

Newsletter n°5 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.

Next TC 2.6 Workshops – CPDE 2025 and CPDE 2028

Following the presentations and discussions that took place during the last TC meeting in Yokohama during the IFAC World Congress 2023 it has been decided to organize the next CPDE in Beijing in 2025 and the 2028 edition in Valparaiso Chile.

CPDE 2025 Beijing China, June 2025

June 15-17, IFAC Summer School on Control of DPS, June 18-20 Joint IFAC/IEEE CSS Workshop CPDE and CDPS 2025

NOC: L. Zhang, J. Zhan. IPC: C. Prieur, T. Meurer

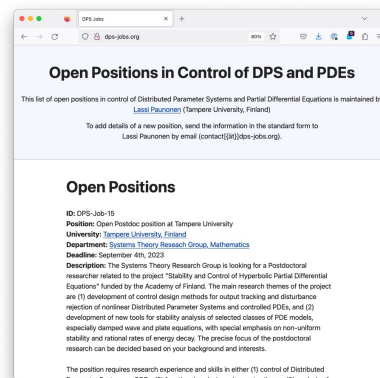
CPDE 2028 Valparaiso Chile

NOC: H. Ramirez, E. Cerpa, A. Mercado. IPC: L. Pounonen, Y. Le Gorrec

JOB OFFERS

A dedicated website dedicated to job/phd/post-doc positions has been setup jointly with the IEEE CSS TC on DPS :

- Launched in 2023
- Available at <http://dps-jobs.org>
- For posting positions, send email to contact@dps-jobs.org



Upcoming events

- EECI Graduate School on Control (www.eeci-igsc.eu)
 - MO2. March, 4-8, Rome Italy. Dissipativity in Optimal Control - Turnpikes, Predictive Control, and Uncertainty (Lars Grune, Timm Faulwasser)
 - MO3. April, 8-12, Besançon France. Modeling and control of distributed parameter systems: the Port Hamiltonian Approach (Yann Le Gorrec, Hans Zwart)
 - M10. May, 20-24, Montpellier France. Control Of Biological Systems: From The Cell to the environment (Denis Dochain)
 - M18. July, 01-05, Dubrovnik. Control and Machine Learning (Martin Lazar, Enrique Zuazua)
- 2nd Brig Workshop on Dissipativity in Systems and Control, May 21-24, 2024, Brig, Switzerland
- IFAC Workshop on Lagrangian and Hamiltonian Methods for Non Linear Control LHMNC24 June 10-12, Besançon France
- European Control Conference June 25-28, Stockholm, Sweden
- American Control Conference, July 6-12, Toronto Canada
- IFAC Workshop MICNON September 4-6, Lyon, France
- Symposium MTNS, August 19-23, Cambridge, UK
- Workshop "Methods and Algorithms for the Control of Complex Systems". August 27-29, 2024, Banyuls, France
- IEEE CSS Conference on Decision and Control December 16-19, Milan Italy
 - Invited session on Flow systems (Shu-Xia Tang and Mamamdou Diagne)

FOCUS on Marie Skłodowska-Curie Project MODCONFLEX

The kickoff meeting of Marie Skłodowska-Curie Project ModConflex "Modelling and control of flexible structures interacting with fluids" took place at The university of Twente from 13 to 18 November 2023. The main aim of the Europe Horizon MSCA project is to train 14 PhD students in state of the art research in mathematics and/or engineering in an international context. After a one day kick-off meeting with many project participants - including supervisors from seven different universities and one industrial partner - 12 already recruited researchers receive their first five days of training given by experts from industry and academia. The main workplace of the researchers will be universities in five different countries, with several months of research abroad at partner universities and industrial partners. For more information on the project (including one still open position at Tel Aviv university) please refer to <https://modconflex.uni-wuppertal.de>. The second meeting took place in Anglet, France from June 18 to June 21.



FOCUS on IFAC Workshop LHMNC24

The 8th IFAC Workshop on Lagrangian and Hamiltonian Methods for Nonlinear Control (LHMNC 2024) took place in Besançon, France, from June 10 to June 12, 2024. It brought together control experts from different areas to exchange ideas on physical structures as the foundation of versatile design methods, discuss new approaches for modeling, analysis, and control design, and present state-of-the-art results on applications to complex dynamical engineering systems.

The LHMNC 2024 received contributions from 23 countries across 4 continents, and its final program consisted of two parallel sessions with a total of 63 presentations: 57 corresponded to regular or invited papers, 2 to discussion papers, and 4 to plenary presentations. Six invited sessions were organized, gathering 32 papers on the topics of "Geometric Observers and Geometric Mechanics," "Geometric Mechanics and Control," "Learning-Based Physics-Enhanced Mechanical Systems and Control," "Energy-Based Modeling and Simulation for Audio and Musical Acoustics," "Energy-Based Methods for Modeling and Control of Physical Systems," and "Structure-Preserving Numerical Methods for Port-Hamiltonian Systems."



The LHMNC 2024 largely succeeded in providing a rich environment for the exchange of novel and disruptive ideas, the friendly and stimulating socialization of students, practitioners, and academics, and the creation and consolidation of research collaborations.

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TC Awards

- The IEEE TC DPS Outstanding Student Paper Prize was awarded in 2023 to Suha Shreim for the paper Input-output stability of a reaction-diffusion equation with in-domain disturbances by S. Shreim, F. Ferrante, C. Prieur, presented at CDC 2022. Selection Committee: M. Demetriou, M. Krstic, L. Pounonen, T. Meurer. The next award will be given based on the nominations of papers presented at CDC2023 !
- IFAC TC 2.6 Award (Ruth Curtain Award) for outstanding contributions to the control of partial differential equations. M. Krstic will chair the next TC Award Committee (2025)

Ongoing virtual seminars

- **CCA seminars.** 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/>
- **Advanced Seminar of the Chair of Dynamical Systems at the University of Passau** <https://www.fim.uni-passau.de/en/dynamical-systems/research-seminar-dynamical-systems/>
- **Port-Hamiltonian Online Seminar (pHOne)** University of Wuppertal <https://www.fan.uni-wuppertal.de/de/port-hamiltonian-online-seminar-phone/>