Bartolomeo Stellato

Assistant Professor
Princeton University

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Education

University of Oxford — Oxford, UK
PhD in Engineering Science — 2018
- Thesis: "Mixed-Integer Optimal Control of Fast Dynamical Systems"
- Supervision: P. Goulart

ETH Zürich — Zürich, CH
MSc in Robotics, Systems and Control — 2014

Politecnico di Milano — Milano, IT
BSc in Automation Engineering — 2012

Research Interests

Data-driven computational tools to make decisions in highly dynamic and uncertain environments:

- **Research:** real-time and embedded optimization, robust optimization, optimization-based control, large scale optimization, machine learning for optimization.
- **Applications:** control of fast dynamical systems, robotics, finance, and autonomous systems.

Research Experience

Princeton University — Princeton, NJ
Assistant Professor, Dept. of Operations Research and Financial Engineering — Jul 2020 – Present
- Associated Faculty, Dept. of Electrical and Computer Engineering
- Associated Faculty, Dept. of Computer Science
- Associated Faculty, Center of Statistics and Machine Learning
- Affiliated Faculty, Robotics at Princeton Initiative
- Affiliated Faculty, AI at Princeton Initiative
- Fellow, Whitman College

MIT Sloan School of Management — Cambridge, MA
Postdoctoral Research Associate — Jan 2018 – Jul 2020
- Project: "Machine Learning for Optimization"
- Supervision: D. Bertsimas

Stanford University — Stanford, CA
Visiting Student Researcher — 2016
- Project: "OSQP: An Operator Splitting Solver for Quadratic Programs"
- Supervision: S. Boyd
- Open-source software: OSQP (osqp.org). 100+ M downloads.
  Widely used in academia and industry, including at Google, Blackrock, Lyft, etc.

University of Oxford — Oxford, UK
European Union Marie Curie Fellow — Sep 2014 – Sep 2017
- Project: "TEMPO: Training in Embedded Predictive Control and Optimization"
- Supervision: P. Goulart

Siemens, Building Technologies Division — Zug, CH
Research Intern — Jul 2013 – Dec 2013
- Project: "Adaptive Superheat Control on HVAC systems"
- Supervision: B. Baumann

Awards

- Seed Grant (co-PI, $60,000) — Jan 2025
  Princeton AI Initiative
- Young Investigator Program Award (PI, $750,000) — Oct 2024
  Office of Naval Research (ONR)
- Beale – Orchard-Hays Prize — Jul 2024
  Mathematical Optimization Society
- Howard B. Wentz, Jr. Junior Faculty Award ($50,000) — May 2024
  Princeton School of Engineering and Applied Science (SEAS)
- Seed Grant (co-PI, $50,000) — Feb 2024
  Princeton School of Engineering and Applied Science (SEAS)
- CAREER Award (PI, $500,000) — Mar 2023
  National Science Foundation (NSF)
- Franco Strazzabosco Young Investigator Award ($3,000) — Nov 2022
  Italian Scientists and Scholars in North America Foundation (ISSNAF)
- Student Paper Award (as advisor) — Oct 2022
  INFORMS Computing Society
- Metropolis Project on Future Cities and Technologies (co-PI, $100,000) — Feb 2022
  Princeton School of Engineering and Applied Science (SEAS)
- Innovation Award in Data Science (PI, $70,000) — Feb 2022
  Princeton School of Engineering and Applied Science (SEAS)
- 250th Anniversary Fund for Innovation in Undergraduate Education ($23,000) — May 2021
  Princeton University
- Best Paper Award — Jan 2021
  Mathematical Programming Computation
- Pierskalla Best Paper Award — Nov 2020
  INFORMS Health Applications Society
- First Place Prize Paper Award ($1000) — Sep 2018
  IEEE Transactions on Power Electronics
- Vice-Chancellors' Fund (£3,000) — May 2017
  University of Oxford
- Masterclass Award (£1,000) — Apr 2015
  St Edmund Hall, University of Oxford
- Marie Curie PhD Fellowship (€250,000) — Sep 2014
  European Commission

Teaching Experience

Princeton University, Principal Lecturer — Fall 2020 – Present

ORF522: Linear and Nonlinear Optimization (PhD level, 50+ students)

- Topics: near optimization modeling, duality, the simplex method, degeneracy, sensitivity analysis. Nonlinear optimality conditions, KKT conditions, first order and operator splitting methods for large-scale convex optimization, nonconvex optimization algorithms, and stochastic optimization.
- Applications: engineering, robotics, autonomous systems, finance, and machine learning.

Princeton University, Principal Lecturer — Spring 2021 – Present

ORF307: Optimization (BSc level, 100+ students)

- Topics: least squares optimization with multiple objectives and constraints. Linear optimization modeling, duality, the simplex method, interior point methods, and network flow optimization. Integer programming and branch-and-bound algorithms.
- Applications: engineering, finance, and machine learning.

MIT, Teaching & Learning Laboratory Participant — Aug 2019

Kaufman Teaching Certificate Program

- Completed teaching program based on eight workshops aimed at developing teaching skills, organizing new courses and interacting with the students.

University of Oxford, Tutor — Sep 2015 – Jun 2016

Courses: System Identification; Optimal Control; Linear Dynamical Systems

- Responsible for holding weekly *tutorials*: small interactive teaching sessions with groups of four students with in-depth discussions.

University of Oxford, Laboratory Assistant — Jun 2015 –- Jun 2017

Laboratories: LEGO Football; Instrumentation and Control; Helicopter

- Co-organized hands-on undergraduate laboratory courses.

Supervision

Postdocs

- Aras Selvi, Princeton — 2025–present
- Jisun Park, Princeton — 2024–present
  - Sejong Science Fellowship, National Research Foundation of Korea
- Gabriele Dragotto, Princeton (co-advised with Prof. Fernández Fisac) — 2022–2024
  - Princeton DataX Postdoc Fellowship

Graduate students

- Yanjun Liu, PhD Princeton (co-advised with Prof. Amir Ali Ahmadi) — 2024–Present
  PhD topic: Performance analysis for continuous optimization algorithms
- Yixuan Hua, PhD Princeton (co-advised with Prof. Amir Ali Ahmadi) — 2023–Present
  PhD topic: Disjunctive Sum of Squares Optimization
- Stefan Clarke, PhD Princeton — 2022–Present
  PhD topic: Data-Driven Multi-Agent Decision Making
- Vinit Ranjan, PhD Princeton — 2021–Present
  PhD topic: Performance Verification for Real-Time Optimization
- Irina Wang, PhD Princeton — 2021–Present
  PhD topic: Learning for Optimization under Uncertainty
  - Wallace Memorial Fellowship in Engineering
  - Princeton SEAS Award for Excellence
  - INFORMS Computing Society Student Paper Award
- Rajiv Sambharya, PhD Princeton — 2021–2024
  PhD topic: Learning to Accelerate Optimizers
  - Princeton Graduate School Excellence in Teaching Award (ORF307 course)
- Shuvomoy Das Gupta, PhD MIT (co-supervised with Prof. B. Van Parys) — 2019–2022
  PhD topic: First-order Methods for Nonconvex Optimization
- Liangyuan Na, PhD MIT (co-supervised with Prof. D. Bertsimas) — 2019–2020
  PhD topic: Coupled adaptive and robust optimization
- Luca Mingardi, MBAn MIT (co-supervised with Prof. D. Bertsimas) — 2019–2021
  Master topic: Hearth disease predictions from ECG data

Senior thesis students (Princeton)

- Zach Yaninek 2025–Present
- Allen Shen 2025–Present
- Elliot Lee 2025–Present
- Liubomir Baicev 2024–Present
- Shlok Patel 2024–2025
  Title: "Optimizing Ambulance Dispatch and Relocation"
  - Sigma Xi Book Award
- Harit Raghunathan 2024–2025
  Title: "Success Prediction and Release Strategy Optimization for Independent Musicians"
- Annie Liang 2023–2024
  Title: "Data-Driven Adjustable Robust Optimization: Decision Making under Uncertainty"
  - Ahmet S. Cakmak Prize
- Sophia Fang 2023–2024
  Title: "A Decision-Focused Approach to Optimizing Hospital Patient Flow"
  - Ahmet S. Cakmak Prize
- Anna Glowski 2022–2023
  Title: "Optimizing Fun: A TSP-Based Approach to Route Optimization at Disneyland"
- Nishant Kumar Singhal 2022–2023
  Title: "Constructing Optimal Flow Networks: An Exploration Centered on the U.S. Flight Network"
- Elliott N. Strahan 2022–2023
  Title: "Batch Exchanges Moo-ving Forward: Formalization and Analysis of CFMM-Based Clearing Price Auctions"
- Chen Leon 2022–2023
  Title: "A Mixed-Integer Optimization Approach to Allocating Housing Resources for the Homeless"
- Cole Becker 2021–2022
  Title: "Data-Driven Methods for Decision-Making Under Uncertainty"
  - John Ogden Bigelow Jr. Prize in Electrical Engineering
  - Princeton SEAS Mueller Prize
- Joyce Luo 2021–2022
  Title: "Equitable Data-driven Resource Allocation to Fight the Opioid Epidemic: a Mixed-integer Optimization Approach"
  - Sigma Xi Book Award
- Diana Zhang 2021–2022
  Title: "Applications of Deep Implicit Layers and Convex Optimization in Portfolio and Risk Management"
- Emma Zhao 2021–2022
  Title: "Don't Forget The Past: An Analysis Of Dementia Risk Factors Around The World"
- Holly Cunningham 2020–2021
  Title: "Differentiable Transportation for On-Demand Transportation Systems"
- Ava Jiang 2020–2021
  Title: "A Distributed Framework for Learning Agent Rationality"
- Max Jun Kim 2020–2021
  Title: "A Computational Approach to Analyzing Supply Chain Sustainability"

Independent Work students (Princeton)

- Kaan Odabas 2024

Research software engineers (Princeton)

- Anushka Acharya 2025–present
- Amit Solomon 2023–2025
- Vineet Bansal 2021–2022

Visitors

- Paul Häusner 2025

Service

Review

Mathematical Programming, Operations Research, Mathematics of Operations Research, Management Science, SIAM Journal on Optimization, Mathematical Programming Computation, IEEE Transactions on Automatic Control, ACM Transactions on Mathematical Software, The American Statistician, IEEE Transactions on Power Electronics, Autonomous Robots, INFORMS Journal of Optimization, Optimal Control Applications and Methods, Computers and Operations Research, IEEE Access, IEEE Transactions on Control Systems Technology, IEEE Transactions on Neural Networks and Learning Systems.

Societies and conference committees

- Vice-Chair of Computational Optimization and Software, INFORMS Optimization Society 2023–2025
- Cluster Chair: Computational Optimization and Software, INFORMS Annual Meeting 2023–2025
- Cluster Chair: Machine Learning and Optimization, INFORMS Computing Society Conference (ICS) 2025
- Best Poster Award Committee: Princeton Symp. on Safe Deployment of Foundation Models in Robotics 2024
- Organizer: Princeton Workshop on Optimization, Learning, and Control 2024
- Cluster Chair: Computational Optimization and Software, INFORMS Annual Meeting 2024
- Cluster Chair: Emerging Appl. of Optimization, INFORMS Opt. Society Conference (IOS) 2024
- Program committee: 8th IFAC Conference on Nonlinear Model Predictive Control (NMPC) 2024
- Program committee: 4th Learning for Dynamics and Control Conference (L4DC) 2022
- Program committee: 3th Learning for Dynamics and Control Conference (L4DC) 2021

Invited sessions and seminar organization

- Chair of one invited session: International Conference on Continuous Optimization (ICCOPT) 2025
- Chair of one invited session: International Symposium on Mathematical Programming (ISMP) 2024
- Chair of one invited session: Conference on Information Sciences and Systems (CISS) 2024
- Organizer: Princeton Optimization Seminars 2020–Present
- Chair of one invited session: INFORMS Annual Meeting 2023
- Chair of one invited session: Modeling and Optimization: Theory and Applications (MOPTA) 2023
- Organizer of two minisymposia (16 speakers): SIAM Conf. on Optimization (SIOPT) 2023
- Chair of one invited session: INFORMS Annual Meeting 2022
- Chair of two invited sessions: International Conference on Continuous Optimization (ICCOPT) 2022
- Chair of one invited session: European Conference on Computational Optimization (EUCCO) 2016
- Organizer: Oxford Control and Optimization Seminars 2016–2017

Princeton University Committees

- Optimization and Quantitative Decision Science Minor, Interdep. Committee, Princeton University 2025–Present
- Priorities Committee, Princeton University 2024–Present
- PhD admissions committee, Princeton ORFE 2025
- Assoc. Director of Research Development hiring committee, Princeton Office of the Dean for Research 2023
- Graduate Certificate Program Committee, Princeton Center for Statistics and Machine Learning 2023
- Independent Work grader, Princeton Center for Statistics and Machine Learning 2022–2023
- PhD admissions committee, Princeton ORFE 2022–2023

PhD committees

- Pierfrancesco Beneventano, Princeton ORFE (advised by Prof. Boris Hanin) 2025
- Jennifer Sun, Princeton ORFE (advised by Prof. Elad Hazan) 2025
- James Kotary, University of Virginia CS (advised by Prof. Ferdinando Fioretto) 2024
- Rajiv Sambharya, Princeton ORFE 2024
- Zheng Yu, Princeton ECE (advised by Prof. Mengdi Wang) 2022
- Abhishek Cauligi, Stanford Aeroastro (advised by Prof. Marco Pavone) 2021
- Cemil Dibek, Princeton ORFE (advised by Prof. Amir Ali Ahmadi) 2021
- Zachary Hervieux-Moore, Princeton ORFE (advised by Prof. Alain Kornhauser) 2021
- Sinem Uysal, Princeton ORFE (advised by Prof. John Mulvey) 2021
- Hao Lu, Princeton ORFE (advised by Prof. Mengdi Wang) 2021
- Bachir El Khadir, Princeton ORFE (advised by Prof. Amir Ali Ahmadi) 2020

General examination committees

- Silu Li, Princeton ORFE (advised by Prof. John Mulvey) 2024
- Sofiia Shvaiko, Princeton ORFE (advised by Prof. Elizaveta Rebrova) 2024
- Yixuan Hua, Princeton ORFE (co-advised with Prof. Amir Ali Ahmadi) 2024
- Stefan Clarke, Princeton ORFE 2023
- Chenyu Yu, Princeton ORFE (advised by Prof. John Mulvey) 2023
- Jennifer Sun, Princeton ORFE (advised by Prof. Elad Hazan) 2023
- Anjian Li, Princeton ECE (advised by Prof. Ryne Beeson) 2023
- Haimin Hu, Princeton ECE (advised by Prof. Jaime Fernández Fisac) 2021
- Rajiv Sambharya, Princeton ORFE 2021
- Pierfrancesco Beneventano, Princeton ORFE (advised by Prof. Boris Hanin) 2021
- Abraar Chaudhry, Princeton ORFE (advised by Prof. Amir Ali Ahmadi) 2021
- Yu Wu, Princeton ECE (advised by Prof. Mengdi Wang) 2021

Academic advising

- 23 undergraduate students/year, ORFE, Princeton Universiy, 2020–Present
- 14 freshman students/year, Whitman college, Princeton University 2021–Present

Open-source software

- CVXPY project maintainer (as part of NumFOCUS) 2021–Present
- OSQP project maintainer (supported by Princeton CSML and OIT) 2022–Present

Media

- INFORMS Resoundingly Human Podcast 2024
- EU Marie Curie Project Overviews 2018

Publications (Google scholar citations: 3.5k+, h-index: 21)

Journal articles

[J19] V. Ranjan and **B. Stellato**, "Verification of first-order methods for parametric quadratic optimization," *Mathematical Programming (forthcoming)*, Jul. 2025.

[J18] F. Fabiani, **B. Stellato**, D. Masti, and P. Goulart, "A neural network-based approach to hybrid systems identification for control," *Automatica*, vol. 174, p. 112 130, 2025.

[J17] D. Bertsimas, L. Na, and **B. Stellato**, "The benefit of uncertainty coupling in robust and adaptive robust optimization," *INFORMS Journal on Optimization*, vol. 7, no. 2, pp. 105–141, 2025.

[J16] I. Wang, C. Becker, B. Van Parys, and **B. Stellato**, "Mean robust optimization," *Mathematical Programming (forthcoming)*, Nov. 2024.
INFORMS Computing Society Student Paper Award

[J15] S. Das Gupta, **B. Stellato**, and B. Van Parys, "Exterior-point optimization for sparse and low-rank optimization," *Journal of Optimization Theory and Applications*, vol. 202, pp. 795–833, Aug. 2024.

[J14] R. Sambharya, G. Hall, B. Amos, and **B. Stellato**, "Learning to warm-start fixed-point optimization algorithms," *Journal of Machine Learning Research*, vol. 25, no. 166, pp. 1–46, 2024.

[J13] J. Luo and **B. Stellato**, "Frontiers in operations: Equitable data-driven facility location and resource allocation to fight the opioid epidemic," *Manufacturing & Service Operations Management*, vol. 26, 4 2024.

[J12] M. Schaller, G. Banjac, S. Diamond, A. Agrawal, **B. Stellato**, and S. Boyd, "Embedded code generation with CVXPY," *IEEE Control Systems Letters*, vol. 6, pp. 2653–2658, 2022.

[J11] D. Bertsimas and **B. Stellato**, "Online mixed-integer optimization in milliseconds," *INFORMS Journal on Computing*, vol. 34, no. 4, pp. 2229–2248, 2022.

[J10] A. Cauligi, P. Culbertson, E. Schmerling, M. Schwager, **B. Stellato**, and M. Pavone, "CoCo: Online mixed-integer control via supervised learning," *IEEE Robotics and Automation Letters*, vol. 7, no. 2, pp. 1447–1454, 2022.

[J9] D. Bertsimas, L. Boussioux, R. Cory Wright, A. Delarue, V. Digalakis, A. Jacquillat, D. Lahlou Kitane, G. Lukin, M. L. Li, L. Mingardi, O. Nohadani, A. Orfanoudaki, T. Papalexopoulos, I. Paskov, J. Pauphilet, O. Skali Lami, **B. Stellato**, H. Tazi Bouardi, K. Villalobos Carballo, H. Wiberg, and C. Zeng, "From predictions to prescriptions: A data-driven response to COVID -19," *Health Care Management Science*, vol. 24, pp. 253–272, Jun. 2021.
INFORMS Health Applications Society Pierskalla Best Paper Award

[J8] D. Bertsimas and **B. Stellato**, "The voice of optimization," *Machine Learning*, vol. 110, pp. 249–277, 2 Feb. 2021.

[J7] D. Bertsimas, L. Mingardi, and **B. Stellato**, "Machine learning for real-time heart disease prediction," *IEEE Journal of Biomedical and Health Informatics*, vol. 25, no. 9, pp. 3627–3637, 2021.

[J6] D. Bertsimas, G. Lukin, L. Mingardi, O. Nohadani, A. Orfanoudaki, **B. Stellato**, H. Wiberg, S. Gonzalez-Garcia, C. L. Parra-Calderon, K. Robinson, M. Schneider, B. Stein, A. Estirado, L. a Beccara, R. Canino, M. Dal Bello, F. Pezzetti, and A. Pan, "COVID-19 mortality risk assessment: An international multi-center study," *PLOS One*, Dec. 2020.

[J5] **B. Stellato**, G. Banjac, P. Goulart, A. Bemporad, and S. Boyd, "OSQP: An operator splitting solver for quadratic programs," *Mathematical Programming Computation*, vol. 12, no. 4, pp. 637–672, Oct. 2020.
Mathematical Programming Computation Best Paper Award
Beale — Orchard-Hays Prize

[J4] G. Banjac, P. Goulart, **B. Stellato**, and S. Boyd, "Infeasibility detection in the alternating direction method of multipliers for convex optimization," *Journal of Optimization Theory and Applications*, vol. 183, no. 2, pp. 490–519, 2019.

[J3] **B. Stellato**, S. Ober-Blöbaum, and P. Goulart, "Second-order switching time optimization for switched dynamical systems," *IEEE Transactions on Automatic Control*, vol. 62, no. 10, pp. 5407–5414, Oct. 2017.

[J2] **B. Stellato**, T. Geyer, and P. Goulart, "High-speed finite control set model predictive control for power electronics," *IEEE Transactions on Power Electronics*, vol. 32, no. 5, pp. 4007–4020, May 2017.
First Prize Paper Award IEEE Transactions on Power Electronics

[J1] **B. Stellato**, B. Van Parys, and P. Goulart, "Multivariate chebyshev inequality with estimated mean and variance," *The American Statistician*, vol. 71, no. 2, pp. 123–127, 2017.

Conference proceedings

[C16] C. Vallon, A. Pinto, **B. Stellato**, and F. Borrelli, "Learning hierarchical control for multi-agent capacity-constrained systems," in *IEEE Conference on Decision and Control (CDC)*, Dec. 2024.

[C15] M. Wang, I. McInerney, **B. Stellato**, F. Tu, S. Boyd, H. K.-H. So, and K.-T. Cheng, "Multi-issue butterfly architecture for sparse convex quadratic programming," in *2024 57th IEEE/ACM International Symposium on Microarchitecture (MICRO)*, Los Alamitos, CA, USA: IEEE Computer Society, Nov. 2024, pp. 1574–1587.

[C14] H. Hu, G. Dragotto, Z. Zhang, K. Liang, **B. Stellato**, and J. Fernández Fisac, "Who plays first? Optimizing the order of play in Stackelberg games with many robots," in *Proceedings of Robotics: Science and Systems*, Delft, Netherlands, Jul. 2024.

[C13] S. Clarke, G. Dragotto, J. Fernandez Fisac, and **B. Stellato**, "Learning rationality in potential games," in *IEEE Conference on Decision and Control (CDC)*, Dec. 2023.

[C12] R. Sambharya, G. Hall, B. Amos, and **B. Stellato**, "End-to-end learning to warm-start for real-time quadratic optimization," in *Proceedings of the 5th Annual Learning for Dynamics and Control Conference*, N. Matni, M. Morari, and G. J. Pappas, Eds., ser. Proceedings of Machine Learning Research, vol. 211, PMLR, Jun. 2023, pp. 220–234.

[C11] M. Wang, I. McInerney, **B. Stellato**, S. Boyd, and H. So, "RSQP: Problem-specific architectural customization for accelerated convex quadratic optimization," in *Proceedings of the 50th Annual International Symposium on Computer Architecture (ISCA)*, Orlando, FL, USA: Association for Computing Machinery, 2023.

[C10] J. Ichnowski, P. Jain, **B. Stellato**, G. Banjac, M. Luo, F. Borrelli, J. E. Gonzales, I. Stoica, and K. Goldberg, "Accelerating quadratic optimization with reinforcement learning," in *Advances in Neural Information Processing Systems 35*, Dec. 2021.

[C9] T. Seyde, I. Gilitschenski, W. Schwarting, **B. Stellato**, M. Riedmiller, M. Wulfmeier, and D. Rus, "Is bang-bang control all you need? Solving continuous control with bernoulli policies," in *Advances in Neural Information Processing Systems 35*, Dec. 2021.

[C8] A. Cauligi, P. Culbertson, **B. Stellato**, M. Schwager, and M. Pavone, "CoCo: Learning strategies for online mixed-integer control," in *Learning Meets Combinatorial Algorithms at NeurIPS2020*, Dec. 2020.

[C7] A. Cauligi, P. Culbertson, **B. Stellato**, D. Bertsimas, M. Schwager, and M. Pavone, "Learning mixed-integer convex optimization strategies for robot planning and control," in *IEEE Conference on Decision and Control (CDC)*, Dec. 2020.

[C6] A. Agrawal, S. Barratt, S. Boyd, and **B. Stellato**, "Learning convex optimization control policies," in *Proceedings of the 2nd Conference on Learning for Dynamics and Control*, ser. Proceedings of Machine Learning Research, vol. 120, PMLR, Jun. 2020, pp. 361–373.

[C5] **B. Stellato**, V. V. Naik, A. Bemporad, P. Goulart, and S. Boyd, "Embedded mixed-integer quadratic optimization using the OSQP solver," in *European Control Conference (ECC)*, Jul. 2018.

[C4] G. Banjac, **B. Stellato**, N. Moehle, P. Goulart, A. Bemporad, and S. Boyd, "Embedded code generation using the OSQP solver," in *IEEE Conference on Decision and Control (CDC)*, Dec. 2017.

[C3] **B. Stellato** and P. Goulart, "Real-time FPGA implementation of direct MPC for power electronics," in *IEEE Conference on Decision and Control (CDC)*, Dec. 2016, pp. 1471–1476.

[C2] **B. Stellato**, S. Ober-Blöbaum, and P. Goulart, "Optimal control of switching times in switched linear systems," in *IEEE Conference on Decision and Control (CDC)*, Dec. 2016, pp. 7228–7233.

[C1] **B. Stellato** and P. Goulart, "High-speed direct model predictive control for power electronics," in *European Control Conference (ECC)*, Jul. 2016, pp. 129–134.

Preprints

[P9] O. Press, B. Amos, H. Zhao, Y. Wu, S. K. Ainsworth, D. Krupke, P. Kidger, T. Sajed, **B. Stellato**, J. Park, N. Bosch, E. Meril, A. Steppi, A. Zharmagambetov, F. Zhang, D. Perez-Pineiro, A. Mercurio, N. Zhan, T. Abramovich, K. Lieret, H. Zhang, S. Huang, M. Bethge, and O. Press, "AlgoTune: Can language models speed up general-purpose numerical programs?" *arXiv e-prints*, Jul. 2025. arXiv: 2507.15887.

[P8] I. Wang, M. Fochesato, and **B. Stellato**, "Data compression for fast online stochastic optimization," *arXiv e-prints*, Apr. 2025. arXiv: 2504.08097.

[P7] V. Ranjan, S. Gualandi, A. Lodi, and **B. Stellato**, "Exact verification of first-order methods via mixed-integer linear programming," *arXiv e-prints*, Dec. 2024. arXiv: 2412.11330.

[P6] R. Sambharya and **B. Stellato**, "Learning algorithm hyperparameters for fast parametric convex optimization," *arXiv e-prints*, Nov. 2024. arXiv: 2411.15717.

[P5] R. Sambharya and **B. Stellato**, "Data-driven performance guarantees for classical and learned optimizers," *arXiv e-prints*, Apr. 2024. arXiv: 2404.13831.

[P4] I. Wang, B. Van Parys, and **B. Stellato**, "Learning decision-focused uncertainty sets in robust optimization," *arXiv e-prints*, Apr. 2024. arXiv: 2305.19225.

[P3] G. Dragotto, S. Clarke, J. Fernandez Fisac, and **B. Stellato**, "Differentiable cutting-plane layers for mixed-integer linear optimization," *arXiv e-prints*, Nov. 2023. arXiv: 2311.03350.

[P2] T. Diamandis, Z. Frangella, S. Zhao, **B. Stellato**, and M. Udell, "GeNIOS: An (almost) second-order operator-splitting solver for large-scale convex optimization," *arXiv e-prints*, Oct. 2023. arXiv: 2310.08333.

[P1] Z. Frangella, S. Zhao, T. Diamandis, **B. Stellato**, and M. Udell, "On the (linear) convergence of generalized Newton inexact ADMM," *arXiv e-prints*, Feb. 2023. arXiv: 2302.03863.

Theses

[T2] **B. Stellato**, "Mixed-integer optimal control of fast dynamical systems," PhD thesis, University of Oxford, 2017.

[T1] **B. Stellato**, "Data-driven chance constrained optimization," MSc thesis, ETH Zürich, 2014.

Selected Invited Talks

- International Conference on Stochastic Programming (semi-plenary), *École des Ponts - IP Paris*, FR — Jul 2025
- International Conference on Continuous Optimization, *University of Southern California*, CA — Jul 2025
- Sierra Seminar, *École Normale Supérieure*, FR — Jun 2025
- Portuguese American Optimization Workshop (PAOW), *Azores*, PT — Jun 2025
- Lix Seminar, *Ecole Polytechnique Paris*, FR — Jun 2025
- Optima Seminar, *Virtual*, Zoom — Jun 2025
- Conference on Discrete Optimization and Machine Learning, *Kyoto University*, JP — May 2025
- CRM Workshop on combinatorial optimization and data science, *University of Montreal*, CA — May 2025
- Optimization Seminar, *University of Pennsylvania*, PA — Mar 2025
- EURO Online Seminar Series on Operational Research and Machine Learning, *Virtual*, Zoom — Feb 2025
- Los Alamos Grid Science Conference, *Santa Fe*, NM — Jan 2025
- IEEE CDC Workshop on Control and Optimization in the Probability Space, *Milan*, IT — Dec 2024
- Academic Seminar, *Two Sigma Investments*, NY — Nov 2024
- ISyE Seminar, *University of Minnesota*, MN — Nov 2024
- IEMS Seminar, *Northwestern University*, IL — Oct 2024
- MINDS Seminar, *Johns Hopkins University*, MD — Sep 2024

- Robust Optimization Webinar, *Virtual*, Zoom — May 2024
- Department of Mathematics Seminars, *University of Pavia*, IT — May 2024
- ORC Seminar, *MIT*, MA — May 2024
- Autonomy Talks, *Virtual*, Zoom — Apr 2024
- INFORMS Optimization Society Conference, *Houston*, TX — Mar 2024
- Conference on Information Sciences and Systems, *Princeton University*, NJ — Mar 2024
- AAAI Workshop on Learnable Optimization, *Vancouver*, CA — Feb 2024
- Discrete Optimization Talks, *Virtual*, Zoom — Feb 2024
- INFORMS Annual Meeting, *Phoenix*, AZ — Oct 2023
- Thematic Einstein Semester, *Zuse Institute Berlin*, DE — Sep 2023
- International Conference on Stochastic Programming, *UC Davis*, CA — Jul 2023
- SIAM Conference on Optimization, *Seattle*, WA — May 2023
- Mixed-Integer Programming Workshop, *University of Southern California*, CA — May 2023
- Conference on Information Sciences and Systems, *Johns Hopkins University*, MD — Mar 2023
- IPAM Workshop on Artificial Intelligence and Discrete Optimization, *UCLA*, CA — Feb 2023
- Mechanical Engineering Seminar, *UC Berkeley*, CA — Nov 2022
- Future of OR Workshop at INFORMS Annual Meeting, *Indianapolis*, IN — Oct 2022
- DEIB Seminar, *Politecnico di Milano*, IT — Jun 2022
- Cornell ORIE Seminar, *Cornell Tech*, NY — Mar 2022
- NASA JPL Multi-Agent Tech Talks, *Virtual*, Zoom — Mar 2022
- INFORMS Annual Meeting, *Anaheim*, CA — Oct 2021
- Joint Princeton Robotics and Optimization Seminar, *Virtual*, Zoom — May 2021
- Raytheon Technologies Research Center, *Virtual*, Zoom — Jan 2021
- Invited Session at the INFORMS Annual Meeting 2020, *Virtual*, Zoom — Nov 2020
- Mathematics of Data and Decisions at Davis (MADDD) Seminars, *UC Davis*, CA — Jun 2020

Technical Skills

- **Programming:** Python, Julia, C/C++
- **Web design:** HTML, CSS, Javascript, React
- **Tech/Tools:** Git, Docker, SLURM
- **Embedded design:** Xilinx FPGA

Languages

- **Italian:** Mother tongue
- **English:** Fluent (C2)
- **French:** Intermediate (B1)
- **German:** Basic (A2)

Interests and Activities

- Music, Collection and playing
  - Piano diploma (5th year), *Istituto Superiore di Studi Musicali "F. Vittadini"*, *Pavia, Italy*, Grade 8.50/10
  - Music theory and solfeggio diploma, *Istituto Superiore di Studi Musicali "C. Monteverdi"*, *Cremona, Italy*, Grade 9.60/10
- MITaly, Member of the MIT Italian Association Board.
  - Organized large events in collaboration with Italian communities and the Consulate General of Italy in Boston.
  - Organized seminar series with Italian professors at MIT and Harvard.
  - Developed the association main website (mitaly.mit.edu).