



Nicola Bastianello

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Experience	<i>Post-doc Researcher</i> KTH Royal Institute of Technology, Sweden <ul style="list-style-type: none">• Advisor: Prof. Karl H. Johansson	Nov 2022—
	<i>Post-doc Researcher</i> University of Padova, Italy <ul style="list-style-type: none">• Advisor: Prof. Sandro Zampieri	Nov 2021—Oct 2022
Education	<i>Visiting PhD Student</i> University of Colorado Boulder, USA <ul style="list-style-type: none">• Advisor: Prof. Emiliano Dall’Anese	Oct 2019—Apr 2020
	<i>PhD Student in Information Engineering</i> University of Padova, Italy <ul style="list-style-type: none">• Advisors: Prof. Ruggero Carli, Prof. Andrea Simonetto (ENSTA Paris)• Thesis: “Operator theory for optimization and learning” (pdf)	Oct 2018—Sep 2021
	<i>Master in Automation Engineering</i> University of Padova, Italy <ul style="list-style-type: none">• Advisor: Prof. Ruggero Carli• Final evaluation: 110/110 <i>cum laude</i>	Oct 2015—Apr 2018
	<i>Bachelor in Information Engineering</i> University of Padova, Italy <ul style="list-style-type: none">• Advisor: Prof. Luca Schenato• Final evaluation: 108/110	Sep 2012—Sep 2015
Teaching	<i>Lecturer (graduate school)</i> European Embedded Control Institute (EECI), Gif-sur-Yvette, Paris, France International Graduate School on Control, course “Multi-Agent Optimization and Learning: Resilient and Adaptive Solutions”, Feb 13-17 2023, with Prof. Ruggero Carli and Prof. Luca Schenato, ~ 10h (of 21h)	Feb 2023
	<i>Lecturer (graduate school)</i> IFAC Conference on Networked Systems (NecSys22), Zurich, Switzerland Pre-conference short course “Multi-agent convex optimization over asynchronous and lossy networks”, July 03-04 2022, with Prof. Ruggero Carli and Prof. Luca Schenato, ~ 5h (of 12h) link	Jul 2022

Teaching Assistant (master course)
University of Padova, Italy

May—Jun 2022

Master course “Robotics and Control 1”, assistant to Prof. Ruggero Carli,
~ 10h

Teaching Assistant (graduate school)
European Embedded Control Institute (EECI), Online

Jun 2021

International Graduate School on Control, course “Multi-Agent Distributed
Optimization and Learning over Wireless Networks”, June 07-11 2021, assis-
tant to Prof. Ruggero Carli and Prof. Luca Schenato, ~ 8h (of 21h)

Teaching Assistant (graduate school)
European Embedded Control Institute (EECI), Gif-sur-Yvette, Paris, France

Jun 2019

International Graduate School on Control, course “Multi-Agent Distributed
Optimization and Learning over Wireless Networks”, June 03-06 2019, assis-
tant to Prof. Ruggero Carli, ~ 8h (of 21h)

Supervision

Co-supervision of Alejandro Penacho Riveiros
KTH Royal Institute of Technology, Sweden

Mar 2023–

Supervised as a Research Engineer (Mar 2023–Jun 2023), and as a Ph.D. stu-
dent (Jul 2023–)

Publications

Pre-prints

2. [N. Bastianello](#), R. Carli, S. Zampieri. “Internal Model-Based Online Optimiza-
tion.” arXiv.
1. [N. Bastianello](#), L. Madden, R. Carli, E. Dall’Anese. “A Stochastic Operator
Framework for Optimization and Learning with Sub-Weibull Errors.” arXiv.

Journal papers

6. [N. Bastianello](#), R. Carli, A. Simonetto. “Extrapolation-based Prediction-Correction
Methods for Time-varying Convex Optimization.” *Signal Processing*, vol. 210,
pp. 109089, Sep 2023. [link](#), arXiv.
5. [N. Bastianello](#), L. Schenato, R. Carli. “A novel bound on the convergence rate
of ADMM for distributed optimization.” *Automatica*, vol. 142, pp. 110403,
Aug 2022 [link](#)
4. A. M. Ospina, [N. Bastianello](#), E. Dall’Anese. “Data-based Online Optimiza-
tion of Networked Systems with Infrequent Feedback.” *IEEE Control Systems
Letters*, vol. 6, pp. 2521-2526, 2022 arXiv
3. [N. Bastianello](#), R. Carli, L. Schenato, M. Todescato. “Asynchronous Distributed
Optimization over Lossy Networks via Relaxed ADMM: Stability and Linear
Convergence.” *IEEE Trans. Automatic Control*, vol. 66, no. 6, pp. 2620-2635,
Jun 2021 arXiv.
2. [N. Bastianello](#), A. Simonetto, R. Carli. “Prediction-Correction Splittings for
Time-Varying Optimization with Intermittent Observations.” *IEEE Control
Systems Letters*, vol. 4, no. 2, pp. 373-378, Apr 2020 [link](#).
1. A. Olama, [N. Bastianello](#), P. Da Costa Mendes, E. Camponogara. “Relaxed
Hybrid Consensus ADMM for Distributed Convex Optimization with Coupling

Constraints.” *IET Control Theory & Applications*, vol. 13, no. 17, pp. 2828–2837, Nov 2019 link.

Conference papers

12. N. Bastianello, A. I. Rikos, K. H. Johansson. Online Distributed Learning with Quantized Finite-Time Coordination. *2023 IEEE Conference on Decision and Control (CDC23)* arXiv
11. D. Deplano, N. Bastianello, M. Franceschelli, K. H. Johansson. A unified approach to solve the dynamic consensus on the average, maximum, and median values with linear convergence. *2023 IEEE Conference on Decision and Control (CDC23)*
10. G. Carnevale, N. Bastianello, R. Carli, G. Notarstefano. Distributed Consensus Optimization via ADMM-Tracking Gradient. *2023 IEEE Conference on Decision and Control (CDC23)*
9. N. Bastianello, R. Carli. “ADMM for Dynamic Average Consensus over Imperfect Networks.” *IFAC Conference on Networked Systems (NecSys22)* Jul 2022, IFAC-PapersOnLine vol. 55, no. 13, pp. 228-233
8. N. Bastianello, A. Simonetto, E. Dall’Anese. “OpReg-Boost: Learning to Accelerate Online Algorithms with Operator Regression.” *4th Annual Learning for Dynamics & Control Conference (L4DC’22)* Jun. 2022, vol. 168, pp. 138-152 arXiv, link
7. N. Bastianello. “tvopt: A Python Framework for Time-Varying Optimization.” *2021 IEEE Conference on Decision and Control (CDC’21)*, Dec 2021, pp. 227-232 arXiv.
6. N. Bastianello, E. Dall’Anese. “Distributed and Inexact Proximal Gradient Method for Online Convex Optimization.” *2021 European Control Conference (ECC’21)*, Jun 2021, pp. 2432-2437 arXiv.
5. N. Bastianello, A. Simonetto, R. Carli. “Distributed Prediction-Correction ADMM for Time-Varying Convex Optimization.” *54th Asilomar Conference on Signals, Systems and Computers*, Nov 2020, pp. 47-52 arXiv.
4. N. Bastianello, A. Simonetto, R. Carli. “Prediction-Correction Splittings for Nonsmooth Time-Varying Optimization.” *2019 European Control Conference (ECC’19)*, Jun 2019, pp. 1963-1968 arXiv, link.
3. N. Bastianello, A. Simonetto, R. Carli. “Prediction-Correction for Nonsmooth Time-Varying Optimization via Forward-Backward Envelopes.” *2019 International Conference on Acoustics, Speech, and Signal Processing (ICASSP’19)*, May 2019, pp. 5581-5585 arXiv, link.
2. N. Bastianello, R. Carli, L. Schenato, M. Todescato. “A Partition-Based Implementation of the Relaxed ADMM for Distributed Convex Optimization over Lossy Networks.” *2018 IEEE Conference on Decision and Control (CDC’18)*, Dec 2018, pp. 3379-3384 arXiv, link.
1. N. Bastianello, M. Todescato, R. Carli, L. Schenato. “Distributed Optimization over Lossy Networks via Relaxed Peaceman-Rachford Splitting: a Robust ADMM Approach.” *2018 European Control Conference (ECC’18)*, Jun 2018, pp. 477-482 arXiv, link.

Patent

- A. Simonetto, N. Bastianello, R. Carli, T. T. Tchraikian. “Methods and Systems for Managing As-A-Service Systems in the Event of Connectivity Issues”, U.S. Patent Application No. 17/647693, unpublished (filing date Jan 11, 2022)

Projects

- HORIZON Research and Innovation Actions Oct 2022–
 - “ULTIMATE: Multi-Level Trustworthiness to Improve the Adoption of Hybrid Artificial Intelligence”
 - Funding: European Commission (EU) [project n. 101070162]
 - Role: researcher, deputy leader work package (WP3), executive board and editorial board member
- Italy-Brazil Joint Science and Technology Cooperation Dec 2021–Oct 2022
 - “Distributed Optimization for Cooperative Machine Learning in Complex Networks”
 - Funding: Santa Catarina’s Research Funding Agency (FAPESC), Santa Catarina, Brazil
 - Role: researcher
- PRIN 2017 Nov 2021–Oct 2022
 - “VECTORS: Advanced Networks Control Of Future Smart Grids” [link](#)
 - Funding: Ministry of University and Research (Italy) [project n. 2017CW MF93]
 - Role: researcher

Presentations

Invited talks

- University of Padova, Italy, May 12, 2023
Title: “Internal Model-Based Online Optimization” [link](#)
- Paris Mines, Paris, France, Feb 13, 2023
Title: “Structured and Model-Based Algorithms for Online Optimization” [link](#)
- KTH Royal Institute of Technology, Stockholm, Sweden, Jul 1, 2022
Title: “Online Optimization: Intersections with Control and Learning”
- IBM Research Ireland, Dublin, Ireland [Online], Feb 23, 2021
Title: “OpReg-Boost: Learning to Accelerate Online Algorithms with Operator Regression”
- IBM Research Ireland, Dublin, Ireland, Sep 4, 2019
Title: “ADMM for Distributed Optimisation over Lossy Networks and with Asynchronous Updates”

Conferences and workshops

- “Control Days 2022” workshop, Padova, Italy, Sep 22, 2022
- VECTORS final meeting, Ischia, Italy, Sep 8, 2022
- Automatica.it 2022, Cagliari, Italy, Sep 2, 2021
- IFAC Conference on Networked Systems (NecSys22), Zurich, Switzerland, Jul 7, 2022 [poster]
- 4th Annual Learning for Dynamics & Control Conference, Palo Alto, California, USA, Jun 24, 2022 [poster]
- Conference on Decision and Control (CDC’21), Online, Dec 13, 2021
- Automatica.it 2021, Online, Sep 8, 2021
- SIAM Conference on Optimization, Online, Jul 23, 2021
- European Control Conference (ECC’21), Online, Jul 2, 2021
- INFORMS Annual Meeting 2020, Online, Nov 12, 2020
- Asilomar Conference on Signals, Systems, and Computers, Online, Nov 2, 2020
- Automatica.it 2020, Online, Sep 9, 2020
- European Control Conference (ECC’19), Napoli, Italy, Jun 27, 2019
- “Control Days 2019” workshop, Padova, Italy, May 9, 2019
- Conference on Decision and Control (CDC’18), Miami Beach, Florida, USA, Dec 18, 2018
- European Control Conference (ECC’18), Limassol, Cyprus, Jun 13, 2018

Service

Organizer

- “2nd Stockholm Workshop on Emerging Topics in Systems and Control”, March 30, 2023 at Digital Futures, KTH link
- Seminars at KTH (3 invited guests)

Peer reviewer

Journals¹:

- IEEE Transactions on Automatic Control (35 papers)
- Automatica (25 papers)
- IEEE Transactions on Control of Network Systems (13 papers)
- IEEE Control Systems Letters (11 papers)
- Systems & Control Letters (2 papers)
- IEEE Transactions on Signal Processing (2 papers)
- Nature Communications (1 paper)
- Annual Reviews in Control (1 paper)
- The Journal of the Franklin Institute (1 paper)
- Applied Energy (1 paper)

International conferences:

- IEEE Conference on Decision and Control (2018–)
- European Control Conference (2019–)
- American Control Conference (2020–)
- IFAC World Congress (2020, 2023)
- IFAC Conference on Networked Systems (2020, 2022)

Awards:

- *Automatica* Outstanding Reviewer, 2023

Other

- Student representative member on the *PhD School Board* (2018–2021) and the *PhD School Executive Board* (2018–2021), PhD School in Information Engineering, University of Padova, Italy
- Co-chair regular session MoA07 Conference on Decision and Control 2021 link

Affiliations

- IEEE (2019–)
- IEEE Control System Society (2019–)

Skills

Languages: Italian, English

Programming: Python, MATLAB/Simulink.

OS: Linux, Windows.

¹The numbers are computed by counting each manuscript once, without accounting for the reviews of revised version(s).