

Workshop of the European Control Conference - ECC2022

Rigidity Theory applied to Dynamic Systems from Parallel Robots to Multi-Agent Formations

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Workshop Program (UK local time)

First Part

08.30-08.45 **Welcome**

08.45-09.15 *Angle rigidity theory, convex polyhedra and robotic formation movement*

Ming Cao

Faculty of Science and Engineering, University of Groningen, Groningen, The Netherlands
[virtual](#)

09.15-09.45 *An introduction to rigidity theory for localization and formation control of multiple robots*

Paolo Robuffo Giordano

IRISA and Inria Rennes Bretagne Atlantique, CNRS, Rennes France
[virtual](#)

09.45-10.15 *Cooperative Manipulation via Internal Force Regulation: A Rigidity Theory Perspective*

Christos Verginis

Division of Signals and Systems, Department of Electrical Engineering, Uppsala University, Uppsala, Sweden [virtual](#)

10.15-10.45 **Coffee Break**

10.45-11.15 *Dynamics control of bearing-rigid formations*

Isabelle Fantoni

Université de Technologie de Compiègne-CNRS, Compiègne, France
[in person](#)

11.15-11.45 *An introduction to bearing rigidity-based formation control*

Giulia Michieletto

Department of Management and Engineering, University of Padova, Padova, Italy
[in person](#)

11.45-12.00 **Conclusions**

Second Part

13.30-14.00 *Heterogeneous formation control in presence of noisy measurements*

Angelo Cenedese

Department of Information Engineering, University of Padova, Padova, Italy

[in person](#)

14.00-14.30 *Symmetry Preserving Formation Control*

Daniel Zelazo

Faculty of Aerospace Engineering, Israel Institute of Technology, Haifa, Israel

[in person](#)

14.30-15.00 *On the links between bearing-rigid formations and parallel robots*

Sébastien Briot

Laboratoire des Sciences du Numérique de Nantes, CNRS, Nantes France

[in person](#)

15.00-15.30 **Coffee Break**

15.30-16.00 *Modeling and control of the Fly-Crane: a cable suspended parallel aerial multi-robot system with a rigid structure*

Antonio Franchi

Faculty of Electrical Engineering, Mathematics & Computer Science, University of Twente, Enschede, The Netherlands

[virtual](#)

16.00-16.30 *Underactuated Cable-Driven Parallel Robots: dealing with unconstrained freedoms*

Edoardo Idà

Department of Industrial Engineering, University of Bologna, Bologna, Italy

[virtual](#)

16.30-17.00 **Discussion and Conclusions**