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RESEARCH INTERESTS

Convex Analysis; Convex Optimization; Dynamical Systems; Monotone Operators

APPOINTMENTS

since 09/2025	Professor of Automatic Control and Engineering Mathematics Faculty of Mechanical Engineering Technische Hochschule Ingolstadt, Germany
08/2023–08/2025	Research Scientist Foundational Technologies (Autonomous Systems and Control) Siemens Technology Center Garching Siemens AG, Munich, Germany
11/2021–07/2023	Systems and Control Engineer Research and Development (System Design) MTU Aero Engines AG, Munich, Germany
09/2015–10/2021	Research and Teaching Assistant Institute for Systems Theory and Automatic Control University of Stuttgart, Germany
10/2014–07/2015	Graduate Research Assistant Department of Mechanical and Aerospace Engineering University of California, San Diego, CA, USA
06/2012–09/2012	Undergraduate Research Assistant Department of Electrical and Computer Engineering National University of Singapore, Singapore

EDUCATION

09/2015–12/2022	Ph.D., Systems Theory and Automatic Control University of Stuttgart, Germany
10/2012–08/2015	M.Sc., Engineering Cybernetics University of Stuttgart, Germany
10/2008–09/2012	B.Eng., Mechanical Engineering Deggendorf Institute of Technology, Germany

HONORS AND AWARDS

2014–2015	Dr. Jürgen und Irmgard Ulderup Fellowship
2011–2015	Fellow of German Academic Scholarship Foundation (Studienstiftung des deutschen Volkes)
2010–2012	Fellow of German Academic Exchange Service (Deutscher Akademischer Austauschdienst)

TEACHING ACTIVITIES

Undergraduate Courses

Winter 2025	Engineering Mathematics I , Technische Hochschule Ingolstadt
Winter 2025	Linear Systems Theory , Technische Hochschule Ingolstadt
2020–2021	Systems and Control , University of Stuttgart
Winter 2017	Introduction to Automatic Control , University of Stuttgart

Graduate Courses

2016–2020	Nonlinear Control , University of Stuttgart
Summer 2019	Convex Optimization , University of Stuttgart
Winter 2019	Advanced Concepts in Control , University of Stuttgart
Winter 2015	Introduction to Adaptive Control , University of Stuttgart

INVITED TALKS

01/2023	Learning and Dynamical Systems Group , Max Planck Institute for Intelligent Systems, Tübingen, Germany
11/2022	Research Seminar Dynamical Systems , Chair of Dynamical Systems, University of Passau, Germany

PROFESSIONAL SERVICE

Membership in Professional Societies

since 2015	Society of Industrial and Applied Mathematics (SIAM)
since 2014	Institute of Electrical and Electronics Engineers (IEEE)
since 2014	Control Systems Society (CSS)

Reviewer (Journal Articles)

Automatica; IEEE Control Systems Letters; IEEE Transactions on Automatic Control; Operations Research Letters; Optimization; SIAM Journal on Control and Optimization

PUBLICATIONS

Journal Articles

- [J-04] F. Battahi, Z. Chbani, **S. K. Niederländer** and H. Riahi, *Asymptotic behavior of the Arrow–Hurwicz differential system with Tikhonov regularization*, J. Convex Anal., to appear.
- [J-03] **S. K. Niederländer**, *On the Arrow–Hurwicz differential system for linearly constrained convex minimization*, Optimization, 73 (2023), pp. 2313–2345.
- [J-02] **S. K. Niederländer**, *Second-order dynamics with Hessian-driven damping for linearly constrained convex minimization*, SIAM J. Control Optim., 59 (2021), pp. 3708–3736.
- [J-01] J. Cortés and **S. K. Niederländer**, *Distributed coordination for nonsmooth convex optimization via saddle-point dynamics*, J. Nonlinear Sci., 29 (2019), pp. 1247–1272.

Conference Proceedings

- [C-04] **S. K. Niederländer**, *Asymptotic behavior of the nonautonomous Arrow–Hurwicz differential system*, in Proc. IEEE Conf. Decis. Control, Milan, Italy, 2024, pp. 4752-4757.
- [C-03] **S. K. Niederländer**, *Ergodic convergence results for the Arrow–Hurwicz differential system*, in Proc. IEEE Conf. Decis. Control, Singapore, 2023, pp. 7293-7298.
- [C-02] **S. K. Niederländer**, F. Allgöwer and J. Cortés, *Exponentially fast distributed coordination for nonsmooth convex optimization*, in Proc. IEEE Conf. Decis. Control, Las Vegas, NV, USA, 2016, pp. 1036-1041.
- [C-01] **S. K. Niederländer** and J. Cortés, *Distributed coordination for separable convex optimization with coupling constraints*, in Proc. IEEE Conf. Decis. Control, Osaka, Japan, 2015, pp. 694-699.

Other Works

- [O-02] **S. K. Niederländer**, *Dynamical approaches to linearly constrained convex minimization*, Ph.D. Thesis, University of Stuttgart, 2022.
- [O-01] **S. K. Niederländer**, *Distributed continuous-time coordination for nonsmooth convex and robust optimization*, Master Thesis, University of Stuttgart, 2015.