



PROGRAM

2021 CCToMM Symposium on Mechanisms, Machines, and Mechatronics

Oshawa, Ontario, Canada
June 3-4, 2021

The 2021 CCToMM M³ Symposium will take place virtually on Google Meet. The link for all sessions is:

<http://meet.google.com/qrk-qmtf-pgk>

Dial-in: (CA) +1 604-774-3593 PIN: 575 342 341#

Program at a Glance

All times Eastern Daylight Time (EDT)

Thursday, June 3, 2021

9:45 – 10:00	Welcome
10:00 – 11:40	Session I: Mechanisms
13:00 – 14:20	Session II: Mobile Robots and Education
15:30 – 16:10	Session III: 2020 USCToMM Symposium on Mechanical Systems and Robotics Papers

Friday, June 4, 2021

10:00 – 11:40	Session IV: Grippers and Kinematics
11:40 – 12:00	Closing
13:00 – 16:00	CCToMM Annual General Meeting

Thursday, June 3, 2021

Welcome

9:45 - 10:00

Conference Co-Chairs: Scott Nokleby, Ontario Tech University and Philippe Cardou, Université Laval

Session I: Mechanisms

10:00 - 11:40

Chair: Lionel Birglen, Polytechnique Montréal

P01 - "Mobility Classification in the Design Parameter Space of Spherical 4R Linkages"
M. John D. Hayes and Mirja Rotzoll

P08 - "Concurrent Type and Dimensional Continuous Approximate Function Generator Synthesis for all Planar Four-bar Mechanisms"
Zachary Copeland, Mirja Rotzoll, and M. John D. Hayes

P13 - "Interactive Visualization of Spherical Triangles"
Pierre Larochelle

P03 - "Planar RRRP Mechanism Design Parameter Space"
Alia Nichol, Mirja Rotzoll, and M. John D. Hayes

P04 - "A General Method for Determining Algebraic Input-Output Equations for the Slider-Crank and the Bennett Linkage"
Mirja Rotzoll and M. John D. Hayes

Session II: Mobile Robots and Education

13:00 - 14:20

Chair: Eric Lanteigne, University of Ottawa

P06 - "Gait Simulation of an Hexapodal Robot Walking Across Various Terrains"
Antoine Sion, Lionel Birglen, and Alain Vande Wouwer

P12 - "Multi-Robot Exploration of Unknown Environments"
Lillian Goodwin and Scott Nokleby

P09 - "Albatross: An Autonomous, Electric Multirotor for Personal Transportation"
Cody Blocker, Joshua Gross, Evan Steers, Andrew Hanshaw, Nathan Sydow, Todd Letcher, and Marco Ciarcia

P07 - "An Examination of Psychosocial Academic Challenges for Engineering and Design Post-Secondary Students During COVID-19"
Senah Qwai, Lindsay Richardson, and John Hayes

Session III: 2020 USCToMM Symposium on Mechanical Systems and Robotics Papers

15:30 - 16:10

Chair: John Hayes, Carleton University

“A Wearable Joint Sensing Device Based on the Inverted Slider Crank”

Jun Liang Lau and Gim Song Soh

“Cylinder Deactivation and Propulsion Electrification”

Neeraj Shidore and Madhusudan Raghavan

Friday, June 4, 2021

Session IV: Grippers, Manipulators, and Dynamics

10:00 - 11:40

Chair: Marc Arsenault, Laurentian University

P10 - “A Single-Actuator Adaptive Gripper with An Integrated Suction Cup”

Julien Courchesne and Philippe Cardou

P11 - “Point-Spring Modeling of the Grasp of a Deformable Object by an Angular Gripper”

Nicolas Mouazé and Lionel Birglen

P05 - “Kinematic Analysis of Planar Cable-Driven Robots with Parallelogram Links”

Nasrollah Khodadadi, M. Isaac Hosseini, S. Ahmad Khalilpour, Hamid Taghirad, and Philippe Cardou

P02 - “The Tangent Stiffness Matrix of a Constant Velocity Joint”

Bruce Minaker

A01 - “Modelling of a Hydrodynamically Actuated Manipulator Based on 3-D Strip Theory”

R. Santiesteban Cos, J. A. Carretero, and J. Sensinger

Closing

11:40 - 12:00

Conference Co-Chairs: Philippe Cardou, Université Laval and Scott Nokleby, Ontario Tech University

CCToMM Annual General Meeting

13:00 - 16:00