

Curriculum Vitae

Dr. rer. nat. Siegfried Beckus

Personal Information

Birthday	April 11, 1988
Citizenship	German
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Academic Career

08/2025	Submission Habilitation thesis, Universität Potsdam, Germany Procedure formally opened on September 17, 2025 Titel: <i>The Butterflies' effects</i>
2012–2016	PhD in Mathematics, Friedrich-Schiller-Universität Jena, Germany Titel: <i>Spectral approximation of aperiodic Schrödinger operators</i> Supervisors: Prof. Daniel Lenz, Prof. Jean Bellissard
2006–2012	Diploma in Mathematics, Friedrich-Schiller-Universität Jena, Germany Titel: <i>Generalized Bloch Theory for Quasicrystals</i> Supervisor: Prof. Daniel Lenz

Professional Experience

09/2025 – 06/2026	Fellowship for 10 months at the Israel Institute for Advanced Studies, Jerusalem, Israel
Since 10/2020	Postdoctoral Researcher and Lecturer (permanent), Universität Potsdam, Potsdam, Germany
10/2018 – 09/2020	Postdoctoral Researcher, Universität Potsdam, Potsdam, Germany
10/2016 – 09/2018	Postdoctoral Researcher, Fellowship, Israel Institute of Technology (Technion), Haifa, Israel
02/2014 – 04/2014	Student Research Internship (J1 Program), Georgia Institute of Technology, Atlanta, USA
03/2012 – 10/2016	PhD student, supervised by Prof. Daniel Lenz, Friedrich-Schiller-Universität Jena, Germany
08/2009 – 12/2009	Exchange semester, Faculty of Science, University of Joensuu, Finland
10/2006 – 02/2012	Diploma student in Mathematics, Friedrich-Schiller-Universität Jena, Germany

Third-Party Funded Projects

03/2022	Maria-Weber-Grant , <i>Aperiodic order: Decoding hidden structures</i> , Teaching buyout fellowship for junior professors and habilitation candidates, PhD position for 1 Jahr
11/2022	COST (European Cooperation in Science & Technology) , Action CA18232, Financial support for the summer school in August 2023, joint application with Ram Band
11/2018	German Science Foundation Research Grant (DFG) (BE 6789/1-1), <i>Periodic approximations of Schrödinger operators associated with quasicrystals</i> (PostDoc position for 2 years and travel funds)

Scholarships and Project Funding

03/2025	“Research in Pairs” with Ulrik Enstad and Jordy van Velthoven at the Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany
07/2020	ZiF Summer Camp 2020, Research stay at the Center of Interdisciplinary Research at the university of Bielefeld, Bielefeld, Germany
07/2019	DAAD Scholarship (Travel Grant Program for Conference Participation): International Workshop on Operator Theory and its Applications 2019, Lissabon, Portugal
01/2018	“Research in Pairs” with Jean Bellissard and Giuseppe De Nittis at the Mathematisches Forschungsinstitut Oberwolfach (MFO), Germany
10/2016	PostDoc Fellowship, Israel Institute of Technology (Technion), Haifa, Israel
07/2015	DAAD Scholarship (Travel Grant Program for Conference Participation): XVIII International Congress on Mathematical Physics, Santiago de Chile, Chile
03/2013 – 09/2016	PhD Seminar, "Förderung von interdisziplinären Arbeitsgruppen und Nachwuchsnetzwerken" supported by the Graduierten-Akademie in Jena, Germany

Academic Service and Committees

2026 – 2029	Member, DAAD Selection Panel
Since 2017	Reviewer for Journals: Advances in Mathematics, Annales Henri Poincaré, Documenta Mathematica, Ergodic Theory and Dynamical Systems, Israel Journal of Mathematics, International Mathematics Research Notices, Journal d'Analyse Mathématique, Journal Mathematical Reports, Journal of Mathematical Physics, Journal of Spectral Theory, Linear Algebra and Its Applications, Zeitschrift für Analysis und ihre Anwendungen Reviewer for Scientific Organizations: German Academic Exchange Service (DAAD)
Since 2019	Outreach Activities: Co-organization of the Mathematical Olympiad; coordination of student lectures for schools

Organization of Scientific Conferences and Reports

2019 – 2025	Euler-Lecture , Universität Potsdam, Germany
03/2025	Workshop , <i>Functional Analysis, Operator Theory and Dynamical Systems</i> , Friedrich-Schiller-Universität Jena, Germany
08/2023	Summer school , <i>Spectral theory and geometry of ergodic Schrödinger operators</i> , University of Potsdam, Germany
09/2022	Workshop , <i>Functional Analysis, Operator Theory and Dynamical Systems</i> , University of Potsdam, Germany
01/2021	MFO reporter for the Workshop <i>Geometry, Dynamics and Spectrum of Operators on Discrete Spaces</i> , MFO Oberwolfach, Germany
2013 – 2016	PhD Seminar , Friedrich-Schiller-Universität Jena, Germany
2013 – 2015	Colloquium , <i>Job opportunities for mathematicians</i> , Friedrich-Schiller-Universität Jena, Germany
02/2013	Doctoral Symposium , TU Chemnitz (Winter School), <i>Dirichlet forms, operator theory and mathematical physics</i>

Supervision of PhD Theses

Since 2023	Yannik Thomas at the University of Potsdam
2020 – 2025	Lior Tenenbaum (cosupervised with Ram Band) at the Israel Institute of Technology
2020 – 2022	Alberto Takase (cosupervised with Anton Gorodetski) at the University of California, Irvine

Supervision of Bachelor's and Master's Theses

2025	Jacobbo García Castiblanco, Bachelor thesis, <i>Diskreter periodischer Schrödinger-Operator auf \mathbb{Z}^d und sein Spektrum</i>
2025	Angelique Stege, Master thesis (Education), <i>Das Wythoff-Spiel und der Satz von Beatty</i>
2023	Yannik Thomas, Master thesis, <i>Non-Euclidean Estimates for Sturmian Hamiltonians</i>
2020	Matti Richter, Bachelor thesis, <i>Harmonic Functions on Graphs with Group Actions</i> (cosupervised with Matthias Keller)
2016	Franziska Sieron, Master thesis, <i>The density of periodic configurations in strongly irreducible subshifts of finite type</i> (cosupervised with Daniel Lenz)
2015	Daniel Sell, Master thesis, <i>Topological groupoids and Matuis spatial realization theorem</i> (cosupervised with Daniel Lenz)
2014	Franziska Sieron, Bachelor thesis, <i>The balanced property of primitive substitutions</i> (cosupervised with Daniel Lenz)

Selected Talks at Conferences and Workshops

07/2024	XXI International Congress on Mathematical Physics, Strasbourg (France)	<i>The Dry Ten Martini Problem for Sturmian Schrödinger Operators</i>
05/2024	Workshop “Point sets Dynamics, Sampling, and Operator Algebras“, University of Oslo (Norway)	<i>Spectral convergence rates and the underlying dynamics</i>
08/2023	Workshop “Aspects of Aperiodic Order“, MFO Oberwolfach (Germany)	<i>The Dry Ten Martini problem for Sturmian dynamical systems</i>
06/2022	Workshop “Ergodic Operators and Quantum Graphs“, Simons Center for Geometry and Physics (USA)	<i>Spectral approximations beyond dimension one</i>
04/2022	Workshop “Almost-Periodic Spectral Problems“, Banff International Research Station (Canada)	<i>The table and the chair Spectral approximations beyond dimension one</i>
01/2021	Workshop “Geometry, Dynamics and Spectrum of Operators on Discrete Spaces“, MFO Oberwolfach (Deutschland)	<i>Primitive substitutions beyond abelian groups The Heisenberg group</i>
07/2019	International Workshop on Operator Theory and its Applications (IWOTA 2019), Instituto Superior Técnico, Lisbon (Portugal)	<i>Hunting the spectra via the underlying dynamics</i>
10/2017	Workshop “Spectral Structures and Topological Methods in Mathematical Quasicrystals“, MFO Oberwolfach (Germany)	<i>Spectral stability of Schrödinger operators in the Hausdorff metric</i>

05/2017	Israel Mathematical Union 2017, Acre (Israel)	<i>The space of Delone dynamical systems and related objects</i>
01/2017	Workshop on Mathematical Physics, Weizmann Institute of Science, Rehovot (Israel), Poster	<i>Spectral Approximation of Schrödinger Operators</i>
06/2016	Thematic School “Transversal Aspects of Tilings“, Oleron (France)	<i>Continuity of the spectra associated with Schrödinger operators</i>
01/2016	Workshop on Spectral Geometry, Universität-Potsdam (Germany)	<i>Operators over dynamical systems The dependence of the spectrum with respect to the underlying geometry</i>
09/2015	CMO-BIRS, Workshop on “Spectral properties of quasicrystals via analysis, dynamics and geometric measure theory“, Oaxaca (Mexico)	<i>Spectral approximation of Schrödinger operators continuity of the spectrum</i>
07/2015	XVIIIth International Congress on Mathematical Physics, Santiago de Chile (Chile), Poster	<i>Spectral study of Schrödinger operators with aperiodic ordered potentials</i>
07/2015	Young researcher symposium, Pontificia Universidad Católica de Chile, Santiago de Chile (Chile)	<i>Spectral study of Schrödinger operators with aperiodic ordered potential in one-dimensional systems</i>
06/2015	Workshop on “Time-frequency analysis and aperiodic order“, Norwegian University of Science and Technology, Trondheim (Norway)	<i>An approximation theorem for the spectrum of Schrödinger operators related to quasicrystals</i>
01/2015	Workshop on “Aperiodic order“, University of Leicester (Great Britain)	<i>The role of Gähler-Anderson-Putnam graphs in the view of Schrödinger operators</i>
10/2013	Fall school “Dirichlet forms, operator theory and mathematical physics“, Technische Universität Chemnitz (Germany)	<i>One-dimensional Schrödinger operators with aperiodic potential The Fibonacci sequence</i>
12/2012	Workshop on “Dirichlet forms, operator theory and mathematical physics“, Midoun (Tunisia)	<i>Lebesgue measure zero spectrum for Jacobi matrices of quasicrystals</i>
09/2012	University of Saarbrücken, DMV Tagung (Germany)	<i>Generalized Bloch theory for quasicrystals</i>

Selected Talks at Seminars

05/2025	Berlin, What is ... ? Seminar (Germany)	<i>What is a dynamical system?</i>
04/2025	Université Claude Bernard Lyon 1 (France)	<i>Dry Ten Martini Problem for Sturmian Schrödinger operators</i>
10/2024	University of Glasgow (Great Britain)	<i>Dry Ten Martini Problem for Sturmian Dynamical Systems</i>
12/2023	Universität Bielefeld (Germany)	<i>The table and the chair Spectral approximations beyond dimension one</i>
04/2023	Universität Münster (Germany)	<i>Dry Ten Martini Problem for Sturmian Dynamical Systems</i>
03/2023	Institute Fourier - Grenoble (France)	<i>Dry Ten Martini Problem for Sturmian Dynamical Systems</i>

04/2022	University of California - Irvine (USA)	<i>Sturmian dynamical systems and the Kohmoto butterfly</i>
01/2020	Universität Leipzig (Deutschland)	<i>When do the spectra of self-adjoint operators converge?</i>
05/2019	Justus-Liebig-Universität Gießen (Germany)	<i>Hunting the spectra via the underlying dynamics</i>
07/2018	Technische Universität München (Germany)	<i>When do the spectra of self-adjoint operators converge?</i>
10/2017	Pontificia Universidad Catolica de Chile, Santiago (Chile)	<i>Shnol type Theorem for the Agmon ground state</i>
10/2017	Pontificia Universidad Catolica de Chile, Santiago (Chile)	<i>Spectral approximation of Schrödinger operators</i>
10/2017	Hebrew University of Jerusalem (Israel)	<i>When do the spectra of self-adjoint operators converge?</i>
08/2017	University of Oslo (Norway)	<i>Spectral approximation via an approach from C^*-algebras</i>
07/2017	Friedrich-Alexander Universität Erlangen-Nürnberg (Germany)	<i>The space of Delone dynamical systems and its application</i>
07/2017	RWTH Aachen (Germany)	<i>Shnol type Theorem for the Agmon ground state</i>
03/2017	Aalborg University, Aalborg (Denmark), Seminar	<i>Spectral Approximation of Schrödinger Operators</i>
12/2016	Israel Institute of Technology (Technion), Haifa (Israel)	<i>Existence of periodic elements a topological point of view</i>
09/2016	Aalborg University (Danemark)	<i>Continuous variation of the spectra A characterization and a tool</i>
07/2016	Universität Bielefeld (Germany)	<i>Hölder-continuous behavior of the spectra associated with self-adjoint operators</i>
01/2016	Norwegian University of Science and Technology, Trondheim (Norway)	<i>Spectral approximation of Schrödinger operators: Continuous behavior of the spectra</i>
05/2015	Technische Universität Chemnitz (Germany)	<i>Schrödinger operators on quasicrystals</i>
04/2015	Israel Institute of Technology (Technion), Haifa (Israel)	<i>The role of Gähler-Anderson-Putnam graphs in the view of Schrödinger operators</i>
04/2014	University of Alabama at Birmingham (USA)	<i>Gähler-Anderson-Putnam graphs of 1-dimensional Delone sets of finite local complexity</i>