# Newsletter n°2 of the IFAC TC 2.6 on Distributed Parameter Systems

The aim of this technical committee is to foster developments of both theoretical approaches and emerging applications in the field of **Distributed Parameter Systems** (DPS) i.e. infinite dimensional systems described by partial differential equations (PDEs) or delays. The positioning of this Technical Committee is clearly at a control system theory level and aims at addressing various topics such as: modelling, analysis, estimation, simulation, observation, and control, taking all the specificities of the infinite dimension into account.

Feel free to send us your updates, announcements, job-offers etc., and we shall include them in future newsletters.

## Awards



**Drew Steves** was just awarded the SICON Best Paper Prize for his paper "Controllability of Coupled Parabolic Systems with Multiple Underactuations," Part 1: "Algebraic Solvability" and Part 2: "Null Controllability," SICON (2019), Volume 57, Issue 5, pp. 3272-3321.

SIAM awards the SIAM Activity Group on Control and Systems Theory Best SICON Paper Prize every two years to the author or authors of the two best papers, as determined by the prize committee, published in SIAM Journal on Control and Optimization (SICON) in the three calendar years preceding the award year.

The selection committee for the 2021 award consists of: Francois Dufour (Chair), University of Bordeaux; Pauline Barrieu, London School of Economics; Fariba Fahroo, AFOSR; Rafal Goebel, Loyola University Chicago; and Chao Zhu, University of Wisconsin-Madison.

The prize will be awarded at the 2021 SIAM Conference on Control and Its Applications (CT21), scheduled for Spokane, Washington, to be held in a hybrid or virtual format, July 19 – 21, 2021.

## Upcoming events

- American Control Conference (ACC), New Orleans, Louisiana, USA, May 26-28, 2021.
- SIAM Conference on Control and Its Applications, Spokane, Washington USA, June 19-21, 2021.
- European Control Connference, Rotterdam, The Netherlands, June 29 – July 2, 2021.
- 12th Workshop on Control of Ditributed Parameter Systems, Warwick, UK, August 16-20, 2021 (to be confirmed)
- 24th International Symposium on Mathematical Theory of Networks and Systems (MTNS), Cambridge, UK, August 23-27, 2021.
- 3rd IFAC Conference on Modelling, Identification and Control of Nonlinear Systems MICNON 2021, Tokyo, Japan, September 15-17, 2021.
- 7th IFAC Workshop on Lagrangian and Hamiltonian Methods for Non Linear Control Berlin, Germany, October 16-18, 2021 (to be confirmed)
- 60th IEEE Conference on Decision and Control Austin, USA, December 13-15, 2021.

## Ongoing virtual seminars

- The online seminar **Control in Times of Crisis**. This scientific activity is a continuation of the seminar Control en Tiempos de Crisis, this time addressing the international community interested in mathematical problems dealing with control of differential equations, inverse problems and related subjects. The seminar take place on Thursday at 17:00 H Central European Time (UTC+2), in the platform Zoom, and alternates talks of senior and junior researchers. http://ctcseminar.mat.utfsm.cl/

- The **DPS Online Seminar** aims to foster collaboration and contact between people working on control and estimation of DPS. Speakers don't necessarily need to present only new, cutting edge results, but can introduce an active (or prospective) area of research. This seminar is open both for senior researchers and early-career researchers who wish to have an opportunity to present their work. The Seminar is hosted online on Zoom every other Tuesday 17-18 (Paris-Madrid-Berlin Time), 8-9 am (PDT), 11 am-12 pm (EDT). http://aero.us.es/DPSOnlineSeminar/Seminar.html

- The **CCA seminars** are organized in the context of the Chair in Applied Analysis – Alexander von Humboldt Professorship led by Enrique Zuazua at FAU Erlangen-Nürnberg. https://caa-avh.nat.fau.eu/upcoming-events/

- **LIASFMA International Graduate School on Applied Mathematics.** The first season of this international school will start from April, 2021. There will be two 8-hour courses on "**Control of PDEs**" given by Sylvain Ervedoza (CNRS, Senior Reseacher) and Christophe Prieur (CNRS, Senior Reseacher).

Web page: https://tc.ifac-control.org/2/6

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## Special issues

Systems and Control Letters - **Recent Advances on Infinite Dimensional Systems - Dedicated to Ruth F. Curtain**
Edited by Hans Zwart, Christophe Prieur, Orest V. Iftime
https://www.sciencedirect.com/journal/systems-and-control-letters/special-issue/1056FGZWRZ3

IMA Journal of Mathematical Control and Information - **Recent trends on Lagrangian and Hamiltonian methods for non-linear and distributed parameter**
Edited by Yann Le Gorrec, Hector Ramirez, Arjan van der Schaft
https://academic.oup.com/imamci/pages/special-issue-lagrangian-and-hamiltonian-methods

## Recently published books

**Stabilization of Distributed Parameter Systems: Design Methods and Applications (2021)**
Editors: **Sklyar**, Grigory, **Zuyev**, Alexander (Eds.)
ICIAM 2019 SEMA SIMAI Springer Series
Springer International Publishing
135 pages
ISBN 978-3-030-61742-4

## Focus on research projects

**ERC – DyCon: Dynamic Control Project (2016-2022)**
https://cmc.deusto.eus/erc-dycon/

Main topics: **Control of Partial Differential Equations (PDE)** and their **numerical approximation methods**.
**PI: Enrique Zuazua**

**ITN CONFLEX : Control of flexible structures with interaction with fluids (2016-2021)**
https://www.conflex.org/

Main topics: **Modelling and control** of **flexible structures** and **fluid structure interactions**.

**ERC – PortWings : Understanding the secrets of flapping flight**
http://www.portwings.eu/

Main topics: **Modelling and control** of **flexible structures** and **fluid structure interactions**.

## PhD and Postdoctoral positions:

- FAU Erlangen-Nürnberg
  Hyperbolic and parabolic dynamics on networks and random batch methods for control.
  https://caa-avh.nat.fau.eu/phd-and-postdoc-positions-in-applied-mathematics/ **Deadline: 01/07/2021**

- University of Waterloo, Canada
  Control and estimation of partial differential equations.
  https://tc.ifac-control.org/2/6/job-offers  **Deadline: 15/06/2021**

## Recently graduated Ph.D students:

- **Andrea Mattioni**, « *Modelling and stability analysis of flexible robots: a distributed parameter port-Hamiltonian approach* Université » University  Bourgogne Franche-Comté, April 2021.

## The IFAC TC 2.6 on Social Networks

- **Tweeter @6Ifac**
- **Facebook  IFAC TC 2.6**

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