



# CALL FOR PAPERS



## ORGANIZATION COMMITTEE

### General Co-Chairs

**Amir Asif**

Concordia University, Canada

**Arash Mohammadi**

Concordia University, Canada

### Technical Program Chair

**Yingxu Wang**

University of Calgary, Canada

### Technical Program Vice-Chairs

**Lucio Marcenaro**

University of Genova, Italy

**S. Farokh Atashzar**

New York University, USA

### Special Sessions Co-Chairs

**Mark Coates**

McGill University, Canada

**Malika Meghjani**

Singapore University of Technology and Design, Singapore

### Local Arrangements Co-Chairs

**Warren Gross**

McGill University, Canada

**Farnoosh Naderkhani**

Concordia University, Canada

### Finance Chair

**Fabrice Labeau**

McGill University, Canada

### Publicity Co-Chairs

**Lina Karam**

Arizona State University, USA

**Marcelo Bruno**

University of Calgary, Canada

### Publications Co-Chairs

**Svetlana Yanushkevich**

University of Calgary, Canada

**Neda Nategh**

University of Utah, USA

### Workshop Chair

**Marina L. Gavrilova**

University of Calgary, Canada

### Industry Liaison Co-Chairs

**Mohammad Faghani**

PricewaterhouseCoopers, Canada

**Morgan Kernohan**

Canadian Pacific, Canada

### Award Chair

**Saif Zahir**

University of British Columbia, Canada

## TOPIC AREAS

The 1<sup>st</sup> IEEE International Conference on Autonomous Systems (ICAS 2021) will take place in Montréal, Québec, Canada on August 11-13, 2021. The IEEE ICAS 2021 will be a premier international forum for presenting the technological advances and research results in the fields of theoretical, experimental, and applied Autonomous Systems (AS). Original papers are invited from multidisciplinary, interdisciplinary and transdisciplinary perspectives on subject topics in Autonomous Systems including, but not limited to, the following:

### THEORETICAL FOUNDATIONS OF AS

- » Intelligent Foundations of AS
- » System Foundations of AS
- » Mathematical Foundations of AS
- » Computational Foundations of AS
- » Brain Science Foundations of AS
- » Cognitive Foundation of AS
- » Bottlenecks of Adaptive Systems
- » Indeterministic & Uncertainty Behaviors of AS
- » Interaction Between Humans and AS
- » Autonomous Computing Platforms
- » Neurological Foundations of AS
- » Signal Processing Theories of AS

### EMERGING FIELDS OF AS

- » Autonomous Computers
- » Autonomous Algorithms
- » Brain-inspired AS
- » Machine Learning
- » Autonomous IoTs
- » Self-driving Vehicles and Vessels
- » Autonomous Robots
- » Real-time AS
- » Autonomous Unmanned Systems
- » Trustworthiness of AS
- » Mission Critical Systems
- » Autonomous Perception/Computer Vision

### AS ENGINEERING

- » Applied Paradigms of AS
- » Autonomous Programming
- » Cognitive Inference Engines
- » Autonomous Robots
- » Distributed AS
- » Embedded AS
- » Communications among AS
- » Communications Between AS and Humans
- » Autonomous Operating Systems
- » Autonomous Sensors
- » Autonomous Swarms
- » Social AS

The following special tracks will also accept papers from the main submissions:

**Autonomous Medical Robotic Systems**, Co-Chairs: Dario Farina (UK), Mahdi Tavakoli (Canada) and S. Farokh Atashzar (US)

**Security and Resilience of Autonomous Cyber-Physical Systems**, Co-Chairs: Deepa Kundur (Canada) and Mohammad Al Janaideh (Canada)

**Autonomous Control Systems**, Co-Chairs: Dr. Giuseppe Franze (Italy) and Walter Lucia (Canada)

**Autonomous Transportation Systems**, Co-Chairs: Chun Wang (UK) and Anjali Awasthi (Canada)

**Signal Processing for Self Aware and Social Autonomous Systems**, Co-Chairs: Usman Khan (USA) and Hoi-To Wai (Hong Kong)

## IMPORTANT DATES

**March 31, 2021**  
Paper Deadline

**April 25, 2021**  
Special Session -  
Special Track Deadline

**May 21, 2021**  
Notification Paper  
Acceptance

**June 1, 2021**  
Final Submission of  
Accepted Papers