GIULIA GIORDANO

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Curriculum Vitae, 16th April 2021

Academic Employment

- **Since 2 January 2020**: **Assistant Professor**, Department of Industrial Engineering, University of Trento, Italy.
  Also, **Visiting Professor** and **Delft Technology Fellow**, Delft Center for Systems and Control, Delft University of Technology, The Netherlands.
- **1 September 2017 - 1 January 2020**: **Assistant Professor** and, since September 2018, **Delft Technology Fellow**, Delft Center for Systems and Control, Delft University of Technology, The Netherlands.
- **1 June 2016 - 31 August 2017**: Postdoctoral Researcher, Department of Automatic Control and LCCC Linnaeus Center, Lund University, Sweden.
- **January - May 2016**: Researcher, Department of Mathematics and Computer Science, University of Udine, Italy, supported by PoCN Italian Grant for Industrial Innovation.

Education and Professional Qualifications

- **2018**: Italian National Scientific Habilitation for the role of Associate Professor in Automation (Sector 09/G1), 15/10/2018.
- **2016**: Ph.D. in Industrial and Information Engineering: Automation (*Excellent*), University of Udine, 08/04/2016. Thesis: "Structural Analysis and Control of Dynamical Networks".
- **2013**: Italian State Examination and Professional Qualification to practice as an ICT Engineer.
- **2012**: M.Sc. in Electrical Engineering (*110/110 cum laude*), University of Udine, 22/10/2012. Thesis: "Structural Properties of Biochemical Systems".
- **2010**: B.Sc. in Electrical Engineering (*110/110 cum laude*), University of Udine, 18/11/2010. Thesis: "Equalized Filtering of Discrete-Time Processes".
- **2007**: High School (Lyceum) Diploma (*100/100 cum laude*), Liceo "G. Bertoni", Udine, 13/07/2007.

Honours and Awards

Awards and Prizes

- **2021**: SIAM Activity Group on Control and Systems Theory Prize 2021, awarded every two years to one outstanding early career researcher for distinguished contributions to the mathematical theory of systems and control, for "significant contributions to the development of innovative methodologies for the structural analysis of networked control systems and their applications to biological networks", *Society for Industrial and Applied Mathematics*.
- **2020**: Outstanding Reviewer, *Annals of Internal Medicine*.
- **2017**: NAHS Best Paper Prize for the best paper published on the journal in the triennium 2014-2016, *Nonlinear Analysis: Hybrid Systems*.
- **2017**: EECI PhD Award 2016, for the best Ph.D. thesis in Europe in the field of Control for Complex and Heterogeneous Systems, *European Embedded Control Institute*.
- **2016**: Outstanding TAC Reviewer, *IEEE Transactions on Automatic Control*.
- **2006**: XIV International Philosophy Olympiad (IPO), second place in national rankings.

Grants

- **2021**: COVID-19 Strategic University Projects, "MOSES - Models for Reasoning about the Spreading of Diseases", University of Trento; co-PI with Marco Roveri.
- **2020**: NWO Crossover programme, "SYNERGIA - SYstem change for New Ecology-based and Resource efficient Growth with high tech In Agriculture", Dutch Research Council (Nederlandse organisatie voor Wetenschappelijk Onderzoek); task leader within the interdisciplinary consortium.
- **2019**: NWO Talent Scheme VENI grant, Dutch Research Council (Nederlandse organisatie voor Wetenschappelijk Onderzoek); sole Principal Investigator (personal grant).
- **2018**: Delft Technology Fellowship grant, TU Delft; sole Principal Investigator (personal grant).
- **2018**: BioDate Grant for the project "Robustness by design? Structural analysis of dynamic metabolic models", Delft Bioengineering Institute; PI with S. Aljoscha Wahl.
- **2018**: BioDate Grant for the project "Optimal control of combined chemo-radiation therapy treatments for improving cancer care", Delft Bioengineering Institute; PI with Zoltán Perkó.
- **2018**: Aspasia grant, 3mE Faculty, Delft University of Technology; personal grant.
- **2017**: Aspasia grant, 3mE Faculty, Delft University of Technology; personal grant.
- **2016**: Knut och Alice Wallenberg Foundation Grant; personal grant.

Competitive Scholarships/Fellowships

- **2016**: Fellowship for Research Collaboration, Italian Ministry of Education.
- **2015**: DAAD Research Scholarship, Deutscher Akademischer Austausch Dienst (German Academic Exchange Service).
- **2013-2015**: Ph.D. Scholarship, Italian Ministry of Education.
- **2012**: Summer Undergraduate Research Fellowship (SURF), California Institute of Technology. SURF Project: "Biomolecular Rate-Regulator Circuits".
- **2007-2012**: Scholarship for excellence, University of Udine.
- **2007**: Scholarship for excellence and enrollment in the National Register of Excellence, Italian Ministry of Education.

Invited Talks and Seminars (selected)

- September 2021: Invited speaker at the *19th International Conference on Computational Methods in Systems Biology*, Bordeaux, France; forthcoming.
- July 2021: Plenary Speaker, SIAM Activity Group on Control and Systems Theory Prize Lecture, *SIAM Conference on Control and Its Applications (CT21)*, online; forthcoming.
- 19 May 2021: Invited speaker at the Seminars in Computational Biology and Bioinformatics, Faculty of Mathematics, Informatics and Mechanics, University of Warsaw, Poland; forthcoming.

- 11/03/2021: Invited speaker at the seminar series *Advances in Socio-Epidemic Mathematical Modelling*, *Unione Matematica Italiana* (Italian Mathematical Society), *Modellistica Socio-Epidemiologica*.
- 13/12/2020: Invited plenary speaker at the opening of the National Congress of the *Italian Society of Gynaecology and Obstetrics*, online.
- 14/07/2020: Invited speaker at the Panel Discussion "Data Driven Decision Making in the COVID-19 Pandemic", Corona Session, *21st IFAC World Congress*, online.
- 07/07/2020: Invited keynote speaker at the *36th Annual Meeting of the European Society of Human Reproduction and Embryology (ESHRE)*, online.
- 22/06/2020: Invited speaker at the webinar *Modellistica e Covid-19* (Modelling and Covid-19), *Unione Matematica Italiana* (Italian Mathematical Society).
- 24/04/2020: Invited speaker at the *IEEE-CSS Italy Workshop on Modeling and Control of the COVID-19 Outbreak* (webinar).
- 09/09/2019: Invited speaker at the *3rd International Workshop on Control Engineering and Synthetic Biology*, Oxford, UK.
- 23/07/2019: DII Seminar, University of Trento, Italy.

- 22/05/2019: DISMA Seminar, Politecnico di Torino, Italy.
- 10/05/2019: Invited speaker at the *Control Days 2019* Workshop, University of Padova, Italy.
- 02/05/2019: SAAS Seminar, Université Libre de Bruxelles, Belgium.
- 02/02/2019: ISSUGE Seminar, University of Genova, Italy.
- 19/09/2018: DII Seminar, University of Trento, Italy.
- 14/09/2018: Invited speaker at the round table: "Automatica oltre l'ingegneria" (*Automatic Control beyond Engineering*), congress Automatica.it (SIDRA), Firenze, Italy.
- 03/04/2018: Invited session speaker at NMC, *54th Dutch Mathematical Congress*, Koningshof in Veldhoven, The Netherlands.
- 07/03/2018: DIMI Seminar, University of Udine, Italy.
- 20/10/2017: NAS Seminar, TU Delft, The Netherlands.
- 28/09/2017: SACS Seminar, University of Twente, The Netherlands.
- 20/04/2017: ISY Seminar, Linköping University, Sweden.
- 25/10/2016: MAC Seminar, LAAS-CNRS, Toulouse, France.
- 15/06/2016: LCCC Seminar, Department of Automatic Control, Lund University, Sweden.
- 27/04/2016: ACSE Research Seminar, University of Sheffield, UK.
- 31/03/2015: Kolloquium Technische Kybernetik, Institute for System Theory and Automatic Control, University of Stuttgart, Germany.

Visits

- May 2019: Politecnico di Torino, Italy, *invited by Giacomo Como.*
- April-May 2019: Université Libre de Bruxelles, Belgium, *invited by Emanuele Garone and supported by a European Erasmus+ Grant.*
- January-February 2019: University of Genova, Italy, *invited by Bruno Burlando and Paolo Giannoni.*
- September 2018: University of Trento, Italy, *invited by Luca Zaccarian.*
- December 2017: CSIRO Research Centre, Hobart, Australia, *invited by Jeffrey Dambacher.*
- December 2016: UC Riverside, USA, *invited by Elisa Franco.*
- October 2016: LAAS-CNRS Toulouse, France, *invited by Didier Henrion and Luca Zaccarian.*
- April 2016: University of Sheffield, UK, *invited by Dario Bauso.*
- March-May 2015: Universität Stuttgart, Germany, *hosted by Frank Allgöwer and supported by a DAAD Scholarship.*
- December 2014: UC Riverside, USA, *invited by Elisa Franco.*
- May 2014: Grenoble INP (Institut National Polytechnique de Grenoble), France.
- April 2014: CentraleSupélec (École supérieure d'électricité), Gif-sur-Yvette, France, *supported by the Franco-Italian project Galileo.*
- June-August 2012: Caltech (California Institute of Technology), Pasadena (CA), USA, *hosted by Richard M. Murray and supported by a SURF Fellowship.*

Editorial Activity and Organisation of Scientific Events

Journals

- Associate Editor for *IEEE Control Systems Letters*, since January 2020.
- Editor for the 2020-2021 double Special Issue on "Systems & Control Research Efforts Against COVID-19 and Future Pandemics", *Annual Reviews in Control.*
- Associate Editor for the 2018 Special Issue on Systems and Synthetic Biology, "Control and Network Theory for Biological Systems", *IEEE Control Systems Letters.*

Conferences

- CSS Student Activities Chair, yearly involved in the organisation of the two main CSS-sponsored conferences – IEEE Conference on Decision and Control (CDC) and IEEE Conference on Control Technology and Applications (CCTA) – to manage Student Travel Awards, appointed by the CSS President Anuradha Annaswamy, since January 2020.

- Student Activities Chair for the *60th IEEE Conference on Decision and Control*, Austin (TX), USA, December 13-15, 2021.
- Program Co-Chair and Publications Chair for the *15th IFAC Symposium on Large Scale Complex Systems (LSS 2019)*, Delft, The Netherlands, May 24-26, 2019.
- Member of the European Control Association Conference Editorial Board (EUCA-CEB, joining the International Program Committee of the *European Control Conference*), since 2019.
- Member of the IFAC Conference Editorial Board (joining the International Program Committee of the *IFAC World Congress*), since 2019.
- Member of the International Program Committee for
  - the *2022 IFAC Symposium on Robust Control Design (ROCOND 2022)*, Kyoto, Japan, 2022.
  - the *25th International Symposium on Mathematical Theory of Networks and Systems (MTNS 2022)*, Bayreuth, Germany, 2022.
  - the *IFAC Conference on Network Systems (NECSYS'22)*, Zurich, Switzerland, 2022.
  - the *59th Conference on Decision and Control (CDC 2020)*, Jeju Island, Republic of Korea, December 8-11, 2020.
  - the *7th International Workshop on Hybrid Systems and Biology (HSB 2020)*, Vienna, Austria, April 15-16, 2020.
  - the *8th IFAC Conference on Foundations of Systems Biology in Engineering (FOSBE 2019)*, València, Spain, October 15-18, 2019.
  - the *6th International Workshop on Hybrid Systems and Biology (HSB 2019)*, Prague, Czech Republic, April 6-7, 2019.
  - the *2nd IFAC Workshop on Linear Parameter Varying Systems (LPVS'18)*, Florianopolis, Brazil, September 3-5, 2018.

Conference Sessions

- Organiser of the Open Invited Track "COVID-19 Pandemic: Modelling, Identification and Control" (with Julio Elias Normey-Rico and Teodoro Alamo) at the *11th IFAC Symposium on Biological and Medical Systems*, Ghent, Belgium, 2021.
- Organiser of the Invited Session "Biological rhythms and oscillators" (with Abhyudai Singh) at the *58th IEEE Conference on Decision and Control*, Nice, France, 2019.
- Organiser of the Invited Session "Modelling and analysis of the dynamics of competing agents" (with Daniele Casagrande) at the *2019 European Control Conference*, Napoli, Italy, 2019.
- Organiser of the Tutorial Session "Control-theoretic methods for biological networks" (with Franco Blanchini) at the *57th IEEE Conference on Decision and Control*, Fontainebleau, Miami Beach, USA, 2018.
- Organiser of the Invited Session "Biomolecular computing and feedback systems" (with Christian Cuba Samaniego) at the *57th IEEE Conference on Decision and Control*, Fontainebleau, Miami Beach, USA, 2018.
- Organiser of the Invited Session "Biological feedback systems: analysis and synthesis" (with Elisa Franco) at the *56th IEEE Conference on Decision and Control*, Melbourne, Australia, 2017.

Societies and Technical Committees

- Member of the *IEEE* (Institute of Electrical and Electronics Engineers) and of the *CSS* (Control Systems Society).
- Affiliate of the *IFAC* (International Federation of Automatic Control).
- Member of the IEEE TC on Robust and Complex Systems, since January 2019.
- Member of the IEEE TC on Systems and Synthetic Biology, since December 2016.
- Member of the IFAC TC 2.5 on Robust Control, since December 2013.

Scientific Community and Academic Service

- CSS Associate Editor of the IEEE Life Sciences Community, appointed by the CSS President Bob Bitmead, since February 2019.

- Member of the working group for the implementation of the *European Charter for Researchers* and of the *Code of Conduct for the Recruitment of Researchers* at the University of Udine, 2014-2016.

Reviewing Activity

International Journals (selected)

ACS Synthetic Biology, Annals of Internal Medicine, **Automatica**, Bioinformatics, BMJ Global Health, Digital Medicine, European Journal of Control, **IEEE Trans. Automatic Control**, **IEEE Control Systems Letters**, **IEEE Trans. Control of Network Systems**, IEEE Trans. Control Systems Technology, IEEE Trans. Intelligent Transportation Systems, **IEEE Trans. Network Science and Engineering**, IET Control Theory & Applications, **IET Systems Biology**, IET Synthetic Biology, IMA Journal of Mathematical Control and Information, Journal of Computational Science, Journal of Mathematical Biology, Journal of Mathematics in Industry, Journal of the Royal Society Interface, Linear Algebra and its Applications, Mathematical Problems in Engineering, **Nature Communications**, Nature Human Behaviour, Nature Medicine, **Nonlinear Analysis: Hybrid Systems**, **PLOS One**, Results in Applied Mathematics, **SIAM Journal on Control and Optimization**, Scientific Reports, **Systems & Control Letters**, Synthetic Biology.

International Conferences (selected)

American Control Conference, **European Control Conference**, IEEE Life Sciences Conference, **IEEE Conference on Control Technology and Applications**, **IEEE Conference on Decision and Control**, IFAC Conference on Foundations of Systems Biology in Engineering, IFAC Workshop on Distributed Estimation and Control in Networked Systems, IFAC Workshop on Time Delay Systems, **IFAC World Congress**, Mediterranean Conference on Control & Automation.

Grant Proposals

- "Scientific expert" reviewer of grant proposals for ANR (Agence Nationale de la Recherche, French national research agency), 2017.
- "Expert reviewer" of grant proposals for ERC (European Research Council), 2020.

Teaching

Ph.D. Courses

- July 2021: *Introduction to Systems Biology*, Doctoral School in Materials, Mechatronics and Systems Engineering, University of Trento; forthcoming.
- March 2021: *Systems Biology: quantitative and qualitative approaches to life sciences*, PhD Winter School in Agricultural Science and Biotechnology, University of Udine (***invited***).
- November 2020: *Network Dynamics*, Doctoral School in Materials, Mechatronics and Systems Engineering, University of Trento.
- October 2019: *Multi-Agent Network Dynamics and Games – MANDAG* (with Sergio Grammatico), National Graduate School for Systems and Control, Dutch Institute of Systems and Control (DISC).
- July 2019: *Dynamical System Approaches for Biology*, CISM-UniUD Joint Ph.D. School "Biosystems and Health: How to Take Advantage of Signal and System Modelling" (***invited***).
- 2016/2017: *An overview of Systems Biology: a quantitative approach to life sciences*, Ph.D. in Industrial and Information Engineering, University of Udine (***invited***).

M.Sc. Courses

- 2020/2021: *Network Dynamics*, M.Sc. programme in Mechatronics Engineering, University of Trento.
- 2019/2020 and 2020/2021: *Automatic Control* (with Luca Zaccarian), M.Sc. programme in Mechatronics Engineering, University of Trento.

- 2019/2020: *Networked and Distributed Control Systems* (with Tamás Keviczky), M.Sc. programme in Systems and Control, TU Delft (***invited***).
- 2018/2019: *Networked and Distributed Control Systems* (with Tamás Keviczky), M.Sc. programme in Systems and Control, TU Delft.
- 2018/2019: *Robust and Multivariable Control Design* (with Simone Baldi), M.Sc. programme in Systems and Control, TU Delft.
- 2016/2017: *Network Dynamics* (with Giacomo Como), M.Sc. programmes in Engineering, Lund University.
- 2015/2016: Lecturer of seminars within the course *Systems and Control Theory* (held by Franco Blanchini), M.Sc. programme in Electrical Engineering, University of Udine.

B.Sc. Courses

- 2015/2016: Teaching assistant for the course *Mathematical Analysis I* (held by Fabio Zanolin), B.Sc. programme in Mechanical Engineering, University of Udine.

Supervision

Ph.D. students

- 2019-now: Carlos Andrés Devia, TU Delft; supervisor (*promotor*).
- 2018-now: Gabriel de Albuquerque Gleizer, TU Delft; external mentor.

M.Sc./B.Sc. thesis students

- Graduated M.Sc. thesis students, Trento: Francesco Riz (September 2020); TU Delft: Jerry An (December 2020), Nicolas Mavrocordatos (April 2020), Ghiline van Furth (March 2020), Jeroen Postma (February 2020), Tijmen Witte (December 2019), Neel Nagda (August 2019), Patrick Ledzian (August 2019), Xiajing Li (May 2019), Lotte M. de Graaf (May 2019), Rik Oude Grote Bevelsborg (March 2019), Daan van Wijk (September 2018).
- Graduated B.Sc. thesis students, TU Delft: Chris van der Hoorn, Bob van der Meer, Bart Schoone, Erik Sieburgh (June 2019); Sibren Allard, Koen Bakker, Thomas Ceha, Anton Louwen (June 2018).

Graduation/Evaluation Committees

- Ph.D. Reviewer for Mirko Brentari, University of Trento (2019).
- Ph.D. Reviewer and Graduation Committee Member for Hadi Taghvafard, University of Groningen (2018).
- Ph.D. Go/No-Go Evaluation Committee Member for: Long Ma, Rie Larsen, Gabriel de Albuquerque Gleizer, Giannis Delimpaltadakis (TU Delft, 2019); Bastian Prasse (TU Delft, 2018).
- M.Sc. Graduation Committee Member for: Sergio Camalò, Donato D'Acunto, Claudio Furlan, Edoardo Parolin, Andrea Zuccotto (Trento, 2020); Jeroen Postma, Ghiline van Furth, Nicolas Mavrocordatos, Jerry An (TU Delft, 2020); Rik Oude Grote Bevelsborg, Lotte M. de Graaf, Xiajing Li, Chris Zevenbergen, Jacques Noom, Patrick Ledzian, Neel Nagda, Karst Brummelhuis, Julia Smeu, Floris van Dam, Wouter Jongeneel, Tijmen Witte (TU Delft, 2019); Eloy Y. Snapper, Joris Triepels, Marco Romagnuolo, Daan van Wijk, Mats J. van den Bos (TU Delft, 2018); R. Gokul Nayar (TU Delft, 2017).
- B.Sc. Graduation Committee Member for: Chris van der Hoorn, Bob van der Meer, Bart Schoone, Erik Sieburgh (TU Delft, 2019); Sibren Allard, Koen Bakker, Thomas Ceha, Anton Louwen (TU Delft, 2018).

Press, Outreach and Public Engagement Activities

- From March 2020 onwards: Interviews and media coverage on local, national and international media about research on COVID-19 modelling and control (e.g. "Rethinking Testing" by Michael Le Page, *New Scientist*, vol. 246, n. 3281, p. 10, 2020, DOI: 10.1016/S0262-4079(20)30876-9; The Times of India Blog *Seeing the Invisible* by Sanjeev Sabhlok; SkyTG24; AGI, ANSA, Focus, InsideOver Il Giornale, Il Mattino, Il Messaggero, Il Sole 24 Ore, La Repubblica; Alto Adige, L'Adige, Il Dolomiti, Il Trentino, Messaggero Veneto, RAI TGR Trentino).

- 08/10/2020: Invited speaker at *XX Seminario di Tecnologie dell'Informazione, Ingegneria dei sistemi e sistemi biologici: prospettive e opportunità per una medicina personalizzata* (XX Information Technologies Seminar, Systems Engineering and Biological Systems: Perspectives and Opportunities for Personalised Medicine); *Proprietà strutturali per l'analisi e il controllo di sistemi biologici* (Structural Properties for the Analysis and the Control of Biological Systems), Accademia Galileiana di Scienze Lettere ed Arti in Padova, Padova, Italy.
- 20/05/2020: Seminar at the High School "Liceo Michelangelo Buonarroti", Monfalcone (GO), Italy, *Modelli matematici per capire e prevedere l'epidemia di COVID-19* (Mathematical models to understand and predict the COVID-19 epidemic), invited by Armando Pisani.
- 26/10/2019: Invited speaker at *Festival della Scienza 2019* (Science Festival 2019), Genova, Italy.
- 2015/2016: Representative of the University of Udine in lectures given at high schools to illustrate the university engineering programmes and increase the presence of women in science and technology by providing role models.
- 2015/2016: Involved in open days at the University of Udine, aimed at promoting scientific and engineering disciplines.

Personal Interests

Languages

- Italian (mother tongue).
- English (fluent).
- Dutch, German and Swedish (basic).

Interests and Activities

- Deep love for Humanities: Literature, History, Philosophy, Classical languages (Greek and Latin).
- Writing poems and novels; Singing; Playing the flute and the clarinet; Classical Music and Opera; Theater; Art & Photography; Swimming, cycling, hiking; Travelling.

Publications

Authors of papers marked with $^{(*)}$ *are listed in alphabetical order, following the tradition in mathematical disciplines.*

Refereed Journal Articles

[J44] **G. Giordano**, M. Colaneri, A. Di Filippo, F. Blanchini, P. Bolzern, G. De Nicolao, P. Sacchi, P. Colaneri and R. Bruno, "Modeling vaccination rollouts, SARS-CoV-2 variants and the requirement for non-pharmaceutical interventions in Italy", *Nature Medicine*, **2021**.

[J43] A. Fochesato, G. Simoni, F. Reali, **G. Giordano**, E. Domenici and L. Marchetti, "A retrospective analysis of the COVID-19 pandemic evolution in Italy ", *Biology*, 10(4), 311, **2021**.

[J42] F. Blanchini and **G. Giordano**, "Structural analysis in biology: a control-theoretic approach", survey, *Automatica*, 126(4), 109376, **2021**.$^{(*)}$

[J41] V. Priesemann, R. Balling, M. Brinkmann, S. Ciesek, T. Czypionka, I. Eckerle, **G. Giordano**, C. Hanson, Z. Hel, P. Hotulainen, P. Klimek, A. Nassehi, A. Peichl, M. Perc, E. Petelos, B. Prainsack, E. Szczurek, "An action plan for pan-European defence against new SARS-CoV-2 variants", *The Lancet*, 397(10273), 469-470, **2021**.

[J40] C. A. Devia and **G. Giordano**, "Topology-independent robust stability conditions for uncertain MIMO networks", *IEEE Control Systems Letters*, 5(1), pp. 325–330, **2021**.$^{(*)}$ *The contents of this journal paper were also selected for presentation within an Invited Session at the 59th IEEE Conference on Decision and Control, Jeju Island, Republic of Korea, on December 15, 2020.*

[J39] F. Blanchini, D. Casagrande, F. Fabiani, **G. Giordano**, D. Palma, R. Pesenti, "A threshold mechanism ensures minimum-path flow in lightning discharge", *Scientific Reports*, 11, 280, *2021*.$^{(*)}$

[J38] V. Priesemann, M. Brinkmann, S. Ciesek, S. Cuschieri, T. Czypionka, **G. Giordano**, D. Gurdasani, C. Hanson, N. Hens, E. Iftekhar, M. Kelly-Irving, P. Klimek, M. Kretzschmar, A. Peichl, M. Perc, F. Sannino, E. Schernhammer, A. Schmidt, A. Staines, E. Szczurek, "Calling for pan-European commitment for rapid and sustained reduction in SARS-CoV-2 infections", *The Lancet*, 397(10269), 92-93, **2021**.

[J37] B. Burlando, M. Milanese, **G. Giordano**, T. Bonifacino, S. Ravera, F. Blanchini, G. Bonanno, "A multistationary loop model of ALS unveils critical molecular interactions involving mitochondria and glucose metabolism", *PLOS One*, 15(12), e0244234, **2020**.

[J36] **G. Giordano**, F. Blanchini, R. Bruno, P. Colaneri, A. Di Filippo, A. Di Matteo and M. Colaneri, "Modelling the COVID-19 epidemic and implementation of population-wide interventions in Italy", *Nature Medicine*, 26, pp. 855–860, **2020**.

[J35] V. Mucci, I. Indovina, C. J. Browne, F. Blanchini, **G. Giordano**, L. Marinelli and B. Burlando, "Mal de Debarquement Syndrome: a matter of loops?", *Frontiers in Neurology*, 11:1387, **2020**.

[J34] D. Palma, F. Blanchini, **G. Giordano** and P. L. Montessoro, "A dynamic biometric authentication algorithm for near-infrared palm vascular patterns", *IEEE Access*, 8:118978–118988, **2020**.

[J33] T. Rollo, F. Blanchini, **G. Giordano**, R. Specogna and D. Esseni, "Stabilization of negative capacitance in ferroelectric capacitors with and without a metal interlayer", *Nanoscale*, 12(10), pp. 6121–6129, **2020**.

[J32] C. Cuba Samaniego, **G. Giordano** and E. Franco, "Periodic switching in a recombinase-based molecular circuit", *IEEE Control Systems Letters*, 4(1), pp. 241–246, **2020**. *The contents of this journal paper were also selected for presentation as an* ***invited paper*** *at the 58th IEEE Conference on Decision and Control, Nice, France, on December 11, 2019.*

[J31] F. Blanchini, G. Chesi, P. Colaneri and **G. Giordano**, "Checking structural stability of *BDC*-decomposable systems via convex optimisation", *IEEE Control Systems Letters*, 4(1), pp. 205-210, **2020**.$^{(*)}$ *The contents of this journal paper were also selected for presentation at the 58th IEEE Conference on Decision and Control, Nice, France, on December 13, 2019.*

[J30] B. Burlando, F. Blanchini and **G. Giordano**, "Loop analysis of blood pressure/volume homeostasis", *PLOS Computational Biology*, 15(9): e1007346, **2019**.

[J29] **G. Giordano**, M. Segata, F. Blanchini and R. Lo Cigno, "The joint network/control design of platooning algorithms can enforce guaranteed safety constraints", *Ad Hoc Networks*, 94:101962, **2019**.

[J28] C. Drioli, **G. Giordano**, D. Salvati, F. Blanchini and G. L. Foresti, "Acoustic target tracking through a cluster of mobile agents", *IEEE Transactions on Cybernetics*, available online, **2019**.

[J27] D. Palma, P. L. Montessoro, **G. Giordano** and F. Blanchini, "Biometric palmprint verification: a dynamical system approach", *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 49(12), pp. 2676-2687, **2019**.

[J26] F. Blanchini, D. Casagrande, F. Fabiani, **G. Giordano** and R. Pesenti, "Network-decentralised optimisation and control: an explicit saturated solution", *Automatica*, 103, pp. 379-389, **2019**.(*)

[J25] F. Blanchini and **G. Giordano**, "*BDC*-decomposition for global influence analysis", *IEEE Control Systems Letters* – Special Issue on Control and Network Theory for Biological Systems, 3(2), pp. 260-265, **2019**.(*)

[J24] **G. Giordano**, D. Bauso and F. Blanchini, "A robust saturated strategy for n-player Prisoner's dilemma", *SIAM Journal on Control and Optimization*, 56(5), pp. 3478-3498, **2018**.

[J23] **G. Giordano**, "CERT-mediated ceramide transfer is a structurally tunable flow-inducing mechanism with structural feed-forward loops", *Royal Society Open Science*, 5(6):180494, **2018**.

[J22] F. Blanchini, C. Cuba Samaniego, E. Franco and **G. Giordano**, "Homogeneous time constants promote oscillations in negative feedback loops", *ACS Synthetic Biology*, 7(6), pp. 1481-1487, **2018**.(*)

[J21] F. Blanchini, C. Cuba Samaniego, E. Franco and **G. Giordano**, "Aggregates of Monotonic Step Response systems: a structural classification", *IEEE Transactions on Control of Network Systems* – Special Issue on Approaches to Control Biological and Biologically Inspired Networks, 5(2), pp. 782-792, **2018**.(*)
SIAM Activity Group on Control and Systems Theory Prize

[J20] F. Blanchini, D. Casagrande, **G. Giordano** and U. Viaro, "A bounded complementary sensitivity function ensures topology-independent stability of homogeneous dynamical networks", *IEEE Transactions on Automatic Control*, 63(4), pp. 1140-1146, **2018**.(*)

[J19] F. Blanchini and **G. Giordano**, "Polyhedral Lyapunov functions structurally ensure global asymptotic stability of dynamical networks iff the Jacobian is non-singular", *Automatica*, 86(12), pp. 183-191, **2017**.(*)

[J18] **G. Giordano** and C. Altafini, "Qualitative and quantitative responses to press perturbations in ecological networks", *Scientific Reports*, 7:11378, **2017**.

[J17] F. Blanchini, G. Fenu, **G. Giordano** and F. A. Pellegrino, "Model-free plant tuning", *IEEE Transactions on Automatic Control*, 62(6), pp. 2623-2634, **2017**.(*)

[J16] **G. Giordano** and F. Blanchini, "Flow-inducing networks", *IEEE Control Systems Letters*, 1(1), pp. 44-49, **2017**. *The contents of this journal paper were also selected for presentation at the 56th IEEE Conference on Decision and Control, Melbourne, Australia, on December 14, 2017.*

[J15] F. Blanchini, D. Casagrande, **G. Giordano**, S. Miani, S. Olaru and V. Reppa, "Active fault isolation: a duality-based approach via convex programming", *SIAM Journal on Control and Optimization*, 55(3), pp. 1619-1640, **2017**.(*)

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[BC3] **G. Giordano** and F. Dabbene, "Modeling of pandemics and intervention strategies: The COVID-19 outbreak". In: J. Baillieul, T. Samad (eds.), *Encyclopedia of Systems and Control*. Springer, London, **2020**.

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[CP27] F. Blanchini, D. Casagrande, **G. Giordano** and U. Viaro, "A switched model for mixed cooperative-competitive social dynamics", ***invited paper***, *Proc. European Control Conference*, Napoli, Italy, June **2019**.(*)

[CP26] C. Cuba Samaniego, **G. Giordano** and E. Franco, "Practical differentiation using ultrasensitive molecular circuits", ***invited paper***, *Proc. European Control Conference*, Napoli, Italy, June **2019**.

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[E3] E. A. Hernandez-Vargas, **G. Giordano**, E. Sontag, J. G. Chase, H. Chang, A. Astolfi, "Second special section on systems and control research efforts against COVID-19 and future pandemics", *Annual Reviews in Control*, **2021**.

[E2] E. A. Hernandez-Vargas, **G. Giordano**, E. Sontag, J. G. Chase, H. Chang, A. Astolfi, "First special section on systems and control research efforts against COVID-19 and future pandemics", *Annual Reviews in Control*, 50, 343-344, **2020**.

[E1] **G. Giordano**, "Foreword to the 15th IFAC Symposium on Large Scale Complex Systems LSS 2019; Delft, The Netherlands; 26-28 May 2016", *IFAC-PapersOnLine*, 52(3), i-viii, **2019**.

Outreach Publications (Peer-Reviewed)

[OJ2] **G. Giordano**, L. Mangoni and M. Pistilli, "Modelli matematici per comprendere, prevedere, controllare le epidemie. Il caso COVID-19 in Italia" (*Mathematical models to understand, predict, control epidemics. The COVID-19 case in Italy*). Book chapter, in M. Malvicini, T. Portaluri and A. Martinengo (Eds.), "Le parole della crisi, le politiche dopo la pandemia: Guida non emergenziale al post-Covid-19", **2020**.(*)

[OJ1] **G. Giordano**, "The importance of being tested". Invited journal paper, *The Science Breaker*, 6(3), **2020**. DOI: 10.25250/thescbr.brk366

Conference contributions (peer reviewed, without proceedings)

[CC12] G. De Nicolao, **G. Giordano**, M. Colaneri, A. Di Filippo, F. Blanchini, P. Bolzern, P. Colaneri, P. Sacchi and R. Bruno, "The toll of procrastination in epidemic control: a pre-emptive periodic strategy saves lives without increasing socio-economic costs", ***invited talk***, *29th Mediterranean Conference on Control and Automation (MED)*, Bari, Italy, June **2021**.

[CC11] **G. Giordano**, F. Blanchini and P. Colaneri, "A SIDARTHE compartmental model for the COVID-19 epidemic and the implementation of population-wide interventions", ***invited talk***, *59th IEEE Conference on Decision and Control (CDC)*, Jeju Island, Republic of Korea, *presented on December 14*, **2020**.

[CC10] **G. Giordano**, F. Blanchini and P. Colaneri, "COVID-19 modelling: SIDARTHE and beyond", ***invited talk***, *SIDRA Congress Automatica.it*, September **2020**.

[CC9] F. Blanchini, P. Colaneri, **G. Giordano** and I. Zorzan, "Robust sensitivity analysis for uncertain biochemical networks: some vertex results", *21st IFAC World Congress*, Berlin, Germany, *presented in* July **2020**.(*)

[CC8] G. van Furth, **G. Giordano** and Z. Perkó, "Optimal control of combined chemo-radiation therapy treatments for improving cancer care", *TU Delft BioDay 2019*, Delft, The Netherlands, July **2019**.(*)

[CC7] L. M. de Graaf, E. Vasilakou, **G. Giordano** and S. A. Wahl, "Metabolic stability under highly dynamic conditions – An experimental and theoretical analysis of the energy homeostasis in *E. coli*", *TU Delft BioDay 2019*, Delft, The Netherlands, July **2019**.

[CC6] G. van Furth, **G. Giordano** and Z. Perkó, "Optimal control of combined chemo-radiation therapy treatments for improving cancer care", *NWO Life Congress*, Utrecht Bunnik, The Netherlands, May **2019**.(*)

[CC5] L. M. de Graaf, E. Vasilakou, **G. Giordano** and S. A. Wahl, "Analysis of the energy homeostasis by modeling substrate dynamics in *E. coli*", *BioSB 2019 Conference*, Lunteren, The Netherlands, April **2019**.

[CC4] F. Blanchini and **G. Giordano**, "Understanding biological phenomena with control-theoretic tools", in the tutorial session "Control-theoretic methods for biological networks", *57th IEEE Conference on Decision and Control*, Fontainebleau, Miami Beach (FL), USA, *presented on December 17*, **2018**.(*)

[CC3] **G. Giordano** and F. Blanchini, "Structural analysis of dynamical networks: BDC-decomposition and influence matrix", *Reglermöte 2016*, Gothenburg, Sweden, *poster presented on June 8*, **2016**.

[CC2] F. Blanchini and **G. Giordano**, "Structural Properties and Robustness in Biochemical Networks", *Workshop on Uncertain Dynamical Systems 2014 (WUDS'14)*, Amsterdam, the Netherlands, August **2014**.(*)

[CC1] **G. Giordano**, E. Franco and R. M. Murray, "Feedback Architectures to Regulate Flux of Components in Artificial Gene Networks", *1st FVG Ph.D. Symposium*, Grado (GO), Italy, *presented on October 8*, **2013**.

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[P8] G. De Nicolao, M. Colaneri, A. Di Filippo, F. Blanchini, P. Bolzern, P. Colaneri, **G. Giordano**, R. Bruno, "Preemptive periodic epidemic control reduces life and healthcare system costs without aggravation of social and economic losses", arXiv:2104.05597, April **2021**.

[P7] J. An, **G. Giordano**, C. Liu, "Flexible MPC-based Conflict Resolution Using Online Adaptive ADMM", arXiv:2103.14118, March **2021**.(*)

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[T4] **G. Giordano**, "Structural Analysis and Control of Dynamical Networks", Ph.D. Thesis, University of Udine, April **2016**.
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[T3] **G. Giordano**, "Structural Properties of Biochemical Systems", M.Sc. Thesis, University of Udine, October **2012**.

[T2] **G. Giordano**, "Biomolecular Rate-Regulator Circuits", Technical Report, SURF Project, California Institute of Technology, August **2012**.

[T1] **G. Giordano**, "Equalized Filtering of Discrete-Time Processes", B.Sc. Thesis, University of Udine, November **2010**.