Lorenzo Zino | Curriculum Vitæ

Faculty of Science and Engineering
University of Groningen, 9747 AG Groningen, The Netherlands

✉ lorenzo.zino@rug.nl • 🌐 lorenzozino90.wixsite.com/lzino

Current Position

Oct 2019 - ongiong: **PostDoc Researcher**
Faculty of Science and Engineering, University of Groningen, Groningen, The Netherlands

Previous Positions

Jun 2019 - Jul 2019: **PostDoc Assistant Research Scientist**

Department of Mechanical and Aerospace Engineering, Tandon School of Engineering, New York University, Brooklyn NY, US

Jun 2018 - May 2019: **Research Assistant**

Department of Mathematical Sciences "G. L. Lagrange", Politecnico di Torino, Torino, Italy

Dec 2017 - Mar 2018: **Assistant Research Scientist**

Department of Mechanical and Aerospace Engineering, Tandon School of Engineering, New York University, Brooklyn NY, US

Nov 2014 - Oct 2018: **Phd Student in Pure and Applied Mathematics**

Department of Mathematics "G. Peano", Università di Torino, Torino, Italy
Department of Mathematical Sciences "G. L. Lagrange", Politecnico di Torino, Torino, Italy

Research Interests

I am interested in dynamical systems over networks, in particular spreading processes (such as epidemics, opinion dynamics, diffusion of information, etc.), graph theory, applied probability and game theory. I like the modeling, the analysis and the control aspects of dynamics over networks.

Keywords: *multi-agent, opinion dynamics, large-scale networks, epidemics, control, evolutionary games, imitation dynamics, applied probability, graph theory, temporal networks, synchronization*

Education

PhD in Pure and Applied Mathematics

Politecnico di Torino, Università di Torino - Torino, Italy: *final grade: with honors*

Thesis: *Diffusion Processes on Networks*

Advisor and Defence Date: Prof. Fabio Fagnani. October 9, 2018.

Master in Mathematical Modeling (Laurea Magistrale in Ingegneria Matematica)

Politecnico di Torino - Torino, Italy: *final grade: 110 L/110 (summa cum laude)*

Thesis: *An interacting agents model for the diffusion of new assets on large scale graphs*

Advisor and Defence Date: Prof. Fabio Fagnani. July 24, 2014.

Bachelor in Applied Mathematics (Laurea in Matematica per le Scienze dell'Ingegneria)

Politecnico di Torino - Torino, Italy: *final grade: 110/110*

Thesis: *Discrete Time Markov Chains and their Application in MCMC Methods*

Advisor and Defence Date: Prof. Paola Siri. October 11, 2012.

High School Degree (Maturità Scientifica PNI)

Liceo Scientifico "G. Galilei" - Borgomanero (NO), Italy: *final grade: 100/100 (July 2009)*

Visiting Periods

Politecnico di Torino	**Dept. Mathematical Sciences**
Visiting Scholar	*Sep 2019, Nov 2019*
NYU, Tandon School of Engeneering	**Dept. Mechanical and Aerospace Engineering**
Visiting PhD student	*Dec 2017-Mar 2018*
Lund University, LTH	**Department of Automatic Control**
Visiting PhD student	*Sep-Dec 2015*

Conferences, Workshops, and Schools

IEEE CDC Workshop on Dynamics in Social and Economic Networks
Dec 12-13, 2020, Jeju Island, Korea (online)

NetSci 2020: Conference of the Network Science Society
Sep 17-25, 2020, Rome, Italy (online)

AUTOMATICA.IT 2020
Sep 9-11, 2020, Cagliari, Italy (online)

The 21st World Congress of International Federation of Automatic Control
Jul 13-17, 2020, Berlin, Germany (online)

IEEE-CSS Italy Workshop on Modeling and Control of the COVID-19 Outbreak
Apr 24, 2020, (online)

Benelux Meeting on Systems and Control
Mar 10-12, 2020, Elspeet, The Netherlands

The 8th International Conference on Complex Networks and their Applications
Dec 10-12, 2019, Lisbon, Portugal

Network Dynamics in the Social, Economic, and Financial Sciences
Nov 5-8, 2019, Turin, Italy

Workshop on Resilient Control of Infrastructure Networks
Sep 24-27, 2019, Turin, Italy

NetSci 2019: Conference of the Network Science Society
May 27-31, 2019, Burlington VT, US

The 13th SICC International Tutorial Workshop "Topics in Nonlinear Dynamics"
Oct 29-30, 2018, Turin, Italy

The 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems
Aug 27-28, 2018, Groningen, The Netherlands

The 17th Annual European Control Conference
Jun 12-15, 2018, Limassol, Cyprus

The 6th International Conference on Complex Networks and their Applications
Nov 29 - Dec 1, 2017, Lyon, France

The 20th World Congress of International Federation of Automatic Control
Jul 10-14, 2017, Toulouse, France

The First Italian Meeting on Probability and Mathematical Statistics
Jun 19-22, 2017, Turin, Italy

The 5th International Workshop on Complex Networks and their Applications
Nov 30 - Dec 2, 2016, Milan, Italy

22nd International Symposium on Mathematical Theory of Networks and Systems
Jul 12-15, 2016, Minneapolis (MN), US

Summer School on Information Processing for Large Networks
Jun 8-12, 2015, Les Diablerets, Switzerland, EPFL, ETH Zurich.

Teaching Experience

Politecnico di Torino   **Turin**
Graduate TA, 200 students, 50 h, with prof. G. Como and prof. A. Cancedda   *Fall 2018*
Exercise sessions for two courses on *Mathematical Analysis II* for the Bachelors in ICT Engineering (30 h, in English) and Energy and Electric Engineering (20 h, in Italian) — Average student satisfaction: 96%

ESCP Europe   **Turin**
Graduate TA, 20 students, 6/9 h, English, with prof. F. Pellerey   *Fall 2016–18, Spring 2018*
Exercise sessions for the course on *Fundamentals of Mathematics 2* for the Bachelor in Management

Politecnico di Torino   **Turin**
Graduate TA, 200 students, 30 h, Italian, with prof. F. Fagnani   *Spring 2017*
Lectures and exercise sessions for the course on *Complex Analysis* for the Bachelor in Physical and Mathematical Engineering — Student satisfaction: 92%

Politecnico di Torino   **Turin**
Graduate TA, 40 students, 20/30 h, with prof. F. Fagnani   *Spring 2015–17*
Exercise sessions for the course on *Graphs and Dynamics over Networks* in 20 h in English (2015–16) and 30 h in Italian (2017) for the Master in Mathematical Engineering — Average student satisfaction: 98%

Politecnico di Torino   **Turin**
Undergraduate TA, 200 students, 50 h, Italian, with prof. M. Gasparini   *Spring 2014*
Tutoring for the course on *Complex Analysis and Statistics* for the Bachelor in Electrical Engineering

Other Academic Activities

Co-supervisor and Daily Supervisor of Bachelor Thesis: I tutored and supervised some bachelor students with prof. Fabio Fagnani (Politecnico di Torino) and prof. Ming Cao (University of Groningen)

Daily supervisor of Master Thesis: I tutored Giulia Peluffo (with prof. Fabio Fagnani), Niek Velthausz (with prof. Ming Cao and Dr. Mengbin Ye), and Ronak Pillai (with prof. Ming Cao and Dr. Mengbin Ye)

Piano Lauree Scientifiche: I organized a laboratory on "Mathematics and Society" with prof. Francesca Ceragioli and Dr. Barbara Franci for high school students

Academic Tutor: Lessons to undergraduate students on Mathematical Analysis I and Complex Analysis at the student campus "Camplus Lingotto," Torino.

Grants, Scholarships, and Awards

2018: *Honorable Mention*. Finalist paper for the Young Author Award at the NecSys 2018 (paper [C5]). International Federation of Automatic Control.

2016: *Quality Award*. Recognition of excellence in research. Politecnico di Torino.

2014-**2017**: *PhD Scholarship*. Full Salary. Università di Torino - Politecnico di Torino.

2009: *Iniziativa "Vinci un PC"*. Award for best students in the entrance test. Politecnico di Torino.

Publications

Journal Papers

[J19]: **Zino L.** and Cao M., *Analysis, Prediction, and Control of Epidemics: A Survey from Scalar to Dynamic Network Models*. Accepted for publication in the IEEE Circuits and Systems Magazine.

[J18]: Parino F., **Zino L.**, Porfiri M., and Rizzo A., *Modelling and predicting the effect of social distancing and travel restrictions on COVID-19 spreading*. Journal of the Royal Society Interface, **18**, 20200875, 2021 (`doi.org/10.1098/rsif.2020.0875`).

[J17]: Truszkowska A., Behring B., Hasanyan J., **Zino L.**, Butail S., Caroppo E., Jiang Z.P., Rizzo A., and Porfiri M., *High-resolution agent-based modeling of COVID-19 spreading in a small town*. Published online in Advanced Theory and Simulations, 2021 (`doi.org/10.1002/adts.202000277`).

[J16]: Como G., Fagnani F., and **Zino L.**, *Imitation dynamics in population games on community networks*. Published online in the IEEE Transactions on Control of Network Systems, 2020 (`doi.org/10.1109/TCNS.2020.3032873`).

[J15]: Hasanyan J., **Zino L.**,Truszkowska A., Rizzo A., and Porfiri M., *Analysis of the Heterogeneous Vectorial Network Model of Collective Motion*. IEEE Control Systems Letters, **5**(3), 1103–1108, 2021 (`doi.org/10.1109/LCSYS.2020.3010630`).

[J14]: Nadini M., **Zino L.**, Rizzo A., and Porfiri M., *A multi-agent model to study epidemic spreading and vaccination strategies in an urban-like environment*. Applied Network Science, **5**, 68, 2020 (`doi.org/10.1007/s41109-020-00299-7`).

[J13]: **Zino L.**, Ye M., and Cao M., *A two-layer model for coevolving opinion dynamics and collective decision-making in complex social systems*. Chaos: An Interdisciplinary Journal of Nonlinear Science, **30**, 083107, 2020 (`doi.org/10.1063/5.0004787`).

[J12]: **Zino L.**, Rizzo A., and Porfiri M., *On assessing control actions for epidemic models on temporal networks*. IEEE Control Systems Letters, **4**(4), 797–802, 2020 (`doi.org/10.1109/LCSYS.2020.2993104`)

[J11]: **Zino L.**, Rizzo A., and Porfiri M., *Analysis and control of epidemics in temporal networks with self-excitement and behavioral changes*. European Journal of Control **54**, 1–11, 2020 (`doi.org/10.1016/j.ejcon.2019.12.007`).

[J10]: Hasanyan J., **Zino L.**, Burbano D.A., Rizzo A., and Porfiri M., *Leader-follower consensus on activity-driven networks*. Proceedings of the Royal Society A, **476**(2233), 2020 (`doi.org/10.1098/rspa.2019.0485`).

[J9]: **Zino L.**, Rizzo A., and Porfiri M., *Consensus over activity driven networks*. IEEE Transactions on Control of Network Systems, **7**(2), 866–877, 2020 (`doi.org/10.1109/TCNS.2019.2949387`).

[J8]: Surano F.V., Bongiorno C., **Zino L.**, Porfiri M., and Rizzo A., *Backbone Reconstruction in Temporal Networks from Epidemic Data*. Physical Review E, **100**, 042306, 2019 (`doi.org/10.1103/PhysRevE.100.042306`).

[J7]: Bongiorno C., **Zino L.**, and Rizzo A., *A novel framework for community modeling and characterization in directed temporal networks*. Applied Network Science, **4**(10), 2019 (`doi.org/10.1007/s41109-019-0119-28`).

[J6]: Nakayama S., Krasner E., **Zino L.**, and Porfiri M., *Social information and spontaneous emergence of leaders in human groups*. Journal of the Royal Society: Interface, **16**(151), 2019 (`doi.org/10.1098/rsif.2018.0938`).

[J5]: **Zino L.**, Rizzo A., and Porfiri M., *Modeling memory effects in activity driven networks*. SIAM Journal on Applied Dynamical Systems, **17**(4), 2830–2854, 2018 (`doi.org/10.1137/18M1171485`).

[J4]: Fagnani F., and **Zino L.**, *Time to extinction for the SIS epidemic model: new bounds on the tail probabilities*. IEEE Transactions on Network Science and Engineering, **6**(1), 74–81, 2019 (`doi.org/10.1109/TNSE.2017.2772320`).

[J3]: **Zino L.**, Rizzo A., and Porfiri M., *An analytical framework for the study of epidemic models on activity driven networks*. Journal of Complex Networks, **5**(6), 924–952, 2017 (`doi.org/10.1093/comnet/cnx056`).

[J2]: Fagnani F., and **Zino L.**, *Diffusion of innovation in large scale graphs*. IEEE Transactions on Network Science and Engineering, **4**(2), 100–111, 2017 (`doi.org/10.1109/TNSE.2017.2678202`).

[J1]: **Zino L.**, Rizzo A., and Porfiri M., *A continuous-time discrete-distribution theory for activity-driven networks*. Physical Review Letters, **117**(22), 228302, 2016 (`doi.org/10.1103/PhysRevLett.117.228302`).

[submitted]: **Zino L.**, Como G., and Fagnani F., *Fast Spread in Controlled Evolutionary Dynamics*.

[submitted]: Ye M., **Zino L.**, Risselada H., Bolderdijk J. W., Mlakar Ž., Fennis B. M., and Cao M., *Individual inertia and trend-seeking shape collective patterns of diffusion*.

[submitted]: Ye M., **Zino L.**, Rizzo A., and Cao M., *Modelling collective decision-making during epidemics*.

[submitted]: Hagens A., Cordova-Pozo K., Postma M.J., Wilschut J., **Zino L.**, van der Schans J., *Reconstructing the effectiveness of policy measures to avoid next-wave COVID-19 infections and deaths using a dynamic simulation model: implications for health technology assessment of vaccination*.

[submitted]: Bongiorno C. and **Zino L.**, *A multi-layer network model to assess school opening policies during the COVID-19 vaccination campaign*.

Conference Papers

[C11]: Frieswijk K., **Zino L.**, and Cao M., *Modelling Behavioural Preferences in Epidemic Models for Sexually Transmitted Infections on Temporal Networks* . To appear in the proceedings of the 2021 European Control Conference.

[C10]: Cunha R., **Zino L.**, and Cao M., *On imitation dynamics in population games with Markov switching*. To appear in the proceedings of the 2021 European Control Conference.

[C9]: **Zino L.**, Ye M., and Cao M., *A Coevolutionary Model for Actions and Opinions in Social Networks*. The 59th IEEE Conference on Decision and Control, December 2020, Jeju Island, Republic of Korea (`10.1109/CDC42340.2020.9303954`).

[C8]: Risselada H., Bolderdijk J. W., Mlakar Ž., Fennis B. M., Ye M., and **Zino L.**, *Releasing the brake: How disinhibition frees people and facilitates innovation diffusion*. Proceedings of the European Marketing Academy (49th), May 2020, Budapest, Hungary (A2020-64211)

[C7]: **Zino L.**, Rizzo A., and Porfiri M., *Effect of self-excitement and behavioral factors on epidemics on activity driven networks*. The 18th European Control Conference, June 2019, Naples, Italy (`doi.org/10.23919/ECC.2019.8795748`)

[C6]: Bongiorno C., **Zino L.**, and Rizzo A., *On unveiling the community structure of temporal networks*. The 57th IEEE Conference on Decision and Control, December 2018, Miami Beach FL, US (`doi.org/10.1109/CDC.2018.8619441`).

[C5]: **Zino L.**, Como G., and Fagnani F., *Controlling Evolutionary Dynamics in Networks: A Case Study*. The 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems, August 2018, Groningen, The Netherlands (`doi.org/10.1016/j.ifacol.2018.12.060`).

[C4]: **Zino L.**, Como G., and Fagnani F., *On stochastic imitation dynamics in large-scale networks*. The 17th

European Control Conference, June 2018, Limassol, Cyprus (`doi.org/10.23919/ECC.2018.8550419`).

[C3]: **Zino L.**, Como G., and Fagnani F., *On Imitation Dynamics in Potential Population Games*. The 56th IEEE Conference on Decision and Control, December 2017, Melbourne, Australia (`doi.org/10.1109/CDC.2017.8263751`).

[C2]: **Zino L.**, Como G., and Fagnani F., *Fast Diffusion of a Mutant in Controlled Evolutionary Dynamics*. The 20th World Congress of the International Federation of Automatic Control, July 2017, Toulouse, France (`doi.org/10.1016/j.ifacol.2017.08.1429`).

[C1]: Fagnani F., and **Zino L.**, *Diffusion of innovation in large scale graphs: a mean field analysis*. 22nd International Symposium on Mathematical Theory of Networks and Systems (MTNS), July 2016, Minneapolis MN, US.

Abstracts in Conferences and Workshops

[A19]: Cenedese C., Cucuzzella M., **Zino L.**, Cao M., Scherpen J.M.A., van der Schaft A.J., *On an optimal control approach toward mitigating an SIS epidemic model*. Accepted for presetntation at the 2021 European Control Conference, June-July 2021, Rotterdam, the Netherlands.

[A18]: **Zino L.**, Rizzo A., and Porfiri M., *Optimizing self-protective behaviors and confinement in epidemic models on temporal networks.* NetSci 2020, September 2020, Rome, Italy.

[A17]: **Zino L.**, Ye M., and Cao M., *A novel framework to capture the coevolution of opinions and decisions in complex networks.* NetSci 2020, September 2020, Rome, Italy.

[A16]: Ye M., **Zino L.**, Mlakar Ž., Bolderdijk J. W. , Risselada H., Fennis B. M., and Cao M., *Understanding and Modeling Behavioral Mechanisms in Social Diffusion.* NetSci 2020, September 2020, Rome, Italy.

[A15]: Parino F., **Zino L.**, Rizzo A., and Porfiri M. *A Metapopulation activity-driven network model for COVID-19 in Italy.* AUTOMATICA.IT 2020 Workshop, September 2020, Cagliari, Italy.

[A14]: Como G., Fagnani F., **Zino L.**, *On imitation dynamics for potential population games over networks with community patterns.* The 21th World Congress of the International Federation of Automatic Control, July 2020, Berlin, Germany.

[A13]: **Zino L.**, Rizzo A., and Porfiri M., *On consensus and collective behavior over heterogeneous temporal networks.* The 21th World Congress of the International Federation of Automatic Control, July 2020, Berlin, Germany

[A12]: **Zino L.**, Parino F., Porfiri M., and Rizzo A., *A Metapopulation activity-driven network model for COVID-19 in Italy.* IEEE-CSS Italy Workshop on Modeling and Control of the COVID-19 Outbreak, April 2020.

[A11]: **Zino L.**, Ye M., and Cao M., *On the inclusion of human cognitive mechanisms in social diffusion.*The 39th Benelux Meeting on Systems and Control, March 2020, Elspeet, The Netherlands.

[A10]: Mlakar Ž., J. W. Bolderdijk, B. M. Fennis, H. Risselada, M. Ye, and **Zino L.**, *Releasing the brake: How disinhibition frees people and facilitates social change.* Society for Personality and Social Psychology's Annual Convention 2020, February 2020, New Orleans LA, US.

[A9]: **Zino L.**, Rizzo A., and Porfiri M., *On consensus over heterogeneous temporal networks*. The 8th International Conference on Complex Networks and their Applications, December 2019, Lisbon, Portugal.

[A8]: **Zino L.**, Rizzo A., and Porfiri M., *How Self-Excitement Dynamics Affects Epidemic Spreading in Time-Varying Networks*. NetSci 2019, May 2019, Burlington VT, US.

[A7]: Nakayama S., Krasner E., **Zino L.**, and Porfiri M., *Influence of Social Information on Network Dynamics in Human Groups*. SIAM Conference on Dynamical Systems 2019, May 2019, Snowbird UT, US.

[A6]: Bongiorno C., **Zino L.**, and Rizzo A., *On Community Detection in Activity-Driven Networks*. NetSci 2018, June 2018, Paris, France.

[A5]: **Zino L.**, Como G., Fagnani F., *Fast diffusion of mutant mosquitoes in controlled evolutionary dynamics.* The 6th International Conference on Complex Networks and their Applications, November-December 2017, Lyon, France.

[A4]: **Zino L.**, *Spreading processes in large scale graphs*. First Italian Meeting on Probability and Mathematical

Statistics, June 2017, Turin, Italy.

[A3]: **Zino L.**, Rizzo A., and Porfiri M., *A continuous-time discrete-distribution theory for activity-driven networks*. International School and Conference on Network Science (NetSci-X 2017), January 2017, Tel Aviv, Israel.

[A2]: **Zino L.**, Rizzo A., and Porfiri M., *A continuous-time discrete-distribution theory for activity-driven networks*. The 5th International Workshop on Complex Networks and their Applications, November-December 2016, Milan, Italy.

[A1]: Rizzo A., and **Zino L.**, *Prediction of spread of epidemics in activity-driven networks*. 2016 Workshop on Complexity in Engineering (COMPENG), July 2016, Catania, Italy.

[submitted]: **Zino L.**, Ye M., Rizzo A., and Cao M., *Modeling Collective Behavioral Response to the COVID-19 Pandemic and Non-Pharmaceutical Interventions*.

[submitted]: **Zino L.**, Ye M., Rizzo A., and Cao M., *Novel game-theoretic modeling of collective decision-making during epidemics*.

[submitted]: Parino F., **Zino L.**, Porfiri M., and Rizzo A., *A metapopulation model to assess the effectiveness of social distancing and travel restrictions on COVID-19 spreading: the Italian case study*.

Talks, Seminars, and Posters

Optimizing self-protective behaviors and confinement in epidemic models on temporal networks. The 59th IEEE Conference on Decision and Control, December 17, 2020, Jeju Island, Republic of Korea (online).

A Coevolutionary Model for Actions and Opinions in Social Networks. The 59th IEEE Conference on Decision and Control, December 14, 2020, Jeju Island, Republic of Korea (online).

Including behavioral mechanisms in models for social diffusion. Dynamics in Social and Economic Networks (CDC Workshop), December 12–13, 2020, Jeju Island, Republic of Korea (online, invited).

On imitation dynamics in population games on networks with community patterns. STAEOnline — Online Seminars in Systems Theory and Engineering, October 16, 2020, Melbourne, Australia (online).

Optimizing self-protective behaviors and confinement in epidemic models on temporal networks. NetSci 2020, September 25, 2020, Rome, Italy (online).

A novel framework to capture the coevolution of opinions and decisions in complex networks. NetSci 2020 September 24, 2020, Rome, Italy (online).

On imitation dynamics in population games on networks with community patterns. Multiscale Analysis of Dynamical Processes on Networks (NetSci 2020 Satellite), September 20, 2020, Rome, Italy (online, invited).

A Metapopulation activity-driven network model for COVID-19 in Italy. AUTOMATICA.IT 2020, September 10, 2020, Cagliari, Italy (online).

On imitation dynamics for potential population games over networks with community patterns. The 21th World Congress of the International Federation of Automatic Control, July 2020, Berlin, Germany (online).

On consensus and collective behavior over heterogeneous temporal networks. The 21th World Congress of the International Federation of Automatic Control, July 2020, Berlin, Germany (online)

A Metapopulation activity-driven network model for COVID-19 in Italy. IEEE-CSS Italy Workshop on Modeling and Control of the COVID-19 Outbreak, April 24, 2020 (online).

On the inclusion of human cognitive mechanisms in social diffusion. The 39th Benelux Meeting on Systems and Control, March 11, 2020, Elspeet, The Netherlands.

On consensus over heterogeneous temporal networks. The 8th International Conference on Complex Networks and their Applications, December 10, 2019, Lisbon, Portugal.

On imitation dynamics in potential population games. Network Dynamics in the Social, Economic, and Financial Sciences, November 5, 2019, Turin, Italy.

How to Achieve Fast Spread in Controlled Evolutionary Dynamics. Resilient Control of Infrastructure Networks, September 26, 2019, Turin, Italy.

How Self-Excitement Dynamics Affects Epidemic Spreading in Time-Varying Networks. NetSci 2019, May 29, 2019, Burlington VT, US.

Fast diffusion of mutant mosquitoes in controlled evolutionary dynamics: a case study. The 13th SICC International Tutorial Workshop "Complexity and the City", October 29, 2018, Turin, Italy.

Diffusion Processes on Networks. PhD Dissertation Defence, October 9, 2018, Torino, Italy.

Controlling Evolutionary Dynamics in Networks: A Case Study. The 7th IFAC Workshop on Distributed Estimation and Control in Networked Systems, August 28, 2018, Groningen, the Netherlands (poster).

Controlling Spreading Processes in Networks. DISMA Weekly Seminar, July 11, 2018, Torino, Italy.

On stochastic imitation dynamics in large-scale networks. The 17th European Control Conference, June 15, 2018, Limassol, Cyprus.

Diffusion Processes on Networks. DSL Weekly Seminar, March 2, 2018, Brooklyn NY, US.

Fast diffusion of mutant mosquitoes in controlled evolutionary dynamics. The 6th International Conference on Complex Networks and their Applications, November 30, 2017, Lyon, France.

Fast Diffusion of a Mutant in Controlled Evolutionary Dynamics. The 20th World Congress of the International Federation of Automatic Control, July 13, 2017, Toulouse, France.

Spreading processes in large scale graphs. First Italian Meeting on Probability and Mathematical Statistics, June 20, 2017, Turin, Italy.

A continuous-time discrete-distribution theory for activity-driven networks. The 5th International Workshop on Complex Networks and their Applications, December 2, 2016, Milan, Italy.

Diffusion of innovation in large scale graphs: a mean field analysis. 22nd International Symposium on Mathematical Theory of Networks and Systems (MTNS), July 14, 2016, Minneapolis MN, US.

Outreach and Media Coverage

PoliFlash Magazine, *Covid-19: un modello per prevedere la diffusione del virus in Italia e ottimizzare il piano vaccinale* (in Italian). February 10, 2021.

Advanced Science News, *Vaccinating the most vulnerable first may not have the greatest impact on COVID-19, new model suggests*. January 27, 2021.

New York Post, *Mass COVID-19 vaccinations accomplish more than targeted vaccine roll outs*. January 23, 2021.

PoliFlash Magazine, *Un modello ad alta risoluzione per prevedere l'evoluzione del Covid-19* (in Italian). January 22, 2021.

EurekAlert!, *New COVID-19 model shows little benefit in vaccinating high-risk individuals first*. January 19, 2021.

ScienceDaily, *New mathematical model shows how diversity speeds consensus*. January 8, 2020.

ScienceDaily, *In small groups, people follow high-performing leaders*. February 21, 2019.

Futurity, *How leaders rise from small groups*. February 21, 2019.

Contagion Live, *Fighting Flu With Math: Predicting Peak Season, Spread, and Vaccination Patterns*. February 18, 2019.

Infection Control Today, *NYU Researchers Fight Flu With Math*. February 7, 2019.

La Stampa Novara, *Spiego con la matematica la diffusione delle epidemie* (in Italian). December 27, 2018.

PoliFlash Magazine, *Le interazioni sociali possono influire sulla diffusione di una malattia?* (in Italian). December 12, 2018.

NSF News, *Researchers find clue to epidemics in 'bursty' social behavior*. December 12, 2018.

EurekAlert, *Clue to Epidemics In Bursty Social Behavior*. December 12, 2018.

SIAM News, *Can Social Interactions Affect Spread of Disease?*. December 12, 2018.

La Stampa, *Il matematico torinese: stesso algoritmo per spiegare epidemie e bufale mediatiche* (in Italian).

January 7, 2017.

La Stampa Torino, *Fronteggiare le epidemie si può, è matematico: Si diffondono con i meccanismi dei Social* (in Italian). December 6, 2016.

Repubblica Torino, *Epidemie, nuovo modello del Politecnico di Torino: Si propagano come i trend topic su Twitter* (in Italian). December 6, 2016.

R&D Magazine, *New Model to Predict Disease Outbreak*. November 30, 2016.

Further Professional and Scientific Activities

Program Committee Member: 8th International Conference on Complex Networks and their Applications (COMPLEX NETWORKS 2019), 9th International Conference on Complex Networks and their Applications (COMPLEX NETWORKS 2020)

Organizer of Invited Sessions: 59th IEEE Conference on Decision and Control (CDC 2020), 29th Mediterranean Conference on Control and Automation (MED 2021)

Journal Reviewer: IEEE Transactions on Automatic Control, IEEE Transactions on Circuits and Systems II: Express Briefs, IEEE Transactions on Control of Network Systems, IEEE Control Systems Letters, IEEE Transactions on Network Science and Engineering, IEEE Access, IEEE Transactions on Emerging Topics in Computational Intelligence, IFAC Automatica, Scientific Reports, Chaos: An Interdisciplinary Journal of Nonlinear Science, The Journal of the Royal Society Interface, SIAM Journal on Control and Optimization, PLOS ONE, Springer Applied Network Science, Springer Social Network Analysis and Mining, Journal of Complex Networks, Network Science, Mathematical Biosciences and Engineering, American Journal of Tropical Medicine & Hygiene, ASME Journal of Vibration and Acoustics, Complexity, Journal of Statistical Mechanics: Theory and Experiments, Advanced Theory and Simulations, Biology, Mathematics and Computers in Simulation, International Journal of Environmental Research and Public Health.

Conference Reviewer: IEEE Conference on Decision and Control (CDC 2017–20), American Control Conference (ACC 2018, 2020–21), European Control Conference (ECC 2018, 2020–21), IFAC World Congress (IFAC WC 2020), International Symposium on Mathematical Theory of Networks and Systems (MTNS 2016–18), IEEE International Symposium on Circuits and Systems (ISCAS 2018), International Conference on Complex Networks and their Applications (COMPLEX NETWORKS 2016–17, 2019–20), Mediterranean Conference on Control and Automation (MED 2019, 2021), European Conference on Circuit Theory and Design (ECCTD 2017), Workshop on Complexity in Engineering (COMPENG 2016).

Professional Memberships: Member of the Network Science Society (since 2019), the IEEE (Institute of Electrical and Electronics Engineers, since 2021) and of the CSS (Control Systems Society, since 2021), Affiliate of the IFAC (International Federation of Automatic Control, since 2021)

Technical Skills

OS: Microsoft Windows XP, Vista, 7, 10

Development: MATLAB (advanced level), HTML, Microsoft Excel, SQL, R, PL-SQL (intermediate level), C, PENTAHO, MATHEMATICA, WinBUGS, MINITAB, RAPIDMINER (basic level)

Text processing: LaTeX, Scribus, Microsoft Office (Word, PowerPoint)

Image processing: Adobe Photoshop CS3, CC

Languages

Italian: Mother-tongue

English: Full professional proficiency (*FCE Grade A - Level C1, PET with Merit - Level B2*)

For References Please Contact...

prof. **Ming Cao**: University of Groningen, `m.cao@rug.nl`
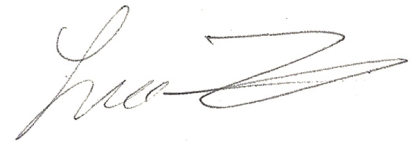
prof. **Giacomo Como**: Politecnico di Torino and Lund University, `giacomo.como@polito.it`

prof. **Fabio Fagnani**: Politecnico di Torino, `fabio.fagnani@polito.it`

prof. **Maurizio Porfiri**: New York University, Tandon School of Engineering, `mporfiri@nyu.edu`

prof. **Alessandro Rizzo**: Politecnico di Torino, `alessandro.rizzo@polito.it`

Last update: Groningen, The Netherlands, February 26, 2021