

Alberto Padoan

www.albertopadoan.com

Research interests

Nonlinear dynamics, robust and geometric control theory, mathematical biology, robotics

Postdoctoral experience

- 2017–2020 **Research Associate** *University of Cambridge & Sidney Sussex College, Cambridge, UK.*
Postdoctoral position on robust neuro-inspired control.
Supervisor: R. Sepulchre (University of Cambridge).

Education

- 2013–2017 **Ph.D. Degree in Control Theory** *Imperial College London, London, UK.*
Thesis: "Geometric methods for modelling and identification of nonlinear systems".
Supervisor: A. Astolfi (Imperial College London).
- 2011–2013 **Laurea in Ingegneria dell'Automazione** *University of Padova, Padova, Italy.*
Thesis: "Model reduction for ZIP systems". Grade: 110/110 *cum laude*.
Supervisors: M. E. Valcher (University of Padova), A. Astolfi (Imperial College London).
- 2008–2011 **Laurea in Ingegneria dell'Informazione** *University of Padova, Padova, Italy.*
Thesis: "Periodic behavior of nonlinear one-dimensional systems". Grade: 108/110.
Supervisor: E. Fornasini (University of Padova).

Honours and awards

- 2020 **Eryl Cadwallader Davies Prize** Imperial College London.
Departmental prize awarded to the best PhD thesis of the academic year 2017/2018.
- 2018 **Control & Automation Doctoral Dissertation Prize** Institution of Engineering and Technology (IET).
Awarded to the best PhD thesis in the area of Control and Automation at a British university.
- 2017 **Best Graduate Teaching Assistant - Shortlisted (top 5)** Imperial College London.
Awarded to recognise outstanding teaching practice among all doctoral students of the college.
- 2014 **Someda Prize** Associazione Elettrotecnica Italiana (AEIT).
Awarded to the best master thesis in the area of Electrical Engineering at an Italian university.

Research experience

Visiting positions

- Oct-Nov 2018 **Visiting scholar** *Lund University, Lund, Sweden.*
Visited Lund Center for Control of Complex Engineering Systems for a LCCC Focus Period, hosted by A. Rantzer.
- Mar-Sep 2013 **Visiting student** *Imperial College London, London, UK.*
Visited Control and Power group to develop a master thesis, advised by A. Astolfi and funded by Erasmus scholarship.

Selected conference presentations, seminars and invited talks

- Jul 2020 *20th IFAC World Congress, Berlin, Germany (Virtual).*
- Dec 2019 *58th IEEE Conference on Decision and Control, Nice, France.*
- Nov 2019 *Seminar at Bristol Robotics Laboratory, University of Bristol, Bristol, UK.*
- Aug 2019 *11th IFAC Symposium on Nonlinear Control Systems, Vienna, Austria.*
- Apr 2019 *Seminar at ArcaK Laboratory, University of Berkeley, Berkeley, CA, USA.*
- Dec 2018 *Seminar at Control, Dynamics and Robotics Laboratory, University of Manchester, Manchester, UK.*
- Nov 2018 *Invited talk at Center for Control of Complex Engineering Systems, Lund University, Lund, Sweden.*
- Jul 2018 *23rd International Symposium on Mathematical Theory of Networks and Systems, Hong Kong.*
- Jun 2018 *2018 European Control Conference, Limassol, Cyprus.*
- Dec 2017 *56th IEEE Conference on Decision and Control, Melbourne, Australia.*
- Oct 2017 *Seminar at Control Group, University of Cambridge, Cambridge, UK.*
- Jul 2017 *20th IFAC World Congress, Toulouse, France.*
- May 2017 *2017 American Control Conference, Seattle, WA, USA.*
- Dec 2016 *55th IEEE Conference on Decision and Control, Las Vegas, NV, USA.*
- Aug 2016 *10th IFAC Symposium on Nonlinear Control Systems, Monterey, CA, USA.*
- Jul 2016 *2016 American Control Conference, Boston, MA, USA.*
- Dec 2015 *54th IEEE Conference on Decision and Control, Osaka, Japan.*
- Dec 2014 *53rd IEEE Conference on Decision and Control, Los Angeles, CA, USA.*

Workshops

- Oct 2018 *Learning and Adaptation for Sensorimotor Control*, Lund, Sweden.
Dec 2016 *Realization theory and its role in system identification*, Las Vegas, NV, USA.
Sep 2015 *Control and Optimisation UK Workshop*, Oxford, UK.

Teaching experience

Teaching

- 2017–2020 **Laboratory leader** *University of Cambridge*, Cambridge, UK.
• 3F2 Systems and Control (Lab organization, tutorials, marking).
- 2014–2017 **Graduate Teaching Assistant** *Imperial College London*, London, UK.
Collaborated with multiple coordinators on different subjects.
- EE9-CS1-1 Control Engineering (Stand-in lecturer). 2016–2017
 - EE1-10 Mathematics 1 (Study groups, tutorials, marking). 2014–2017
 - EE9-CS7-1 Topics in Control Systems: Integer programming (Marking). 2014–2017
 - EE4-29 Optimisation (Marking). 2014–2017
 - EE9-CS1-3 Discrete-time Systems and Computer Control (Marking). 2014–2015

Supervision

- 2018–2020 **College supervisor** *Sidney Sussex College*, Cambridge, UK.
• P6-IB Systems and Control (Study groups).
- 2017–2020 **Final year project supervisor** *University of Cambridge*, Cambridge, UK.
- C. T. Chow - Project: "Loop shaping for switches and clocks" 2019–2020
 - D. Wang - Project: "Controllability of networks of excitable systems" 2017–2018

Outreach and dissemination

- 2017–2020 **Seminar organizer** *University of Cambridge*, Cambridge, UK.
Managed all organisational aspects of weekly Control Group seminars.
- 2021–Present **Podcast host** *inControl*.
Currently hosting and developing *inControl*, the first podcast dedicated to control theory and related topics.
- 2021–Present **Open source developer** GitHub repository: [albertopadoan](#).
Regularly deposited publicly available software on *GitHub* for dissemination purposes.

Academic service

Technical reviewer

- 2014–Present **Journals:** *Automatica* • IEEE Transactions on Automatic Control • IEEE Transactions on Control Systems Technology • European Journal of Control • SIAM Journal on Control and Optimization.
- Conferences:** IEEE Conference on Decision and Control • IFAC World Congress • American Control Conference • European Control Conference • International Symposium on Mathematical Theory of Networks and Systems • IFAC Symposium on Large Scale Complex Systems • IFAC Conference on Modelling, Identification and Control of Nonlinear Systems.
- Funding bodies:** Leverhulme Trust.

Chairing/co-chairing

- 2018–Present IEEE Conference on Decision and Control • European Control Conference • American Control Conference • International Symposium on Mathematical Theory of Networks and Systems.

Professional affiliations

- IEEE, Member 2010–Present • Higher Education Academy (HEA), Associate Fellow 2017
- IET, Member 2013–Present • Chartered Engineer Certificate (Italy) 2013

Volunteering

- 2018 **Volunteer at Cambridge Open Days** *University of Cambridge*, Cambridge, UK.
Volunteered to illustrate control-theoretic applications to prospective students.
- 2017 **Volunteer at Imperial College Festival** *Imperial College London*, London, UK.
Volunteered to illustrate control-theoretic applications to prospective students.
- 2016 **Volunteer at Open House Festival** *Italian Institute of Culture*, London, UK.
Volunteered to illustrate the role of Italian scientists in modern British society.