodal Models of Museum Visitor Attention* <i>Halim Acosta, Nathan Henderson, Jonathan Rowe, Wookhee Min, James Minogue, James Lester</i>
12:00-12:15	Break
12:15-13:05	ICMI Open Public Forum Session Chair: <i>Zakia Hammal and Albert Ali Salah</i>
13:05-13:15	Ending Session
13:15-15:00	Lunch / Discussion
15:00-17:00	Posters (Hybrid)
	<p>Deep Transfer Learning for Recognizing Functional Interactions via Head Movements in Multiparty Conversations <i>Takashi Mori, Kazuhiro Otsuka</i></p> <p>Gaze-based Multimodal Meaning Recovery for Noisy/Complex Environments <i>Ozge Alacam, Eugen Ruppert, Ganeshan Malhotra, Chris Biemann</i></p> <p>Semi-supervised Visual Feature Integration for Language Models through Sentence Visualization <i>Lisai Zhang, Qingcai Chen, Joanna Siebert, Buzhou Tang</i></p> <p>Speech Guided Disentangled Visual Representation Learning for Lip Reading <i>Ya Zhao, Cheng Ma, Zunlei Feng, Mingli Song</i></p> <p>Enhancing Ultrasound Haptics with Parametric Audio Effects <i>Euan Freeman</i></p> <p>Mass-deployable Smartphone-based Objective Hearing Screening with Otoacoustic Emissions <i>Nils Heitmann, Thomas Rosner, Samarjit Chakraborty</i></p> <p>Intra- and Inter-Contrastive Learning for Micro-expression Action Unit Detection <i>Yante Li, Guoying Zhao</i></p> <p>HEMVIP: Human Evaluation of Multiple Videos in Parallel <i>Patrik Jonell, Youngwoo Yoon, Pieter Wolfert, Taras Kucherenko, Gustav Eje Henter</i></p> <p>Knowledge- and Data-Driven Models of Multimodal Trajectories of Public Speaking Anxiety in Real and Virtual Settings <i>Ehsanul Haque Nirjhar, Amir H. Behzadan, Theodora Chaspari</i></p> <p>Predicting Gaze from Egocentric Social Interaction Videos and IMU Data <i>Sanket Kumar Thakur, Cigdem Beyan, Pietro Morerio, Alessio Del Bue</i></p>

* denotes a best paper award candidate

	<p>Human-Guided Modality Informativeness for Affective States <i>Torsten Wörtwein, Lisa B. Sheeber, Nicholas Allen, Jeffrey F. Cohn, Louis-Philippe Morency</i></p> <p>Direct Gaze Triggers Higher Frequency of Gaze Change: An Automatic Analysis of Dyads in Unstructured Conversation <i>Georgiana Cristina Dobre, Marco Gillies, Patrick Falk, Jamie A. Ward, Antonia F. de C. Hamilton, Xueni Pan</i></p> <p>Online Study Reveals the Multimodal Effects of Discrete Auditory Cues in Moving Target Estimation Task <i>Katsutoshi Masai, Akemi Kobayashi, Toshitaka Kimura</i></p> <p>DynGeoNet: Fusion Network for Micro-expression Spotting <i>Thuong-Khanh Tran, Quang-Nhat Vo, Guoying Zhao</i></p> <p>Earthquake Response Drill Simulator based on a 3-DOF Motion base in Augmented Reality <i>Namkyoo Kang, SeungJoon Kwon, JongChan Lee, Sang-Woo Seo</i></p> <p>States of Confusion: Eye and Head Tracking Reveal Surgeons' Confusion during Arthroscopic Surgery <i>Benedikt Hosp, Myat Su Yin, Peter Haddawy, Ratthaphum Watcharopas, Paphon Sa-Ngasongsong, Enkelejda Kasneci</i></p> <p>Personality Prediction with Cross-Modality Feature Projection <i>Daisuke Kamisaka, Yuichi Ishikawa</i></p> <p>Attention-based Multimodal Feature Fusion for Dance Motion Generation <i>Kosmas Kritsis, Aggelos Gkiokas, Aggelos Pikrakis, Vassilis Katsourous</i></p> <p>Multimodal Approach for Assessing Neuromotor Coordination in Schizophrenia Using Convolutional Neural Networks <i>Yashish M. Siriwardena, Carol Espy-Wilson, Chris Kitchen, Deanna L. Kelly</i></p> <p>M2H2: A Multimodal Multiparty Hindi Dataset For Humor Recognition in Conversations <i>Dushyant Singh Chauhan, Gopendra Vikram Singh, Navonil Majumder, Amir Zadeh, Asif Ekbal, Pushpak Bhattacharyya, Louis-Philippe Morency, Soujanya Poria</i></p>
17:00-18:00	Break
18:00-20:00	Dinner
20:00-22:00	Repeat posters (Virtual)

Friday, 22nd October 2021

Half Day

2nd Workshop on Social Affective Multimodal Interaction for Health (SAMIH)

8:00-8:10	Opening remarks by workshop organizers
8:10-8:50	Keynote 1: <i>Dinesh Babu Jayagopi</i> Multimodal Analysis and Synthesis for Conversational Research
8:50-9:05	Social Robots to Support Gesture Imitation in Children with ASD <i>Berardina Nadja De Carolis, Nicola Macchiarulo, Francesca D'Errico, Giuseppe Palestra</i>
9:05-9:20	"You made me feel this way": Investigating Partners' Influence in Predicting Emotions in Couples' Conflict Interactions using Speech Data <i>George Boateng, Peter Hilpert, Guy Bodenmann, Mona Neysari, Tobias Kowatsch</i>
9:20-9:35	BERT meets LIWC: Exploring State-of-the-Art Language Models for Predicting Communication Behavior in Couples' Conflict Interactions <i>Jacopo Biggiogera, George Boateng, Peter Hilpert, Matthew Vowels, Guy Bodenmann, Mona Neysari, Fridtjof Nussbeck, Tobias Kowatsch</i>
9:35-9:50	Break
9:50-10:30	Keynote 2: <i>Takashi Kudo</i> The Point of Action where Cognitive Behavioral Therapy is Effective
10:30-10:45	A Framework for the Assessment and Training of Collaborative Problem-Solving Social Skills <i>Jennifer Hamet Bagnou, Elise Prigent, Jean-Claude Martin, Jieyeon Woo, Liu Yang, Catherine Achard, Catherine Pelachaud, Celine Clavel</i>
10:45-11:00	Multimodal Dataset of Social Skills Training in Natural Conversational Setting <i>Takeshi Saga, Hiroki Tanaka, Hidemi Iwasaka, Yasuhiro Matsuda, Tsubasa Morimoto, Mitsuhiro Uratani, Kosuke Okazaki, Yuichiro Fujimoto, Satoshi Nakamura</i>
11:00-11:30	Open discussion and closing remark

Friday, 22nd October 2021

Half Day

Workshop on modelling socio-emotional and cognitive processes from multimodal data in the wild

8:00-8:10	Opening remarks by workshop organizers
8:10 - 9:00	Keynote: <i>Valeria Villani</i> A Framework for Affect-Based Natural Human-Robot Interaction
9:00 - 9:20	Clustering of Physiological Signals by Emotional State, Race and Sex <i>Tempsett Neal, Khadija Zanna, Shaun Canavan</i>
9:20 - 9:30	Mindscape: Transforming Multimodal Physiological Signals into an Application Specific Reference Frame <i>Frederic Simard, Sayeed Kizuk, Pascal Fortin</i>

9:30 - 9:50	Addressing data scarcity in multimodal user state recognition by combining semi-supervised and supervised learning <i>Hendrik Voß, Heiko Wersing, Stefan Kopp</i>
9:50 - 10:00	Neuromuscular Performance and Injury Risk Assessment Using Fusion of Multimodal Biophysical and Cognitive Data <i>Ehsan Sobhani, Kian Jaleleddini, Nerea Urrestilla, Rachid Aissaoui, David St-Onge</i>
10:00 - 10:20	Coffee Break
10:20 - 10:40	Meta-learning for Emotion Prediction from EEG while Listening to Music <i>Kana Miyamoto, Hiroki Tanaka, Satoshi Nakamura</i>
10:40 - 10:50	Towards Human-in-the Loop Autonomous Multi-Robot Operations <i>Marcel Kaufmann, Katherine Sheridan, Giovanni Beltrame</i>
10:50 - 11:10	Towards Reliable Multimodal Stress Detection under Distribution Shift <i>Andreas Foltyn, Jessica Deuschel</i>
11:10 - 11:30	Panel discussion and closing remarks

Friday, 22nd October 2021

Half Day

2nd ICMI Workshop on Bridging Social Sciences and AI for Understanding Child Behaviour

09:00-10:00	Keynote: <i>Alessandro Vinciarelli</i> Session Chair: <i>Heysem Kaya</i> Attachment Recognition in School Age Children
10:00-11:00	Keynote: <i>Sibel Halfon</i> Session Chair: <i>Albert Ali Salah</i> Mentalization Characteristics of School-Age Children with Clinical Problems
11:00-11:10	Break
11:10-11:25	Automatic Analysis of Infant Engagement During Play: An End-to-End Learning and Explainable AI Pilot Experiment <i>Marc Fraile, Joakim Lindblad, Christine Fawcett, Nataša Sladoje, Ginevra Castellano</i>
11:25-11:45	Recording the Speech of Children with Atypical Development: Peculiarities and Perspectives <i>Elena Lyakso, Olga Frolova</i>
11:45-12:00	Measuring Frequency of Child-directed WH-Question Words for Alternate Preschool Locations using Speech Recognition and Location Tracking Technologies <i>Prasanna Kothalkar, Sathvik Datla, Satwik Dutta, Yagmur Seven, Dwight Irvin, Jay Buzhardt, John Hansen</i>

Friday, 22nd October 2021

Half Day

GENEA Workshop 2021: Generation and Evaluation of Non-verbal Behaviour for Embodied Agents

8:00-8:10	Opening statement Session Chair: <i>Taras Kucherenko</i>
8:10-8:50	Keynote 1: <i>Hatice Gunes</i> Session Chair: <i>Taras Kucherenko</i> Data-driven Robot Social Intelligence
8:50-9:05	Probabilistic Human-like Gesture Synthesis from Speech using GRU-based WGAN <i>Bowen Wu, Chaoran Liu, Carlos Ishi, Hiroshi Ishiguro</i>
9:05-9:20	Influence of Movement Energy and Affect Priming on the Perception of Virtual Characters Extroversion and Mood <i>Tanja Schneeberger, Fatima Ayman Aly, Daksitha Withanage Don, Katharina Gies, Zita Zeimer, Fabrizio Nunnari, Patrick Gebhard</i>
9:20-9:35	Crossmodal clustered contrastive learning: Grounding of spoken language to gesture <i>Dong Won Lee, Chaitanya Ahuja, Louis-Philippe Morency</i>
9:35-9:50	Break
9:50-10:30	Keynote 2: <i>Louis-Philippe Morency</i> Session Chair: <i>Zerrin Yumak</i> Multimodal AI: Learning Nonverbal Signatures
10:30-10:45	Break
10:45 - 10:50	Reproducibility Award announcement Session Chair: <i>Patrik Jonell</i>
10:50 - 11:50	Group discussions Session Chair: <i>Gustav Eje Henter</i>
11:50 - 11:55	Closing remarks Session Chair: <i>Taras Kucherenko</i>

Friday, 22nd October 2021

Half Day

Empowering Interactive Robots by Learning Through Multimodal Feedback Channels

8:00-8:10	Opening Remarks
08:10-08:50	Keynote: <i>Judith Holler</i>
08:50-09:05	When a Voice Assistant Asks for Feedback: An Empirical Study on Customer Experience with A/B Testing and Causal Inference Methods <i>Yuqi Deng, Sudeeksha Murari</i>
09:05-09:20	Break

09:20-10:00	Keynote: <i>Georgia Chalvatzaki</i>
10:00-10:15	Uncertainties Based Queries for Interactive Policy Learning with Evaluations and Corrections <i>Carlos Celemin, Jens Kober</i>
10:15-10:30	Category-Independent Distributional Estimation of Object Articulation Models <i>Ajinkya Jain, Stephen Giguere, Rudolf Lioutikov, Scott Niekum</i>
10:30-10:45	Break
10:45-11:25	Keynote: <i>Heni ben Amor</i>
11:25-11:55	Panel Discussion/Breakout rooms
11:55-12:00	Closing

Nearby Information

Restaurants:

- [Modavie](#)
- [Le Cartet Resto Boutique](#)
- [Helena](#)
- [Pyrénées](#)
- [Restaurant L'Original](#)

Attractions:

- [Old Port of Montreal](#)

362 de la Commune Street East

ICMI participants will benefit from a 10% discount to take a spin on La Grande Roue de Montréal (Ferris Wheel) from the regular price by clicking on the link below and entering the following promo code: [ICMI2021](#)

Individual ticket: \$25.87, tax incl.

Take a spin on La Grande Roue de Montréal, an exhilarating way to see Montréal differently.

Open year round, rain or shine, La Grande Roue de Montréal is the highest observation wheel in Canada. Rising 60 metres tall above the Old Port, each 20-minute rotation affords sweeping, 360-degree views spanning 28 kilometres on a clear day.

- [MTL ZIPLINE](#)

Hangar 16, 363 de la Commune Street East

Individual ticket: \$23.08, tax incl.

Montréal Zipline offers you a thrilling experience while discovering Montreal from a bird's eye view.

- [Mount Royal](#)

- [Jet Boating](#)

1 Clock Tower Quay Street (at the Clock Tower Pier)

Individual ticket: \$74.68, tax incl.

Quite possibly the world's greatest city boat tour! This 1-hour ride on the St-Lawrence River is Montréal's most refreshing activity: wet, wild, wonderful, and should not be missed by anyone!

- [AML Dinner Cruise](#)

ICMI participants will benefit from a special rate (approximately 10%-20% discount, depending on the package). To reserve the dinner cruise at these special rates, please contact Roxane Lalieux directly at 514-842-9300 ext: 2226 or by email at rlalieux@croisieresaml.net and reference ICMI and Tourisme Montréal.

- [BATEAU MOUCHE](#)

Jacques-Cartier Pier

Pricing varies based on cruise type and duration. Visit their website for complete information.

- [Walking Tours With 16/42](#)
Tour rates start at \$30.00, tax incl.
Venture step by step through Montréal's most popular neighbourhoods with 16/42 Tours, specialists in exploring Montréal differently.
- [Guidatour](#)
Tour ticket: \$25.00, tax incl.
Daily tours of Old Montréal on fixed schedules with guaranteed departures for individuals are available year-round.
- [Fitz And Follwell](#)
Tour rates start at \$39 but varies depending on tour type and duration. Visit their website for complete information.
Take off on foot or grab a bike and tour Montréal with a friend for a day.
- [Montreal On Wheels](#)
Tour rates start at \$55.00 but varies depending on tour type and duration. Visit their website for complete information.
Montréal is a bike-friendly city with benefits: unique bike tours organized by Montréal on Wheels provide a different and most pleasurable way to discover the city.
- [MONTRÉAL Musuem of Fine Arts](#)
1380 Sherbrooke Street West
Ticket price: \$27.70, tax incl. Additional fees may apply for special exhibitions.
- [POINTE-À-CALLIÈRE, MONTRÉAL ARCHAEOLOGY AND HISTORY COMPLEX](#)
350 Place Royal, Old Montréal
Ticket price: \$24.00, tax incl.
- [MUSÉE D'ART CONTEMPORAIN](#)
185 Sainte-Catherine Street West
Ticket price: \$10.00 tax incl.
- [Montreal Museum of Archaeology and History](#)
- [Notre-Dame Basilica of Montreal](#)
- [McCord Musuem](#)
690 Sherbrooke Street West
Ticket price: \$19.00, tax incl.