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Date & place of birth 05.07.1986, Odesa, Ukraine
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Residence permit Germany



EDUCATION

- University of Bremen, Bremen, Germany, 2009–2012.
Degree: Ph.D. in mathematics (awarded in July 2012).
PhD thesis: "Input-to-state stability of infinite-dimensional control systems".
Supervisor: Prof. Dr. Sergey Dashkovskiy
Reviewers: Prof. Dr. Sergey Dashkovskiy, Prof. Dr. Fabian Wirth
- I.I. Mechnikov Odesa National University, Odesa, Ukraine, 2006–2008.
Degree: M.Sc. (applied mathematics), Degree with Honours (awarded in June 2008).
Thesis: "Mathematical modeling of an agrocoenosis".
- I.I. Mechnikov Odesa National University, Odesa, Ukraine, 2002–2006.
Degree: B.Sc. (applied mathematics), Degree with Honours (awarded in July 2006).

ACADEMIC CAREER

- 10.2014 – today *Postdoctoral Research Assistant* at University of Passau, Germany. Project: 'Input-to-state stability and stabilization of distributed parameter systems'. Funded by German Research Foundation.
- 12.2013 – 06.2014 *Fellow of Japan Society for the Promotion of Science (JSPS)* at Kyushu Institute of Technology, Japan. JSPS Project: 'Lyapunov methods for dissipativity of infinite-dimensional systems'.
Host researcher: [Prof. Dr. Hiroshi Ito](#).
- 09.2013 – 10.2013 *Research visit* at University of Illinois at Urbana-Champaign (UIUC).
Host researcher: [Prof. Dr. Daniel Liberzon](#).
- 08.2012 – 09.2014 *Postdoctoral Research Assistant* at the University of Würzburg, Chair of Dynamics and Control.
- 05.2009 – 07.2012 *Research Assistant* at the Department of Mathematics and Computer Science, University of Bremen.

HONORS

2013 [Postdoctoral Fellowship](#) of the Japan Society for the Promotion of Science (JSPS) (12.2013 – 06.2014).

GRANTS

2016 Grants for organisation of the [Workshop 'Stability and Control of Infinite-Dimensional Systems'](#), ≈ 16300 €.

- DFG Grant MI 1886/1-1 (International Scientific Events), ≈ 11000 €.
- University of Passau 'Veranstaltungspool'-grant, ≈ 5300 €.

10.2015 – 10.2017 I coordinated and coauthored preparation of the proposal for a [DFG Research Grant](#) for the project '[Input-to-state stability and stabilization of distributed parameter systems](#)'. Principal investigators: Prof. Sergey Dashkovskiy, Prof. Birgit Jacob, Prof. Fabian Wirth (in total **over 400.000 €**).

12.2013 – 06.2014 [Postdoctoral Fellowship](#) of the Japan Society for the Promotion of Science (JSPS) (¥2.430.500 \approx €17.500) for the project: '[Lyapunov methods for dissipativity of infinite-dimensional systems](#)'.

TEACHING EXPERIENCE

University of Passau, Germany:

2018 Ordinary Differential Equations, 5750V, Lecturer + Tutor

2017/2018 Mathematics in Technical Systems III, Lecturer + Tutor

2015/2016 Semigroup Theory, Lecturer + Tutor [Slides \(Main results\)](#)

2015 Port-Hamiltonian Infinite-Dimensional Systems, Seminar organiser + Lecturer

2014/2015 Mathematics in Technical Systems III, 5362UE, Tutor

2014/2015 Ordinary Differential Equations, 5750UE, Tutor [Problem list](#)

Mechnikov Odesa National University, Ukraine:

Sep-Oct 2015 [Introduction to input-to-state stability theory](#), Invited Lecturer. [Lecture notes](#)

University of Würzburg, Germany:

2012/2013 Control theory, Tutor (in English & German).

University of Bremen, Germany:

2011 Mathematics 2 for engineers, 04-26-2-M2-Ü, Tutor (in German).

2010/2011 Mathematics 1 for engineers, 04-26-1-M1-Ü, Tutor (in German).

2010 Stability of interconnected dynamical systems, 03-224, Tutor (in English).

ORGANISATION OF SCIENTIFIC EVENTS

- 2019 Co-organiser (with F. Schwenninger) of the Minisymposium on "Input-to-state stability of distributed parameter systems" at the *90th Annual Meeting of the International Association of Applied Mathematics and Mechanics (GAMM 2019)*, Vienna, 18–22 February 2019.
- 2018 Co-organiser of the 2nd Workshop 'Stability and Control of Infinite-Dimensional Systems' (SCINDIS 2018), Würzburg, Germany, 10–12 October 2018.
- Supported by DFG Grant (International Scientific Events): 12600 €.
- 2016 Co-organizer of the 1st Workshop 'Stability and Control of Infinite-Dimensional Systems' (SCINDIS 2016), Passau, Germany, 12–14 October 2016.
- 47 participants from 12 countries, 22 Speakers and 10 poster presentations.
 - Supported by DFG Grant MI 1886/1-1 (International Scientific Events) and 'Veranstaltungspool'-grant of the University of Passau, in total \approx 16300 €.

REVIEWER

Journals: IEEE Transactions on Automatic Control • SIAM Journal on Control and Optimization
Mathematics of Control, Signals, and Systems • Systems & Control Letters • Automatica
Journal of Differential Equations • International Journal of Control • IET Control Theory & Applications.

Conferences: International Symposium on Mathematical Theory of Networks and Systems (MTNS)
Conference on Decision and Control (CDC) • World Congress of the International Federation of Automatic Control (IFAC WC) • American Control Conference (ACC) • European Control Conference (ECC) • Chinese Control and Decision Conference (CCDC).

LANGUAGES

- Ukrainian - native
- English, German, Russian - very good

COOPERATION PARTNERS

- Prof. S. Dashkovskiy (U Würzburg, Germany)
- Prof. B. Jacob (U Wuppertal, Germany)
- Prof. H. R. Karimi (Politecnico di Milano, Italy)
- Prof. M. Krstic (UC San Diego, USA)
- Prof. F. Wirth (U Passau, Germany)
- Dr. G. Yang (UC Santa-Barbara, USA)
- Prof. H. Ito (Kyushu Inst. of Tech., Japan)
- Prof. I. Karafyllis (TU Athens, Greece)
- Prof. J. Kozlowski (Jagiellonian U, Poland)
- Prof. D. Liberzon (UI Urbana Champaign, USA)
- Dr. K. Wulff (TU Ilmenau, Germany)

PUBLICATIONS

You can consult also my profiles at [Google Scholar](#), [MathSciNet](#), [ResearchGate](#).

Journal papers

- [17] A. Mironchenko, I. Karafyllis, M. Krstic. [Monotonicity Methods for Input-to-State Stability of Nonlinear Parabolic PDEs with Boundary Disturbances](#). *Submitted*, 2018. Preprint
- [16] A. Mironchenko, F. Wirth. [Non-coercive Lyapunov functions for infinite-dimensional systems](#). *Submitted*, 2018. Preprint
- [15] A. Mironchenko. [Criteria for input-to-state practical stability](#). *Provisionally accepted to IEEE Transactions on Automatic Control*, 2018. Preprint
- [14] A. Mironchenko, F. Wirth. [Lyapunov characterization of input-to-state stability for semilinear control systems over Banach spaces](#). *Provisionally accepted to Systems & Control Letters*, 2018. Preprint
- [13] A. Mironchenko, F. Wirth. [Characterizations of input-to-state stability for infinite-dimensional systems](#). *Accepted to IEEE Transactions on Automatic Control*, 2018, doi: 10.1109/TAC.2017.2756341 Preprint
- [12] A. Mironchenko, G. Yang, D. Liberzon. [Lyapunov small-gain theorems for networks of not necessarily ISS hybrid systems](#). *Automatica*, 88:10–20, 2018. Preprint
- [11] A. Mironchenko. [Uniform weak attractivity and criteria for practical global asymptotic stability](#). *Systems & Control Letters*, 105:92–99, 2017. Preprint
- [10] A. Mironchenko, Hiroshi Ito. [Characterizations of integral input-to-state stability for bilinear systems in infinite dimensions](#). *Mathematical Control and Related Fields*, 6(3):447–466, 2016. Preprint
- [9] A. Mironchenko. [Local input-to-state stability: characterizations and counterexamples](#). *Systems & Control Letters*, 87:23–28, 2016. Preprint
- [8] A. Mironchenko, Hiroshi Ito. [Construction of Lyapunov functions for interconnected parabolic systems: an iISS approach](#). *SIAM Journal on Control and Optimization*, 53(6):3364–3382, 2015. Preprint
- [7] A. Mironchenko, F. Wirth, K. Wulff. [Stabilization of switched linear differential-algebraic equations via time-dependent switching signals](#). *IEEE Transactions on Automatic Control*, 60(8):2102–2113, 2015. Preprint
- [6] A. Mironchenko, J. Kozłowski. [Optimal allocation patterns and optimal seed mass of a perennial plant](#). *Journal of Theoretical Biology*, 354:12–24, 2014. Preprint
- [5] S. Dashkovskiy, A. Mironchenko. [Input-to-state stability of nonlinear impulsive systems](#). *SIAM Journal on Control and Optimization*, 51(3):1962–1967, 2013. Preprint
- [4] S. Dashkovskiy, A. Mironchenko. [Input-to-state stability of infinite-dimensional control systems](#). *Mathematics of Control, Signals, and Systems*, 25(1):1–35, 2013. Preprint
- [3] S. Dashkovskiy, M. Kosmykov, A. Mironchenko, L. Naujok. [Stability of interconnected impulsive systems with and without time-delays using Lyapunov methods](#). *Nonlinear Analysis: Hybrid Systems*, 6(3):899–915, 2012. Preprint
- [2] S. Dashkovskiy, M. Görges, M. Kosmykov, A. Mironchenko, L. Naujok. [Modelling and stability analysis of autonomous controlled production networks](#). *Logistics Research*, 3(2):145–157, 2011. Preprint
- [1] S. Dashkovskiy, H.-J. Kreowski, S. Kuske, A. Mironchenko, L. Naujok, C. von Totth. [Production Networks as Communities of Autonomous Units and Their Stability](#). *International Electronic Journal of Pure and Applied Mathematics*, 2(1):17–42, 2010. Preprint

Conference articles and book chapters

- [22] A. Mironchenko, F. Wirth. [Integral uniform global asymptotic stability and non-coercive Lyapunov functions](#). *Submitted to the 23rd International Symposium on Mathematical Theory of Systems and Networks (MTNS 2018)*, Hong-Kong, 2018.
- [21] A. Mironchenko, I. Karafyllis, M. Krstic. [Input-to-State Stability of Nonlinear Parabolic PDEs with Dirichlet Boundary Disturbances](#). *Submitted to the 23rd International Symposium on Mathematical Theory of Systems and Networks (MTNS 2018)*, Hong-Kong, 2018.

- [20] A. Mironchenko, F. Wirth. [Input-to-state stability of time-delay systems: criteria and open problems](#) *Proc. of the 56th IEEE Conference on Decision and Control (CDC 2017)*, Melbourne, Australia, pp. 3719–3724, 2017.
- [19] A. Mironchenko, F. Wirth. [A non-coercive Lyapunov framework for stability of distributed parameter systems](#). *Proc. of the 56th IEEE Conference on Decision and Control (CDC 2017)*, Melbourne, Australia, pp. 1900–1905, 2017.
- [18] G. Yang, D. Liberzon, A. Mironchenko. [Analysis of different Lyapunov function constructions for interconnected hybrid systems](#). *Proc. of the 55th IEEE Conference on Decision and Control (CDC 2016)*, Las-Vegas, Nevada, USA, pp. 465–470, 2016.
- [17] A. Mironchenko, F. Wirth. [Global converse Lyapunov theorems for infinite-dimensional systems](#). *Proc. of the 10th IFAC Symposium on Nonlinear Control Systems (NOLCOS 2016)*, Monterey, California, USA, 909–914, 2016.
- [16] A. Mironchenko, F. Wirth. [Restatements of input-to-state stability in infinite dimensions: what goes wrong?](#) *Proc. of the 22nd International Symposium on Mathematical Theory of Systems and Networks (MTNS 2016)*, Minneapolis, Minnesota, USA, pp. 667–674, 2016.
- [15] A. Mironchenko, F. Wirth. [A note on input-to-state stability of linear and bilinear infinite-dimensional systems](#). *Proc. of the 54th IEEE Conference on Decision and Control (CDC 2015)*, Osaka, Japan, pp. 495–500, 2015.
- [14] A. Mironchenko, H. Ito. [Construction of iISS Lyapunov functions for interconnected parabolic systems](#). *Proc. of the European Control Conference 2015 (ECC15)*, 15.07.-17.07.2015, Linz, Austria, pp. 37–42, 2015.
- [13] A. Mironchenko, H. Ito. [Integral input-to-state stability of bilinear infinite-dimensional systems](#). *Proc. of the 53th IEEE Conference on Decision and Control (CDC 2014)*, Los-Angeles, USA, pp. 3155–3160, 2014.
- [12] S. Dashkovskiy, A. Mironchenko. [Stability of nonlinear infinite dimensional impulsive systems and their interconnections](#). *Proc. of the 53th IEEE Conference on Decision and Control (CDC 2014)*, Los-Angeles, USA, pp. 2071–2076, 2014.
- [11] A. Mironchenko, G. Yang, D. Liberzon. [Lyapunov small-gain theorems for not necessarily ISS hybrid systems](#). *Proc. of the 21st International Symposium on Mathematical Theory of Systems and Networks (MTNS 2014)*, Groningen, Netherlands, pp. 1001–1008, 2014.
- [10] S. Dashkovskiy, A. Mironchenko. [Lyapunov methodology for stability analysis of impulsive systems](#). *Proc. of the SICE Multi Symposium on Control Systems 2014*, Tokyo, Japan, 2014 (Proceedings CD).
- [9] A. Mironchenko, F. Wirth, K. Wulff. [Stabilization of switched linear differential-algebraic equations via time-dependent switching signals](#). *Proc. of the 52th IEEE Conference on Decision and Control (CDC 2013)*, Florence, Italy, pp. 5975–5980, 2013.
- [8] A. Mironchenko, J. Kozłowski. [Optimal allocation strategies of perennial plants](#). *Proc. of the 52th IEEE Conference on Decision and Control (CDC 2013)*, Florence, Italy, pp. 3361–3366, 2013.
- [7] S. Dashkovskiy and A. Mironchenko. [Constructions of ISS-Lyapunov functions for interconnected impulsive systems](#). *Proc. of the 51th IEEE Conference on Decision and Control (CDC 2012)*, Hawaii, USA, pp. 6831–6836, 2012.
- [6] S. Dashkovskiy, A. Mironchenko. [Dwell-time conditions for robust stability of impulsive systems](#). *Proc. of the 20th International Symposium on Mathematical Theory of Systems and Networks (MTNS 2012)*, Melbourne, Australia, 2012 (paper 72, Proceedings CD).
- [5] S. Dashkovskiy, A. Mironchenko. [Local ISS of Reaction-Diffusion Systems](#). *Proc. of the 18th IFAC World Congress*, Milan, Italy, pp. 11018–11023, 2011.
- [4] S. Dashkovskiy, A. Mironchenko, L. Naujok. [Autonomous and Central Control of Production Networks](#). In: *Autonomous Cooperation and Control in Logistics*, M. Hülsmann, B. Scholz-Reiter, K. Windt (Eds.), pp. 27–43, Springer Verlag, 2011.
- [3] S. Dashkovskiy, A. Mironchenko. [On the uniform input-to-state stability of reaction-diffusion systems](#). *Proc. of the 49th IEEE Conference on Decision and Control (CDC 2010)*, Atlanta, USA, pp. 6547–6552, 2010.
- [2] S. Dashkovskiy, H. R. Karimi, M. Kosmykov, A. Mironchenko, L. Naujok. [Application of the LISS Lyapunov-Krasovskii small-gain theorem to autonomously controlled production networks with time-delays](#). *Proc. of the Conference on Control and Fault-Tolerant Systems*, Nice, France, pp. 765–770, 2010.

- [1] S. Dashkovskiy, H.-J. Kreowski, S. Kuske, A. Mironchenko, L. Naujok, C. von Totth. Production Networks as Communities of Autonomous Units and Their Stability. *Proc. of the 3rd International Workshop on Graph Computation Models*, Enschede, Netherlands, pp. 17–32, 2010.

Book

- [1] A. Mironchenko. *Imperative and object-oriented programming in languages Turbo Pascal and Delphi*. Odessa, VMV, 2007, 408 p. (in Russian)

Theses

- [2] A. Mironchenko. *Input-to-state stability of infinite-dimensional control systems*. PhD thesis, Department of Mathematics and Computer Science, University of Bremen, 2012.
- [1] A. Mironchenko. *Mathematical modeling of agrocoenosis*. Master's thesis, Department of Applied Mathematics, Mechnikov Odessa National University, 2008.

TALKS

- [32] Non-coercive Lyapunov functions for stability analysis of nonlinear infinite-dimensional systems. Workshop 'Control theory of infinite-dimensional systems', FernUniversität in Hagen, Hagen, Germany, 2018.
- [31] Characterizations of input-to-state stability for wide classes of control systems. Workshop 'Control of Distributed Parameter Systems' (CDPS 2017), University of Bordeaux, Bordeaux, France, 2017.
- [30] Towards unified input-to-state stability theory. Invited talk at iCODE Seminar in Automatic Control of Paris-Saclay University, *CentraleSupélec*, Gif-sur-Yvette, France, 2017.
- [29] Input-to-state stability of infinite-dimensional systems: recent results and open problems. Research seminar (invited by Prof. Sergey Dashkovskiy), *University of Würzburg*, Würzburg, Germany, 2017.
- [28] Input-to-state stability of distributed parameter systems: characterizations and counterexamples. *Workshop 'Stability and Control of Infinite-Dimensional Systems'*, Passau, Germany, 2016.
- [27] Global Converse Lyapunov Theorems for Infinite-Dimensional Systems. *10th IFAC Symposium on Nonlinear Control Systems (NOLCOS 2016)*, Monterey, California, USA, 2016.
- [26] Input-to-state stability of infinite-dimensional systems: characterizations and counterexamples. Research seminar (invited by Prof. Miroslav Krstic), *University of California, San Diego*, San-Diego, USA, 2016.
- [25] Restatements of input-to-state stability in infinite dimensions: what goes wrong? *22st International Symposium on Mathematical Theory of Systems and Networks (MTNS 2016)*, Minneapolis, Minnesota, USA, 2016.
- [24] Construction of iISS Lyapunov functions for interconnected parabolic systems. *European Control Conference 2015*, Linz, Austria, 2015.
- [23] On characterizations of Input-to-State Stability for Infinite-Dimensional Systems. *SIAM Conference on Control and Applications*, Paris, France, 2015.
- [22] Constructions of Lyapunov functions for nonlinear parabolic control systems: an integral ISS approach. *Meeting of the GAMM-Fachauschuss "Dynamik und Regelungstheorie"*, Hamburg, Germany, 2015.
- [21] Lyapunov methods for nonlinear integral input-to-state stable systems. Wuppertal ISS-Day (invited by Prof. Birgit Jacob), *University of Wuppertal*, Wuppertal, Germany, 2015.
- [20] Stability and interconnections of ODEs and impulsive systems. Research seminar (invited by Prof. Sergey Polozhaenko), *Odesa National Polytechnic University*, Odesa, Ukraine, 2014.
- [19] Stability and interconnections of ODEs and impulsive systems. Research seminar (invited by Prof. Olga Kichmarenko), *I.I. Mechnikov Odesa National University*, Odesa, Ukraine, 2014.
- [18] Lyapunov small-gain theorems for not necessarily ISS hybrid systems. *21st International Symposium on Mathematical Theory of Systems and Networks (MTNS 2014)*, Groningen, Netherlands, 2014.

- [17] Lyapunov methods for robust stability of distributed parameter systems. Research seminar (invited by Dr. Gou Nishida), *Kyoto University*, Kyoto, Japan, 2014.
- [16] Robust stability of interconnections of infinite-dimensional systems: an ISS approach. Research seminar (invited by Prof. Hiroyuki Ichihara), *Meiji University*, Kawasaki city, Japan, 2014.
- [15] Lyapunov methodology for stability analysis of impulsive systems. *SICE Multi-Symposium on Control Systems 2014 (MSCS2014)*, Tokyo, Japan, 2014.
- [14] Stability and interconnections of hybrid and impulsive systems. Research seminar (invited by Prof. Hiroshi Ito), *Kyushu Institute of Technology*, Fukuoka, Japan, 2014.
- [13] Stabilization of switched linear differential-algebraic equations via time-dependent switching signals. *52th IEEE Conference on Decision and Control (CDC 2013)*, Florence, Italy, 2013.
- [12] Optimal allocation strategies of perennial plants. *52th IEEE Conference on Decision and Control (CDC 2013)*, Florence, Italy, 2013.
- [11] Input-to-state stability of distributed parameter systems. Research seminar (invited by Prof. Daniel Liberzon), *University of Illinois at Urbana-Champaign (UIUC)*, Urbana-Champaign, IL, USA, 2013.
- [10] Stabilization of DAEs via Time-Dependent Switching. Research seminar (invited by Prof. Lars Grüne), *University of Bayreuth*, Bayreuth, Germany, 2013.
- [9] Stabilization of linear switched DAEs via switching signal. *Workshop "Deskriptor 2013"*, Geseke, Germany, 2013.
- [8] Constructions of ISS-Lyapunov functions for interconnected impulsive systems. *51th IEEE Conference on Decision and Control (CDC 2012)*, Hawaii, USA, 2012.
- [7] Optimal allocation patterns and optimal seed mass of a perennial plant. Research seminar (invited by Prof. Jan Kozłowski), *Jagiellonian University*, Kraków, Poland, 2012.
- [6] Dwell-time conditions for robust stability of impulsive systems. *20th International Symposium on Mathematical Theory of Systems and Networks (MTNS 2012)*, Melbourne, Australia, 2012.
- [5] Dwell-time conditions for input-to-state stability of impulsive systems. *Meeting of the GAMM-Fachauschuss "Dynamik und Regelungstheorie"*, Stuttgart, Germany, 2012.
- [4] Input-to-state stability of infinite-dimensional systems (Blackboard talk). Research seminar (invited by Prof. Hans Triebel), *University of Jena*, Jena, Germany, 2012.
- [3] Local ISS of Reaction-Diffusion Systems. *18th IFAC World Congress (IFAC 2011)*, Milan, Italy, 2011.
- [2] Input-to-state stability of systems of partial differential equations. *Elgersburg Workshop 2011*, Elgersburg, Germany, 2011.
- [1] Mathematical Modeling of the Agrocoenosis. Research seminar (invited by Prof. Sergey Dashkovskiy), *University of Bremen*, Bremen, Germany, 2009.