GESUALDO SCUTARI

Pedro and Barbara Granadillo Professor
University Faculty Scholar
Purdue University
Edwardson School of Industrial Engineering (primary appointment)
Elmore Family School of Electrical and Computer Engineering (joint appointment)
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ACADEMIC EMPLOYMENT

Purdue University, West Lafayette, IN

Pedro and Barbara Granadillo Professor — 09/2024 – present
Edwardson School of Industrial Engineering (primary appointment)
Elmore Family School of Electrical and Computer Engineering (joint appointment)

Professor, University Faculty Scholar (since 2023), — 2021 – 08/2024

Thomas and Jane Schmidt Rising Star Associate Professor, — 2018 – 2021
Associate Professor — 2015 – 2018

State University of New York (SUNY) Buffalo, Buffalo, NY

Assistant Professor of Electrical Engineering, — 2011 – 2015

University of Illinois at Urbana-Champaign, Urbana-Champaign, IL

Research Associate, Dept. of Industrial and Enterprise Systems Engineering, — 2009 – 2010

Hong Kong University of Science and Technology (HKUST)

Post-doc (then Research Associate), Dept. of Electronic and Computer Engineering, 2007 – 2009

VISITING POSITIONS

EPFL, Lausanne, Switzerland

Visiting Professor, School of Engineering (STI) — Spring 2026

ETH Zürich, Zürich, Switzerland

Visiting Professor, Dept. of Computer Science — Spring 2026

University of Bologna, Bologna, Italy

Visiting Professor, Dept. of Electrical, Electronic, and Information Engineering "G. Marconi," and Fellow of the Institute of Advanced Studies (ISA) — Fall 2025

LEADERSHIP POSITIONS

Purdue University, West Lafayette, IN

IE Emerging Frontiers Team Leader, IE School — 2018–present

Member of the Purdue Eng. Initiative (PEI) in Data and Engineering Applications Group 2019–2020

Thrust Lead for Optimization, Center for Resilient Infrastructures, Systems, and Processes, 2017 – 2022

Director for Big Data Analytics, Cyber Center (Discovery Park), — 2015 – 2016

EDUCATION

University of Rome, "La Sapienza," Rome, Italy,

Ph.D. (cum laude) in Electrical Engineering, — 2007
Laurea Degree (with Highest Honor) in Electrical Engineering, — 2002

University of California at Berkeley, Berkeley, CA

Visiting Ph.D. student (exchange program), Dept. of Electrical Engineering and Computer Sciences, — 2004–2006

ACADEMIC HONORS & AWARDS

1. **ISA Fellow**, Institute of Advanced Studies (ISA), University of Bologna, Italy 2025
2. **Purdue Endowed Chair**: Pedro and Barbara Granadillo Professor 2024
3. **Purdue University Awards** 2023
   - University Faculty Scholar;
   - College of Engineering Research Excellence Award (given annually to one faculty member only within the entire CoE);
   - Seed for Success ACORN Award (for acquiring awards of $1 million or more for the first time).
4. **IEEE Signal Processing Society Distinguished Lecturer** 2023–2024
   One of the *five* world-wide Distinguished Lecturers appointed by the IEEE Signal Processing Society for 2023–2024;
5. **IEEE Fellow** 2021
   For contributions to distributed optimization in signal processing and communications;
6. **Purdue Endowed Chair** (Associate Professor): Thomas and Jane Schmidt Rising Star Associate Professor of Industrial Engineering; 2018–2021
7. **Keynote Speaker/Plenary Speaker** and **Distinguished Lecturer** at several conferences and institutions, respectively (see *Invited Courses, Tutorials, & Scholarly Talks*);
8. **ISSNAF Awards** 2014, 2015
   - Annamaria Molteni Award for Mathematics & Physics (2015), given to a single Italian researcher in North America & Canada for work in Mathematics and Physics;
   - Young Investigator Award (2014), given every year to the most promising Italian researcher under 40 in North America & Canada, by the Italian Scientists and Scholars of North America Foundation (ISSNAF).
9. **NSF CAREER Award** 2013;
10. **SUNY Buffalo Exceptional Scholars–Young Investigator Award** 2013;
    Given annually by the University at Buffalo to a single individual;
11. **Several Highly Cited Papers** for multiple years (ISI Web of Knowledge).
12. **Best Paper Awards (as author)** 2006, 2015, 2021
    - 2020 IEEE Signal Processing Society Best Paper Award (2021); most prestigious award given by the IEEE Signal Processing Society to honor the author(s) of a paper of exceptional merit dealing with a subject related to the Society's technical scope, and appearing in one of the Society's owned transactions in the last five years to the date of the award;
    - 2015 IEEE Signal Processing Society Young Author Best Paper Award (2015);
    - Best Student Paper Award at the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Toulouse, France, May 15–19, 2006; ICASSP is the flagship conference of the IEEE Signal Processing Society on signal processing and its applications.
13. **Best Paper Awards (as advisor)** 2017, 2026
    - 1st Place in the Student Paper Contest of the 60th Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, USA, Oct. 26, 2026, for the paper "A Line-search-free Method for Adaptive Decentralized Optimization" (X. Chen, I. Kuruzov, and G. Scutari);
    - Best Student Paper Award at the 2017 IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2017), Dec. 10–13, 2017, Curacao, Dutch Antilles.

RESEARCH INTERESTS

My research lies broadly in mathematical optimization, in particular nonconvex and constrained nonlinear programming, at its interface with statistics, machine learning, and networks, with an emphasis on scalable algorithms for large-scale problems and their theoretical guarantees. Current interests include distributed optimization and learning over networks, high-dimensional statistical inference, adaptive (parameter-free) methods, and decomposition principles for graph-structured programs and equilibrium problems (variational inequalities and games). Applications span signal processing, communication networks, and machine learning.

SELECTED PUBLICATIONS (by area)

Total Google Scholar Citations: 13211, **h-index:** 55 (as of Nov. 2026)[1]

Full publication list: see appendix.

Nonlinear Programming and Equilibrium Problems

- Y. Sun[$], **G. Scutari**⋆, and A. Daneshmand[+], "Distributed Optimization Based on Gradient-Tracking Revisited: Enhancing Convergence Rate via Surrogation," **SIAM J. on Optimization**, vol. 32, no. 2, pp. 354–385, 2022 [https://doi.org/10.1137/19M1259973].
- F. Facchinei[⋆]⋆, V. Kungurtsev[⋆], L. Lampariello[⋆], and **G. Scutari**[⋆], "Diminishing Stepsize Methods for Nonconvex Composite Problems via Ghost Penalties: from the General to the Convex Regular Constrained Case," **Optimization Methods and Software**, vol. 37, no. 4, pp. 1242–1268, 2022 [https://doi.org/10.1080/10556788.2020.1854253].
- F. Facchinei[⋆]⋆, V. Kungurtsev[⋆], L. Lampariello[⋆], and **G. Scutari**[⋆], "Ghost Penalties in Nonconvex Constrained Optimization: Diminishing Stepsizes and Iteration Complexity," **Mathematics of Operations Research**, vol. 46, no. 2, pp. 595–627, 2021 [https://doi.org/10.1287/moor.2020.1079].
- A. Daneshmand[+], **G. Scutari**⋆, and V. Kungurtsev, "Second-order Guarantees of Distributed Gradient Algorithms," **SIAM J. on Optimization**, vol. 30, no. 4, pp. 3029–3068, 2020 [https://doi.org/10.1137/18M121784X].
- L. Cannelli[+⋆], F. Facchinei[⋆]⋆, V. Kungurtsev[⋆], **G. Scutari**[⋆], "Asynchronous Parallel Algorithms for Nonconvex Optimization," **Mathematical Programming**, vol. 184, pp. 121–154, 2020 [https://doi.org/10.1007/s10107-019-01408-w].
- **G. Scutari**[⋆]⋆ and Y. Sun[$⋆], "Distributed Nonconvex Constrained Optimization over Time-varying Digraphs," **Mathematical Programming**, vol. 176, pp. 497–544, 2019 [https://doi.org/10.1007/s10107-018-01357-w].
  Highly cited paper (ISI Web of Knowledge, 2019, 2020).
- A. Nedić, J.-S. Pang, **G. Scutari**, and Y. Sun, *Multi-agent Optimization*. **Lecture Notes in Mathematics, Springer Verlag**, CIME Subseries, 2018. [ISBN: 978-3319971414].
- F. Facchinei[⋆]⋆, L. Lampariello[⋆], and **G. Scutari**[⋆], "Feasible Methods for Nonconvex Nonsmooth Problems with Applications in Green Communications," **Mathematical Programming**, vol. 164, pp. 55–90, 2017 [https://doi.org/10.1007/s10107-016-1072-9].
- F. Facchinei[⋆]⋆, J.-S. Pang[⋆], and **G. Scutari**[⋆], "Non-Cooperative Games with Minmax Objectives," **Computational Optimization and Applications**, vol. 59, no. 1, pp. 85–112, Oct. 2014 [https://doi.org/10.1007/s10589-014-9642-3].

[1] '+' denotes student co-author (supervised by Scutari); '$' denotes post-doc co-author (supervised by G. Scutari); '⋆' equal contribution, ⋆ corresponding author.

Authorship order adopted with an advisee (either a student or postdoctoral scholar) is generally advisee followed by faculty members (listed in alphabetical order), unless there is a significant distinction in contributions.

- F. Facchinei*$\star$, J.-S. Pang*, **G. Scutari***, and L. Lampariello, "VI-constrained Hemivariational Inequalities: Distributed Algorithms and Power Control in Ad-Hoc Networks," **Mathematical Programming**, vol. 145, no. 1, pp. 59–96, June 2014 [https://doi.org/10.1007/s10107-013-0640-5].
- J.-S. Pang*$\star$ and **G. Scutari***, "Nonconvex Games with Side Constraints," **SIAM J. on Optimization**, vol. 21, no. 4, pp. 1491–1522, Dec. 2011 [https://doi.org/10.1137/100811787].

Nonlinear Programming (preprints, under review)

- K. Ding$^{\$\star}$, M. Maros*, and **G. Scutari***$\star$, "A New Decomposition Paradigm for Graph-structured Nonlinear Programs via Message Passing," under review, 2025. ArXiv preprint: arXiv:2512.24676.
- K. Ding$^{\$}$ and **G. Scutari**$\star$, "From Mixing to Tearing: Graph Decomposition in Decentralized Optimization via Message Passing," under review, 2026. ArXiv preprint: arXiv:2610.03709.
- X. Chen^{+}, I. Kuruzov, and **G. Scutari**, "A Line-search-free Method for Adaptive Decentralized Optimization," under review, 2026. ArXiv preprint: arXiv:2605.00711.
- X. Chen^{+}, I. Kuruzov, and **G. Scutari**, "Adaptive Decentralized Composite Optimization via Three-Operator Splitting," under review, 2026. ArXiv preprint: arXiv:2602.17545.

Statistical Learning and High-Dimensional Inference

- M. Maros$^{\$}$, **G. Scutari**$\star$, Y. Sun$^{\$}$, G. Cheng, "Decentralized Sparse Linear Regression via Gradient-Tracking," **J. of Machine Learning Research**, vol. 26, no. 197, pp. 1–56, 2025 [https://www.jmlr.org/papers/v26/23-1168.html]. The order of the first three authors is alphabetical.
- Y. Ji^{+}, **G. Scutari**$\star$, Y. Sun, and H. Honnappa, "Distributed Sparse Regression via Penalization," **J. of Machine Learning Research**, vol. 24, no. 272, pp. 1–62, 2023 [https://www.jmlr.org/papers/v24/21-1333.html].
- M. Maros$^{\$}$ and **G. Scutari**$\star$, "Decentralized Matrix Sensing: Statistical Guarantees and Fast Convergence," Proc. **Conference on Neural Information Processing Systems (NeurIPS)**, 2023.
- Y. Ji^{+}, **G. Scutari**$\star$, Y. Sun, and H. Honnappa, "Distributed (ATC) Gradient Descent for High-Dimension Sparse Regression," **IEEE Trans. on Information Theory**, vol. 69, no. 8, pp. 5253–5276, 2023 [https://doi.org/10.1109/TIT.2023.3267742].
- M. Maros$^{\$}$ and **G. Scutari**$\star$, "Acceleration in Distributed Sparse Regression," Proc. **Conference on Neural Information Processing Systems (NeurIPS 2022)**, 2022.
- M. Maros$^{\$}$ and **G. Scutari**$\star$, "DGD^2: A Linearly Convergent Distributed Algorithm for High-dimensional Statistical Recovery," Proc. **Conference on Neural Information Processing Systems (NeurIPS 2022)**, 2022.
- D. Kovalev, A. Beznosikov, E. Borodich, A. Gasnikov, and **G. Scutari**$\star$, "Optimal Gradient Sliding and Its Application to Optimal Distributed Optimization under Similarity," Proc. **Conference on Neural Information Processing Systems (NeurIPS 2022)**, 2022 (**Spotlight, acceptance rate 4%**).
- A. Daneshmand^{+}$\star$, **G. Scutari***$\star$, P. Dvurechensky, A. Gasnikov, "Newton Method over Networks is Fast up to the Statistical Precision," Proc. **International Conference on Machine Learning (ICML 2021)**, PMLR vol. 139, pp. 2398–2409, 2021 [https://proceedings.mlr.press/v139/daneshmand21a.html].
- A. Beznosikov, **G. Scutari**$\star$, A. Rogozin, and A. Gasnikov, "Distributed Saddle-Point Problems under Data Similarity," Proc. **Conference on Neural Information Processing Systems (NeurIPS 2021)**, 2021.

- A. Daneshmand[+], Y. Sun[$], **G. Scutari**[⋆], F. Facchinei, and B. Sadler, "Decentralized Dictionary Learning over Time-Varying Digraphs," **J. of Machine Learning Research**, vol. 20, no. 139, pp. 1–62, 2019 [https://www.jmlr.org/papers/v20/17-534.html].

Distributed Optimization and Games over Networks

- T. Cao[+], X. Chen[+], and **G. Scutari**[⋆], "DCatalyst: A Unified Accelerated Framework for Decentralized Optimization," **J. of Machine Learning Research**, vol. 27, no. 47, pp. 1–57, 2026 [https://www.jmlr.org/papers/v27/25-0185.html].
- I. Kuruzov, **G. Scutari**, and A. Gasnikov, "Achieving Linear Convergence with Parameter-Free Algorithms in Decentralized Optimization," Proc. **Conference on Neural Information Processing Systems (NeurIPS)**, 2024.
- N. Michelusi[⋆], **G. Scutari**[⋆⋆], and C.-S. Lee[+], "Finite-Bit Quantization for Distributed Algorithms with Linear Convergence," **IEEE Trans. on Information Theory**, vol. 68, no. 11, pp. 7254–7280, Nov. 2022 [https://doi.org/10.1109/TIT.2022.3176253].
- L. Cannelli[+⋆], F. Facchinei[⋆], **G. Scutari**[⋆⋆], and V. Kungurtsev, "Asynchronous Optimization over Graphs: Linear Convergence under Error Bound Conditions," **IEEE Trans. on Automatic Control**, vol. 66, no. 10, pp. 4604–4619, Oct. 2021 [https://doi.org/10.1109/TAC.2020.3033490].
- J. Xu[$], Y. Tian[+], Y. Sun[$], and **G. Scutari**[⋆], "Distributed Algorithms for Composite Optimization: Unified Framework and Convergence Analysis," **IEEE Trans. on Signal Processing**, vol. 69, pp. 3555–3570, June 2021 [https://doi.org/10.1109/TSP.2021.3086579].
- I. Notarnicola, Y. Sun[$], **G. Scutari**[⋆], and G. Notarstefano, "Distributed Big-Data Optimization via Block-wise Gradient Tracking," **IEEE Trans. on Automatic Control**, vol. 66, no. 5, pp. 2045–2060, May 2021 [https://doi.org/10.1109/TAC.2020.3008713].
- Y. Tian[+], Y. Sun[$], and **G. Scutari**[⋆], "Achieving Linear Convergence in Distributed Asynchronous Multiagent Optimization," **IEEE Trans. on Automatic Control**, vol. 65, no. 12, pp. 5264–5279, 2020 [https://doi.org/10.1109/TAC.2020.2977940].
- **G. Scutari**[⋆⋆], F. Facchinei, and L. Lampariello, "Parallel and Distributed Methods for Constrained Nonconvex Optimization – Part I: Theory," **IEEE Trans. on Signal Processing**, vol. 65, no. 8, pp. 1929–1944, April 2017 [https://doi.org/10.1109/TSP.2016.2637317]. *Top 50 downloaded articles in IEEE TSP (Feb. 2017–June 2018).*
  Highly cited paper (ISI Web of Knowledge, 2018, 2019).
- **G. Scutari**[⋆⋆], F. Facchinei, J.-S. Pang, and D. P. Palomar, "Real and Complex Monotone Communication Games," **IEEE Trans. on Information Theory**, vol. 60, no. 7, pp. 4197–4231, July 2014 [https://doi.org/10.1109/TIT.2014.2317791].
- **G. Scutari**[⋆⋆], F. Facchinei, P. Song[+], D. P. Palomar, and J.-S. Pang, "Decomposition by Partial Linearization: Parallel Optimization of Multi-agent Systems," **IEEE Trans. on Signal Processing**, vol. 62, no. 3, pp. 641–656, Feb. 2014 [https://doi.org/10.1109/TSP.2013.2293126].
  2015 IEEE Signal Processing Society Young Author Best Paper Award.
  Highly cited paper (ISI Web of Knowledge, 2016, 2017, 2018, 2019, 2020).
- **G. Scutari**[⋆⋆] and J.-S. Pang, "Joint Sensing and Power Allocation in Nonconvex Cognitive Radio Games: Nash Equilibria and Distributed Algorithms," **IEEE Trans. on Information Theory**, vol. 59, no. 7, pp. 4626–4661, July 2013 [https://doi.org/10.1109/TIT.2013.2239354].

PATENTS

Gesualdo Scutari and Daniel P. Palomar, "Multiple-Input, Multiple-Output Cognitive Radio," US Patent 8,706,041, April 22, 2014. **Licensed**.

SPONSORED RESEARCH

National Science Foundation

1. *NeTS: Small: Toward Distributed Decision Making in Cognitive Radio Ad-hoc Networks Based on Bilevel-equilibrium Programming*, 07/01/2012–06/30/2016, $400,000. Role: PI (co-PI: T. Melodia), PI share: 75%.
2. ***CAREER**: Variational Inequalities: A New Paradigm for Cognitive Network Layering*, 02/15/2013–01/31/2018, $400,000. Role: **Sole PI**.
3. *CIF: Small: Collaborative Research: Communicating While Computing: Mobile Fog Computing Over Wireless Heterogeneous Networks*, 09/01/2015–08/31/2018 (extended till 08/31/2019), $∼225,000. Role: PI Lead Institution.
4. *CIF: Medium: Collaborative Research: Parallel Online Algorithms for Large-scale Dynamic MRI*, 09/01/2015–08/31/2017, $∼121,438. Role: PI for SUNY Buffalo (co-PI: L. Ying; PI Lead: G. Giannakis, UMN).
5. *CIF: Small: Collaborative Research: Distributed Fog Computing for Non-Convex Big-Data Analytics,* 09/01/2017–08/31/2021, $270,000. Role: PI Lead Institution.
6. *CMMI: CRISP 2.0 Type 1: Collaborative Research: Distributed Edge Computing to Improve Resilience of Interdependent Systems*, 01/01/2019–12/31/2022, $∼352,077. Role: Co-PI, Co-PI share: 33% (PI: A. Liu, Co-PI: R. Nateghi).
7. *CNS: NSF Workshop on State-of-the-Art and Challenges in Resilience*, 10/01/2018–09/30/2019, $49,500. Role: Co-PI (PI: S. Bagchi).

Department of Defense (DoD)

8. *Distributed On-line Optimization and Learning for Nonconvex Big Data Analytics over Dynamic Networks*, 03/01/2016–02/28/2019, $348,000, **Office of Naval Research (ONR)**. Role: **Sole PI**.
9. *Fast Parallel and Distributed Algorithms for Neural Networks*, 09/01/2016–08/31/2017, ∼$80,000, **BAE Systems-Army Research Lab (ARL)**. Role: **Sole PI**.
10. *Distributed Robust Stochastic Nonconvex Optimization Over Time-Varying Networks,* 06/01/2018–07/01/2022, ∼$400,000, **Army Research Office (ARO)**. Role: **Sole PI**.
11. *High-dimensional Statistical Inference and Optimization over Networks: Designs, Guarantees, and Tradeoffs*, 06/09/2021–06/09/2024, **Office of Naval Research (ONR)**, $453,000. Role: **Sole PI**.
12. *A Unified Decentralized Optimization Framework for Learning over Multiagent Networks*, 09/01/2024–08/31/2027, **Office of Naval Research (ONR)**, $550,000. Role: **Sole PI**.

Department of Energy (DoE)

13. *Communication-Constrained Robust Control and Learning of Grid-Connected IoT*, 08/01/2020–05/30/2024, $2,300,000, Role: Co-PI; led the distributed optimization and learning thrust; co-PI share: $500,000.

Purdue College of Engineering

14. *Nonconvex Statistical Learning over Networks: Fundamental Tradeoffs and Guarantees*, 08/01/2018–07/31/2019, $80,000, Collaborative Seed Grant, Data Science in Engineering, Purdue University. Role: PI (co-PI: H. Honnappa).
15. *Data Science for Decision-Making: A Distributed Nonconvex Approach with Guarantees*, 01/01/2018–01/31/2020, School of Industrial Engineering/IE Emerging Frontiers Teams Seed Funding Initiative, Purdue University, $500,000. Role: PI (Co-PIs: H. Honnappa, A. Liu, and G. Cheng).

PROFESSIONAL ACTIVITIES & SERVICES

LEADERSHIP POSITIONS

- IE Emerging Frontiers Team Leader, IE School 2018–present
- Member of the Purdue Engineering Initiative (PEI) in Data and Engineering Applications Group 2019–2020
- Member of the Purdue Data Science Working Group 2018–2021
- Thrust Leader for the area of Optimization, Center for Resilient Infrastructures, Systems, and Processes (CRISP), Purdue University, 2017–2022
- Director for Big Data Analytics, Cyber Center (Discovery Park) 2015–2016
- Member of the Purdue College of Engineering Preeminent Team on Flexible and Efficient Spectrum Usage 2016 – present
- Elected Member of IEEE Signal Processing for Communications and Networking Technical Committee (SPCOM TC) 2012–2014.

EDITORIAL ACTIVITIES

- Associate Editor **SIAM J. on Optimization** 2020–present
- Guest Editor **IEEE Signal Processing Magazine**, Special Issue on "Non-Convex Optimization for Signal Processing and Machine Learning" 2021
- Senior Area Editor of **IEEE Trans. on Signal Processing** 2018–2021
- Associate Editor of **IEEE Trans. on Signal and Information Processing over Networks** 2017–2020
- Associate Editor of **IEEE Trans. on Signal Processing** 2013–2018
- Associate Editor of **IEEE Signal Processing Letters** 2012–2013

CONFERENCE ORGANIZATION AND SERVICES

- Special session "Recent Advances on Decentralized Optimization," *International Symposium on Mathematical Programming (ISMP 2027)*, Amsterdam, The Netherlands, July 25–30, 2027 (forthcoming);
- Member of the organization committee of the 2024 Midwest Machine Learning Symposium (MMLS'24), May 20–21, 2024, Minneapolis, MN.
- Member of the best-paper award committee at the *2023 IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (IEEE CAMSAP)*, Dec. 10–13, 2023, Costa Rica.
- Special session "Recent Advances on Distributed Optimization," *Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 3–6, 2019;
- Special session "Optimization for Big-Data," *International Conference on Continuous Optimization (ICCOPT)*, Tokyo, Japan, August 6–11, 2016;
- Special session "Signal Processing and Optimization for Big-data," *Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 8–11, 2015;
- Member of the organizing committee of the *2014 IEEE Workshop on Signal Processing Advances in Wireless Communications (IEEE SPAWC)*, June 22–25, 2014, Toronto, Canada;
- Member of the best-paper award committee of the *2012 IEEE Workshop on Signal Processing Advances in Wireless Communications (IEEE SPAWC)*;
- Special session on "Game Theory in Signal Processing for Communications," the *17th International Conference on Digital Signal Processing*, Corfu, Greece, July 6–8, 2011;
- Special session on "Cognitive Radio Systems," *Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, CA, USA, Nov. 6–9, 2011;
- Special session on "Game Theory," *INFORMS 2011 Midwestern Conference*, Ohio State University, Columbus, OH, USA, August 1–2, 2011;

- Member of the organizing committee of the *2003 IEEE Workshop on Signal Processing Advances in Wireless Communications (IEEE SPAWC)*, June 15–18, 2003, Rome, Italy.

TECHNICAL PROGRAM COMMITTEE MEMBERSHIP

Member of the technical program committee of 30 international conferences and workshops in signal processing, communications, and networking (2003–2017).

PEER REVIEW ACTIVITIES (Journals only)

Mathematical Programming (Series A & B); Mathematics of Operations Research; EURASIP Signal Processing J.; IEEE Communications Magazine; IEEE Communications Letters; IEEE J. on Selected Areas in Communications; IEEE J. on Selected Topics in Signal Processing; IEEE Signal Processing Letters; IEEE Signal Processing Magazine; IEEE Transactions on Automatic Control; IEEE Transactions on Communications; IEEE Transactions on Information Theory; IEEE Transactions on Signal Processing; IEEE Transactions on Vehicular Technology; IEEE Transactions on Wireless Communications; SIAM Journal on Matrix Analysis and Applications; SIAM Journal on Optimization; Operations Research.

GRANT REVIEWER (Panelist)

- Natural Sciences and Engineering Research Council of Canada (NSERC) 2014–2018
- National Science Foundation (NSF) Panelist (including CAREER panels) 2013–2021, 2026
- European Research Council (ERC) and Horizon Europe (European Commission)2020–2023.

SERVICES AT PURDUE

- Chair of the faculty search committee, IE School AY 2019–2020, 2022–2023, 2023–2024
- Member of the IE Head search committee AY 2021–2022
- Member of the faculty search committee, IE School 2020
- Member of the Faculty search committee, Purdue College of Engineering (CoE), Big-Data Science Initiative AY 2017–2018, 2018–2019
- Graduate committee member, School of IE AY 2015–2016, 2016–2017, 2017–2018.

INVITED COURSES, TUTORIALS, & SCHOLARLY TALKS

KEYNOTES, PLENARY TALKS, and DISTINGUISHED LECTURES

1. **Plenary Speaker** at the 2027 IEEE Workshop on Statistical Signal Processing (SSP 2027), Centre de Congrès Impérial, Annecy, France, June 28–July 1, 2027 (forthcoming).
2. **Plenary Speaker** at the 2025 IEEE International Workshop on Computational Advances in Multi-Sensor Adaptive Processing (CAMSAP 2025), Dec. 14–17, 2025, Dominican Republic.
3. **ISA Distinguished Lecture**, Institute of Advanced Studies, University of Bologna, Nov. 14, 2025.
4. **ECE Distinguished Colloquium Series**, Department of Electrical and Computer Engineering (ECE), University of Maryland, Feb. 7, 2025.
5. **Keynote Speaker** at the International Conference on Computational Optimization (ICOMP 2024), Oct. 10–12, 2024, Innopolis, Russia.
6. **Keynote Speaker** at the IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC 2024), Sept. 10–13, 2024, Lucca, Italy.
7. **IEEE Signal Processing Society Distinguished Lecture Series** (2023–2024):
   - IEEE SPS SBC, IIT Kharagpur, India, April 15, 2024.
   - **Oregon State University**, April 10, 2024.
   - IEEE SEM (Southeastern Michigan) Chapter, Nov. 21, 2023.

- IEEE SPS North Jersey Chapter, Nov. 29, 2023.
- **King's College London**, July 13, 2023, London, UK.
- **Imperial College London**, July 12, 2023, London, UK.
- **IIT Madras**, Feb. 15, 2023 (online on zoom).
- **IIT Kharagpur**, Feb. 5, 2023 (online on zoom).

8. **Distinguished Lecture**, Machine Learning Seminars, University of Minnesota, Minneapolis, MN, USA, Nov. 14, 2023.
9. **Plenary Talk** at the IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC 2017), July 3–6, 2017, Hokkaido, Japan.
10. **Keynote Speaker** at the International Workshop on Distributed Information Processing in Wireless Networks, ACM-MobiHoc 2017, July 10–14, 2017, Madras, Chennai, India.

INVITED TALKS (most representative, excluding conference presentations)

11. Operations Research Seminar Series, Dept. of Computer Science, **University of Rochester**, Rochester, NY, USA, Dec. 4, 2026 (scheduled).
12. Dept. of Electrical and Computer Engineering, **University of Illinois at Urbana-Champaign**, IL, USA, Oct. 26, 2026.
13. Dept. of Industrial Engineering and Management Sciences, **Northwestern University**, Evanston, IL, USA, Oct. 20, 2026.
14. Institute for Systems Theory and Automatic Control (IST), **University of Stuttgart**, Germany, June 18, 2026.
15. Dept. of Computer Science, **ETH Zürich**, Switzerland, June 16, 2026.
16. Adaptive Systems Laboratory, School of Engineering (STI), **EPFL**, Lausanne, Switzerland, May 2026.
17. Dept. of Electrical, Electronic, and Information Engineering "G. Marconi," **University of Bologna**, Italy, Nov. 24, 2025.
18. Dept. of Information Engineering, Electronics, and Telecommunications, **University of Rome "La Sapienza,"** Rome, Italy, Nov. 19, 2025.
19. CCAM Seminars and Colloquia, **Purdue University**, IN, USA, Feb. 17, 2025.
20. Dept. of Operations Research and Industrial Engineering, **The University of Texas at Austin**, TX, USA, Nov. 15, 2024.
21. Dept. of Industrial Engineering and Operations Research, **University of California at Berkeley**, October 14, 2024, CA, USA.
22. Dept. of Industrial & Enterprise Systems Engineering, **University of Illinois at Urbana-Champaign**, August 30, 2024, IL, USA.
23. Daniel J. Epstein Dept. of Industrial and Systems Engineering, **University of Southern California**, March 18, 2024, CA, USA.
24. Mathematics in Imaging, Data and Optimization Seminars, Dept. of Mathematical Sciences, **Rensselaer Polytechnic Institute (RPI)**, Nov. 6, 2023, NY, USA.
25. Dept. of Electronics, Information, and Bioengineering (DEIB), **Politecnico di Milano**, July 17, 2023, Milan, Italy.
26. Dept. of Information Engineering, Electronics, and Telecommunications, **Sapienza University of Rome**, June 28, 2023, Rome, Italy.
27. Daniels School of Business, **Purdue University**, May 25–27, 2023, West Lafayette, IN, USA.
28. Dept. of Operations Research and Engineering Management, **Southern Methodist University** (online on zoom), Feb. 10, 2023, Dallas, TX.

29. Dept. of Industrial and Systems Engineering (ISEN), **Texas A&M University**, Nov. 4, 2022, College Station, Texas, USA.
30. ICON Seminar in Optimization, **Purdue University**, Oct. 28, 2022, West Lafayette, IN, USA.
31. Dept. of Statistics, **Purdue University**, April 29, 2022, West Lafayette, IN, USA.
32. School of Electrical, Computer, and Energy Engineering, **Arizona State University**, Feb. 25, 2022, Phoenix, AZ, USA.
33. **All-Russian Optimization Seminar**, Dec. 15, 2021 (online on zoom).
34. Department of Electrical and Computer Engineering, **Rice University** (online on zoom), Nov. 30, 2021, Houston, TX, USA.
35. Dept. of Computer Science, **Purdue University**, Nov. 22, 2021.
36. School of Mathematical and Statistical Sciences, **Clemson University** (online on zoom), Nov. 1, 2021.
37. School of Mathematics, **Nanjing University** (online on zoom), Oct. 28, 2021.
38. **One World Signal Processing Seminar** (online on zoom), Dec. 10, 2020.
39. Dept. of Electrical and Computer Engineering, **Tufts University**, Dec. 4, 2020 (online on zoom), Medford, MA, USA.
40. Dept. of Information Engineering, Electronics, and Telecommunications, **University of Rome "La Sapienza,"** July 4, 2019, Rome, Italy.
41. Mathematical Optimization 6.1 Peer Review Meeting, Dec. 8, 2018, Arlington, VA, USA.
42. Dept. of Information Engineering, Electronics, and Telecommunications, **University of Rome "La Sapienza,"** June 28, 2017, Rome, Italy.
43. NSF BDSpoke project–Workshop on data quality, March 29, 2017, **Purdue University**, West Lafayette, IN, USA.
44. Information Systems Laboratory Colloquium, Electrical Engineering Department, **Stanford University**, Feb. 8, 2017, CA, USA.
45. Institute for Pure & Applied Mathematics, **University of California (UCLA)**, Feb. 7, 2017, Los Angeles, CA, USA.
46. Dept. of Electrical Engineering, **University of California (UCLA)**, Nov. 10, 2016, Los Angeles, CA, USA.
47. Center for Optimization and Statistical Learning, **Northwestern University**, Oct. 10, 2016, Evanston, IL, USA.
48. Dept. of Engineering, **University of Salento**, July 7, 2016, Lecce, Italy.
49. Dept. of Computer, Control, and Management Engineering, **University of Rome "La Sapienza,"** June 27, 2016, Rome, Italy.
50. Dept. of Industrial and Enterprise Systems Engineering, **University of Illinois at Urbana-Champaign**, March 14, 2016, Urbana-Champaign, IL, USA.
51. Dept. of Electrical and Computer Engineering, **Purdue University**, Feb. 18, 2016, West Lafayette, IN, USA.
52. "Distributed and Collaborative Intelligent Systems Army Science and Planning Strategy Meeting," **Army Research Lab (ARL)**, Dec. 3–4, 2015, Adelphi, MD, USA.
53. **Army Research Lab (ARL)**, Oct. 27, 2015, Adelphi, MD, USA.
54. Dept. of Electrical and Computer Engineering, **University of Wisconsin-Madison**, March 24, 2015, Madison, WI, USA.
55. Dept. of Industrial Engineering, **Purdue University**, March 4, 2015, West Lafayette, IN, USA.
56. Dept. of Industrial & Operations Engineering, **University of Michigan**, Feb. 17, 2015, Ann Arbor, MI, USA.

57. Dept. of Industrial and Manufacturing Engineering, **Penn State University**, Feb. 9, 2015, University Park, PA, USA.
58. Dept. of Information Engineering, Electronics, and Telecommunications, **University of Rome** "La Sapienza," Dec. 18, 2014, Rome, Italy.
59. Dept. of Electrical and Computer Engineering, **University of Michigan**, Dec. 11, 2014, Ann Arbor, MI, USA.
60. Dept. of Electrical and Systems Engineering, **University of Pennsylvania**, Dec. 3, 2014, Philadelphia, PA, USA.
61. **Google**, Nov. 5, 2014, Mountain View, CA, USA.
62. Dept. of Electrical Engineering, **Penn State University**, April 10, 2014, University Park, PA, USA.
63. Dept. of Electrical Engineering, **University of Southern California**, April 2, 2014, Los Angeles, CA, USA.
64. Dept. of Electrical Engineering, **University of California**, March 31, 2014, Los Angeles, CA, USA.
65. Digital Technology Center, Dept. of Electrical and Computer Engineering, **University of Minnesota**, Sept. 23, 2013, Minneapolis, MN, USA.
66. Dept. of Electrical Engineering and Computer Science, **Northwestern University**, August 19, 2013, Evanston, IL.
67. Dept. of Information Engineering, Electronics, and Telecommunications, **University of Rome** "La Sapienza," July 5, 2013, Rome, Italy.
68. 59th Workshop "Nonlinear Optimization: A Bridge from Theory to Applications" (invitation-only workshop), **International School of Mathematics "G. Stampacchia"**, Erice, Italy, June 10–17, 2013.
69. Dept. of Information Engineering, Electronics, and Telecommunications, **University of Rome** "La Sapienza," Dec. 19, 2011, Rome, Italy.
70. Dept. of Electrical Engineering, **SUNY Buffalo**, Oct. 24, 2011, Buffalo, NY, USA.
71. Dept. of Electrical Engineering, **SUNY Buffalo**, April 16, 2011, Buffalo, NY.
72. Ph.D. Opponent in Peter von Wrycza's Doctoral Thesis in Telecommunications, School of Electrical Engineering, **KTH Royal Institute of Technology**, Dec. 14, 2010, Sweden.
73. Dept. of Industrial and Enterprise Systems Engineering, **University of Illinois at Urbana-Champaign**, April 13, 2010, Urbana-Champaign, IL, USA.

TUTORIALS AND INVITED SHORT COURSES

- *Optimization Methods for Large-Scale Machine Learning.* Dept. of Electrical, Electronic, and Information Engineering "G. Marconi," **University of Bologna**, Italy, Nov. 3–14, 2025.
- *Network- and Data-driven Learning: Fundamentals and Applications.* **2019 IEEE-SPS/EURASIP Summer School**, May 20–24, 2019, Lecce, Italy.
- *Advanced Decomposition Algorithms for Multi-Agent Systems.* **CIME Summer School** on "Centralized and Distributed Multi-Agent Optimization: Models and Algorithms," Cetraro, Italy, June 23–28, 2014.
- *Parallel Decomposition Techniques for Large Scale Multi-Agent Systems.* **IMSE Summer School on Multi-Agent Networked Systems**, University of Illinois at Urbana-Champaign, August 15–19, 2013.
- *Monotone Communication Games: Theory, Algorithms, and Models.* **One-day course**, Syracuse University, Nov. 18, 2012.

- *Distributed Algorithms for Multiuser Systems.* **Tutorial speaker** at the 2012 Workshop on Complementarity and its Extensions (ICCP 2012), Institute of Mathematical Sciences, National University of Singapore, December 17–19, 2012.
- *Optimization Theory in the Decision Making for Cognitive Radio.* **ACROPOLIS Summer School** on Cognitive Radio Networks, July 12–15, 2011, Florence, Italy.
- *Variational Inequality (VI) Theory: A Mathematical Framework for Multiuser Communication Systems and Signal Processing.* **Tutorial** at the IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), May 22, 2011, Prague, Czech Republic.
- *Convex Optimization, Game Theory, and Variational Inequality Theory in Multiuser Communication Systems.* **Tutorial** at the European Signal Processing Conference (EUSIPCO), August 23–27, 2010, Aalborg, Denmark.
- *Distributed Resource Allocation in Competitive Wireless Networks.* **Ph.D. Opponent Talk** in Peter von Wrycza's Doctoral Thesis in Telecommunications, Dec. 14, 2010, KTH, Sweden.

TEACHING

(† new course introduced by Dr. Scutari)

Purdue University

- IE528–Nonlinear Optimization (graduate) S21
- IE590–Introduction to Optimization Algorithms† (graduate) F22, F24, F26
- IE690–Large Scale Optimization† (graduate) S22
- AAE/IE561–Introduction to Convex Optimization (graduate) F19, F21
- IE590–Optimization for Big Data† (graduate) F16, F18
- IE690–Multi-Agent Optimization† (graduate) F15, F17
- IE335–Introduction to Operations Research-Optimization (undergraduate) S16, S17, S18, S19, F20, S23

SUNY Buffalo

- EE701–Sparse Optimization† (graduate) S14, S15
- EE701–Variational Inequality Theory with Engineering Applications† (graduate) S12, S13
- EE531–Probability and Stochastic Processes (graduate) F11, F12, F13, F14

MENTORING ACTIVITIES

POSTDOCTORAL SCHOLARS ADVISED

Four of the five former postdocs hold tenure-track faculty positions: Penn State (ECE), Zhejiang University (Control Science and Engineering), University of Connecticut (Statistics), and Texas A&M (ISE).

- Dr. **Sandipan Kundu**, Dept. of Electrical Eng., SUNY Buffalo 08/13–12/13

  Topic(s): Distributed Fog-Computing for Heterogeneous Cloud Networks,

  First job: Cruise Automation.

- Dr. **Ying Sun**, IE School, Purdue University 08/16–12/20

  Topic(s): Distributed nonconvex optimization,

  First job: **Assistant Professor**, Dept. of Electrical and Computer Engineering, Penn State University, USA.

- Dr. **Jinming Xu**, IE School, Purdue University 08/18–08/19

  Topic(s): Computational-Communication tradeoff in nonconvex distributed optimization,

  First job: **Assistant Professor**, College of Control Science and Engineering, Zhejiang University, China.

- Dr. **Yao Zheng**, IE School, Purdue University 01/18–12/18
(co-advised with G. Cheng)

  Topic(s): High-Dimensional Statistics over networks,

  First job: **Assistant Professor**, Dept. of Statistics, University of Connecticut, USA.

- Dr. **Marie Maros**, IE School, Gilbreth Fellow, Purdue University 09/19–08/24

  Topic(s): Decentralized High-Dimensional Statistical Learning,

  First job: **Assistant Professor**, Wm Michael Barnes '64 Dept. of Industrial and Systems Engineering, Texas A&M University, USA.

GRADUATE STUDENTS ADVISED

- **Peiran Song**, SUNY Buffalo, Dept. of Electrical Engineering 05/2015

  Ph.D. Thesis: Distributed Optimization of Nonconvex Multi-Agent Systems: Theory and Applications,

  First job: Associate Professor at the Beijing Information Science and Technology University.

- **Loris Cannelli**, IE School, Purdue University 08/2019

  Ph.D. Thesis: Asynchronous Algorithms for Nonconvex Large-Scale Optimization,

  First job: Research Scientist at the Dalla Molle Institute for Artificial Intelligence, Switzerland.

- **Ye Tian**, IE School, Purdue University 08/2021

  Ph.D. Thesis: Distributed Optimization for Machine Learning: Guarantees and Trade-offs,

  First job: Data Scientist at Amazon Research.

- **Amir Daneshmand**, IE School, Purdue University 08/2021

  Ph.D. Thesis: Parallel/Decentralized Algorithms for Big-data Non-convex Optimization,

  First job: Data Scientist at Amazon Research.

- **Chang-Shen Lee**, ECE School, Purdue University 08/2021
(co-advised with Prof. Michelusi),

  Ph.D. Thesis: Efficient Communication Methods for Distributed Optimization,

  First job: Quantitative Research Associate at Bloomberg L.P.

- **Tejas Tamboli**, IE School, Purdue University 06/2022

  M.S. Thesis: Linear Convergence of Distributed Gradient Tracking Schemes under the KL Property,

  First job: Axtria.

- **Yao Ji**, IE School, Purdue University 08/2024

  Ph.D. Thesis: High-Dimensional Inference over Networks: Statistical and Computational Guarantees,

  First job: Postdoctoral Scholar, Georgia Tech.

- **Tianyu Cao**, IE School, Purdue University 09/2026 (defended)

  Ph.D. Thesis: Large-scale Optimization for Machine Learning: Acceleration and Adaptivity.

CURRENT POSTDOCTORAL SCHOLARS

- Dr. **Kuangyu Ding**, Purdue University 01/25–01/27

Topic(s): Decentralized High-Dimensional Statistical Learning & Stochastic nonconvex optimization.

- Dr. **Weiqin Chen**, Purdue University (co-advised with Prof. Harsha Honnappa) 05/26–present

CURRENT PH.D. STUDENTS

- **Xiaokai Chen**, IE School, Purdue University Graduation date: Spring 2027 (expected)
- **Pai-Chuan Chang**, ECE School, Purdue University Graduation date: 2027 (expected)
- **Yuxuan Bai**, IE School, Purdue University Graduation date: 2030 (expected)
- **Yenisi Das**, IE School, Purdue University Graduation date: 2030 (expected)

UNDERGRADUATE ADVISING

Dr. Scutari has advised several undergraduate students, in the form of individual studies or summer research projects. The full list is omitted for the sake of brevity and available on request.

PH.D. THESIS COMMITTEES SERVED

- **Peter von Wrycza**, Dept. of Electrical Eng., KTH, Sweden 12/10

  Ph.D. Thesis: Distributed Resource Allocation in Competitive Wireless Networks

  Ph.D. Advisor: B. Ottersten.

- **Alberth Alvarado**, Dept. of Industrial & Enterprise Systems Eng., UIUC, USA 08/14

  Ph.D. Thesis: Centralized and Distributed Resource Allocation with Applications to Signal Processing in Communications

  Ph.D. Advisor: J.-S. Pang.

- **Ali Parichehreh**, Dept. of Electrical Eng., Politecnico di Milano, Italy 10/15

  Ph.D. Thesis: Efficient Traffic Offloading in Advanced Wireless Networks

  Ph.D. Advisor: U. Spagnolini.

- **Wenqi Wang**, IE School, Purdue University 05/17

  Ph.D. Thesis: Multi-Dimensional Data Analysis: Subspace Learning, Clustering and Completion

  Ph.D. Advisor: V. Aggarwal.

- **Ali N. Al-Shuwaili**, Dept. of Electrical Eng., NJIT, USA 05/17

  Ph.D. Thesis: Joint Uplink/Downlink, Precoding, Scheduling and Offloading Optimization for Mobile Cloud Computing with Limited Backhaul

  Ph.D. Advisor: O. Simeone.

- **Aryan Mokhtari**, Dept. of Electrical & Systems Eng., UPenn, USA 05/17

  Ph.D. Thesis: Efficient Methods for Large-Scale Optimization

  Ph.D. Advisor: A. Ribeiro.

- **Elvin Isufi**, Dept. of Electrical Eng., Delft University of Technology, Netherlands 03/18

  Ph.D. Thesis: Signal Processing on Graphs: filtering, sampling, and adaptive algorithms

  Ph.D. Advisors: P. Banelli and G. Leus.

- **Run Chen**, IE School, Purdue University, USA 06/21

  Ph.D. Thesis: Distributed Optimization Algorithms and Their Applications to Large-scale Problems in Energy Systems

  Ph.D. Advisor: A. Liu.

- **Kananart Kuwarananchareon**, ECE School, Purdue University, USA 06/23

  Ph.D. Thesis: Analyses and Scalable Algorithms For Byzantine-Resilient Distributed Optimization

  Ph.D. Advisor: S. Sundaram.

- **Lucrezia Manieri**, Dept. of Electronics, Information and Bioengineering, Politecnico di Milano, Italy 2024

  Ph.D. Thesis: Control of large-scale MLD systems via multi-agent reformulation and decentralized optimization

  Ph.D. Advisors: M. Prandini and A. Falsone.

FULL PUBLICATION LIST

Preprints (under review)[2]

1. K. Ding[$] and **G. Scutari**⋆, "From Mixing to Tearing: Graph Decomposition in Decentralized Optimization via Message Passing," under review, 2026. ArXiv preprint: arXiv:2610.03709.
2. K. Ding[$⋆], M. Maros[⋆], and **G. Scutari**[⋆]⋆, "A New Decomposition Paradigm for Graph-structured Nonlinear Programs via Message Passing," under review, 2025. ArXiv preprint: arXiv:2512.24676.
3. W. Chen[$], X. Du, **G. Scutari**, and H. Honnappa, "Is In-Context Reinforcement Learning A Posterior Sampler? An Empirical Study," preprint, 2026. ArXiv preprint: arXiv:2610.28977.
4. X. Chen[+], I. Kuruzov, and **G. Scutari**, "A Line-search-free Method for Adaptive Decentralized Optimization," under review, 2026. ArXiv preprint: arXiv:2605.00711.
5. X. Chen[+], I. Kuruzov, and **G. Scutari**, "Adaptive Decentralized Composite Optimization via Three-Operator Splitting," under review, 2026. ArXiv preprint: arXiv:2602.17545.
6. M. Maros[$] and **G. Scutari**⋆, "Decentralized Algorithms for High-dimensional M-estimation: A Unified View," under review, 2026. Available on request.

Books and Lecture Notes

1. A. Nedić, J.-S. Pang, **G. Scutari**, and Y. Sun, *Multi-agent Optimization*. Lecture Notes in Mathematics, Springer Verlag, CIME Subseries, 2018.

Refereed Book Chapters

1. F. Facchinei[⋆], V. Kungurtsev[⋆], L. Lampariello[⋆], and **G. Scutari**[⋆], "Iteration Complexity of a Fixed-Stepsize SQP Method for Nonconvex Optimization with Convex Constraints," **Numerical Analysis and Optimization**, Springer Proceedings in Mathematics & Statistics, pp. 109–120, 2021.
2. **G. Scutari**⋆ and Y. Sun[$], "Parallel and Distributed Successive Convex Approximation Methods for Big-Data Optimization," in *Multi-agent Optimization*, **Lecture Notes in Mathematics, Springer Verlag**, CIME Subseries, pp. 141–308, 2018 [10.1007/978-3-319-97142-1_3].
3. **G. Scutari**[⋆], D. P. Palomar, F. Facchinei, and J.-S. Pang, "Monotone Games for Cognitive Radio Systems," in *Distributed Decision-Making and Control, Eds. Anders Rantzer and Rolf Johansson*, **Lecture Notes in Control and Information Sciences Series, Springer Verlag**, 2011.

[2] '+' denotes student co-author (supervised by Scutari); '$' denotes post-doc co-author (supervised by G. Scutari); '⋆' equal contribution, ⋆ corresponding author.

Authorship order adopted with an advisee (either a student or postdoctoral scholar) is generally advisee followed by faculty members (listed in alphabetical order), unless there is a significant distinction in contributions.

4. **G. Scutari***, D. P. Palomar, and S. Barbarossa, "Competitive Optimization of Cognitive Radio MIMO Systems via Game Theory," in *Convex Optimization in Signal Processing and Communications, Eds. D. P. Palomar and Yonina C. Eldar*, **Cambridge University Press**, 2009.
5. S. Barbarossa, **G. Scutari**, and L. Pescosolido, "Distributed Space-Time Coding Techniques for Multihop Networks," in **EURASIP Hindawi Book Series**, T. Kaiser and A. Bourdoux, Editors, 2004.

Magazine Papers (Signal and Information Processing, high impact factor)

1. **G. Scutari**$^{\star}\star$, F. Facchinei, D. P. Palomar, and J.-S. Pang, "Convex Optimization, Game Theory, and Variational Inequality Theory in Multiuser Communication Systems," **IEEE Signal Processing Magazine**, vol. 27, no. 3, pp. 35–49, May 2010 [10.1109/MSP.2010.936021].
   Top 100 downloaded articles in IEEE among 1.25 million articles available (April-July 2010).
   Top 10 downloaded articles in IEEE SP Magazine (April–August 2010).
2. **G. Scutari**$^{\star}\star$, D. P. Palomar, J.-S. Pang, and F. Facchinei, "Flexible Design for Cognitive Wireless Systems: From Game Theory to Variational Inequality Theory," **IEEE Signal Processing Magazine**, vol. 26, no. 5, pp. 107–123, Sept. 2009 [10.1109/MSP.2009.933446].
   Top 100 downloaded articles in IEEE among 1.25 million articles available (Sept. 2009)
   Top 10 downloaded articles in IEEE SP Magazine (Oct. 2009).
3. **G. Scutari**$^{\star}\star$, D. P. Palomar, and S. Barbarossa, "Cognitive MIMO Radio: Competitive Optimality Design Based on Subspace Projections," **IEEE Signal Processing Magazine**, vol. 25, no. 6, pp. 46–59, Nov. 2008 [10.1109/MSP.2008.929297].
   Top 100 downloaded articles in IEEE among 1.25 million articles available (Jan.–Mar. 2009).
   Top 10 downloaded articles in IEEE SP Magazine (Mar. 2009).
4. S. Barbarossa* and G. Scutari$^{\star}\star$, "Bio-Inspired Sensor Network Design," **IEEE Signal Processing Magazine**, vol. 24, no. 3, pp. 26–35, May 2007 [10.1109/MSP.2007.361599].

Journal Papers and Refereed CS Conference Papers[3]

1. T. Cao^{+}, X. Chen^{+}, and **G. Scutari**$\star$, "DCatalyst: A Unified Accelerated Framework for Decentralized Optimization," **J. of Machine Learning Research**, vol. 27, no. 47, pp. 1–57, 2026.
2. X. Chen^{+}, T. Cao^{+}, and **G. Scutari**$\star$, "Enhancing Convergence of Decentralized Gradient Tracking under the KL Property," **IEEE Trans. on Automatic Control**, early access, 2026 [10.1109/TAC.2026.3713850].
3. I. Kuruzov, **G. Scutari**, and A. Gasnikov, "Achieving Linear Convergence with Parameter-Free Algorithms in Decentralized Optimization," Proc. **Conference on Neural Information Processing Systems (NeurIPS)**, 2024.
4. M. Maros$^{\$}$, **G. Scutari**$\star$, Y. Sun, G. Cheng, "Decentralized Sparse Linear Regression via Gradient-Tracking," **J. of Machine Learning Research**, vol. 26, no. 197, pp. 1–56, 2025. The order of the first three authors is alphabetical.
5. Y. Ji^{+}, **G. Scutari**$\star$, Y. Sun, and H. Honnappa, "Distributed Sparse Regression via Penalization," **J. of Machine Learning Research**, vol. 24, no. 272, pp. 1–62, 2023.
6. M. Maros$^{\$}$ and **G. Scutari**$\star$, "Decentralized Matrix Sensing: Statistical Guarantees and Fast Convergence," Proc. **Conference on Neural Information Processing Systems (NeurIPS)**, 2023.

[3]The list includes papers published at NeurIPS, ICML, AISTATS, and AAAI (acceptance rate around 15%–25%).

7. Y. Ji^{+}, **G. Scutari***, Y. Sun, and H. Honnappa, "Distributed (ATC) Gradient Descent for High-Dimension Sparse Regression," **IEEE Trans. on Information Theory**, vol. 69, no. 8, pp. 5253–5276, 2023 [10.1109/TIT.2023.3267742].
8. V. Kungurtsev, M. Morafah, T. Javidi, and **G. Scutari***, "Decentralized Asynchronous Non-convex Stochastic Optimization on Directed Graphs," **IEEE Trans. on Control of Network Systems**, vol. 10, no. 4, pp. 1796–1804, 2023 [10.1109/TCNS.2023.3242043].
9. N. Michelusi*, **G. Scutari****, and C.-S. Lee^{+}, "Finite-Bit Quantization for Distributed Algorithms with Linear Convergence," **IEEE Trans. on Information Theory**, vol. 68, no. 11, pp. 7254–7280, Nov. 2022 [10.1109/TIT.2022.3176253].
10. K. Slavakis*, G. Shetty, L. Cannelli^{+}, **G. Scutari**, U. Nakarmi, and L. Ying, "Kernel Regression Imputation in Manifolds via Bi-linear Modeling: The Dynamic MRI case," **IEEE Trans. on Computational Imaging**, vol. 8, pp. 133–147, 2022 [10.1109/TCI.2022.3148062].
11. Y. Sun$^{\$}$, **G. Scutari***, and A. Daneshmand^{+}, "Distributed Optimization Based on Gradient-Tracking Revisited: Enhancing Convergence Rate via Surrogation," **SIAM J. on Optimization**, vol. 32, no. 2, pp. 354–385, 2022 [https://doi.org/10.1137/19M1259973].
12. F. Facchinei**, V. Kungurtsev*, L. Lampariello*, and **G. Scutari***, "Diminishing Stepsize Methods for Nonconvex Composite Problems via Ghost Penalties: from the General to the Convex Regular Constrained Case," **Optimization Methods and Software**, vol. 37, no. 4, pp. 1242–1268, 2022 [https://doi.org/10.1080/10556788.2020.1854253].
13. M. Maros$^{\$}$ and **G. Scutari***, "Acceleration in Distributed Sparse Regression," Proc. **Conference on Neural Information Processing Systems (NeurIPS 2022)**, 2022.
14. M. Maros$^{\$}$ and **G. Scutari***, "DGD^2: A Linearly Convergent Distributed Algorithm for High-dimensional Statistical Recovery," Proc. **Conference on Neural Information Processing Systems (NeurIPS 2022)**, 2022.
15. D. Kovalev, A. Beznosikov, E. Borodich, A. Gasnikov, and **G. Scutari***, "Optimal Gradient Sliding and Its Application to Optimal Distributed Optimization under Similarity," Proc. **Conference on Neural Information Processing Systems (NeurIPS 2022)**, 2022 (**Spotlight, acceptance rate 4%**).
16. Y. Tian^{+}, **G. Scutari***, T. Cao^{+}, and A. Gasnikov, "Acceleration in Distributed Optimization under Similarity," Proc. **International Conference on Artificial Intelligence and Statistics (AISTATS 2022)**, 2022.
17. F. Facchinei**, V. Kungurtsev*, L. Lampariello*, and **G. Scutari***, "Ghost Penalties in Nonconvex Constrained Optimization: Diminishing Stepsizes and Iteration Complexity," **Mathematics of Operations Research**, vol. 46, no. 2, pp. 595–627, 2021 [https://doi.org/10.1287/moor.2020.1079].
18. A. Daneshmand$^{+\star}$, **G. Scutari****, P. Dvurechensky, A. Gasnikov, "Newton Method over Networks is Fast up to the Statistical Precision," Proc. **International Conference on Machine Learning (ICML 2021)**, PMLR vol. 139, pp. 2398–2409, 2021.
19. A. Beznosikov, **G. Scutari***, A. Rogozin, and A. Gasnikov, "Distributed Saddle-Point Problems under Data Similarity," Proc. **Conference on Neural Information Processing Systems (NeurIPS 2021)**, 2021.
20. J. Xu$^{\$}$, Y. Tian^{+}, Y. Sun$^{\$}$, and **G. Scutari***, "Distributed Algorithms for Composite Optimization: Unified Framework and Convergence Analysis," **IEEE Trans. on Signal Processing**, vol. 69, pp. 3555–3570, June 2021 [10.1109/TSP.2021.3086579].
21. J. Xu$^{\$}$, Y. Tian^{+}, Y. Sun$^{\$}$, and **G. Scutari***, "Accelerated Primal-Dual Algorithms for Distributed Smooth Convex Optimization over Networks," Proc. **International Conference on Artificial Intelligence and Statistics (AISTATS 2020)**, 2020.
22. L. Cannelli$^{+\star}$, F. Facchinei*, **G. Scutari****, and V. Kungurtsev, "Asynchronous Optimization over Graphs: Linear Convergence under Error Bound Conditions," **IEEE Trans. on Automatic Control**, vol. 66, no. 10, pp. 4604–4619, Oct. 2021 [10.1109/TAC.2020.3033490].

23. C.-S. Lee^{+}, N. Michelusi, and **G. Scutari**$\star$, "Limited Rate Distributed Weight-Balancing and Average Consensus over Digraphs," **IEEE Trans. on Automatic Control**, vol. 66, no. 10, pp. 4530–4545, Oct. 2021 [10.1109/TAC.2020.3030871].

24. I. Notarnicola, Y. Sun$^{\$}$, **G. Scutari**$\star$, and G. Notarstefano, "Distributed Big-Data Optimization via Block-wise Gradient Tracking," **IEEE Trans. on Automatic Control**, vol. 66, no. 5, pp. 2045–2060, May 2021 [10.1109/TAC.2020.3008713].

25. A. Daneshmand^{+}, **G. Scutari**$\star$, and V. Kungurtsev, "Second-order Guarantees of Distributed Gradient Algorithms," **SIAM J. on Optimization**, vol. 30, no. 4, pp. 3029–3068, 2020 [https://doi.org/10.1137/18M121784X].

26. Y. Tian^{+}, Y. Sun$^{\$}$, and **G. Scutari**$\star$, "Achieving Linear Convergence in Distributed Asynchronous Multiagent Optimization," **IEEE Trans. on Automatic Control**, vol. 65, no. 12, pp. 5264–5279, 2020 [DOI: 10.1109/TAC.2020.2977940].

27. L. Cannelli$^{+\star}$, F. Facchinei$^{\star}\star$, V. Kungurtsev*, **G. Scutari***, "Asynchronous Parallel Algorithms for Nonconvex Optimization," **Mathematical Programming**, vol. 184, pp. 121–154, 2020 [https://doi.org/10.1007/s10107-019-01408-w].

28. G. Shetty, K. Slavakis$\star$, A. Bose, L. Ying, U. Nakarmi, and **G. Scutari**, "Bi-Linear Modeling of Data Manifolds for Dynamic-MRI recovery," **IEEE Trans. on Medical Imaging**, vol. 39, no. 3, pp. 688–702, March 2020 [10.1109/TMI.2019.2934125].

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