Martin Vogel

Born	31st of August 1987 in Innsbruck, Austria
Address	Department of Mathematics
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Education

2017– to date   **Postdoc**, *Erwin Schrödinger Fellow*, hosted by Maciej Zworski, Department of Mathematics, University of California, Berkeley, USA.

2015– 2017   **Postdoc**, *supported by the project ANR GeRaSic, with Stéphane Nonnenmacher*, Laboratoire de Mathématiques, Université Paris Sud 11, Orsay, France.

2011–2015   **Ph.D. in Mathematics**, *Université de Bourgogne*, France.
Thesis: Spectral properties of random non-self-adjoint differential operators.
Advisors: Johannes Sjöstrand, Frédéric Klopp, Nikoleï Kitanine.
Thesis defense: September 10 2015 (Very honourable - Très honorable).
Jury: F. Klopp (Univ. Paris 6), N. Kitanine (Univ. de Bourgogne), L. Michel (Univ. Nice), S. Nonnenmacher (CEA - Saclay), K. Pravda-Starov (Univ. Rennes 1) , J. Sjöstrand (Univ. de Bourgogne).

2009–2011   **M.Sc. in Theoretical and Mathematical Physics**, *Ludwig-Maximilians-University Munich*, Germany.
Graduated with high distinction.
Thesis title: Eigenvalue statistics for random block operators.
Advisor: Peter Müller.

2006–2009   **B.Sc. in Mathematics**, *University of Innsbruck*, Austria.
Graduated with an average of grades 1.47.
Two Bachelor thesis: Splitting Methods for numerical solutions of ordinary differential equations and on the analytical continuation of the Riemannian Zeta-function and its two dimensional extension.

Positions, Grants and Teaching

2017–to date   **Erwin Schrödinger Fellowship**, *Project Number J 4039-N35, Fond für Wissenschaft und Forschung, Austria*.

2014–2015   **ATER**, *Université de Bourgogne*.

2011–2014   **Doctoral contract**, *Université de Bourgogne*.

2012–2015   **Teaching Assistant for undergraduates**, *Université de Bourgogne*, France.
Teaching in Analysis, Linear Algebra, Probability theory.

2010–2011   **Teaching Assistant for undergraduates**, *Ludwig-Maximilians-University Munich, Germany*, Exercise classes in Analysis.

2008, 2009   **Excellence Studentship awarded by the University of Innsbruck**.

Research interests

- Spectral Theory of Non-selfadjoint operators.
- Microlocal and Semiclassical Analysis.
- Mathematical Physics and Random Schrödinger Operators.

- Probability Theory.

List of Publications and Preprints

[8] F. Klopp, M. Vogel, *On resolvent estimates and resonance free regions for semiclassical Schrödinger operators with bounded potentials*, preprint arXiv:1803.02450., 2018.

[7] S. Nonnenmacher, M. Vogel, *Local eigenvalue statistics of one-dimensional random non-selfadjoint pseudo-differential operators*, preprint arXiv:1711.05850., 2017.

[6] M. Vogel, *Spectral Statistics of non-selfadjoint operators subject to small random perturbations*, review paper for the Séminaire Laurent Schwartz, preprint, 2017.

[5] J. Sjöstrand, M. Vogel, *Interior eigenvalue density of large bi-diagonal matrices subject to random perturbation*, Microlocal analysis and singular perturbation theory, 201-227, RIMS Kôkyûroku Bessatsu, B61, Res. Inst. Math. Sci. (RIMS), Kyoto, 2017.

[4] M. Vogel, *Two Point Eigenvalue correlation for a class of non-selfadjoint operators under random perturbations*, Commun. Mathematical Physics 350, no. 1, 31-78, 2017.

[3] M. Vogel, *The precise shape of the eigenvalue intensity for a class of non-selfadjoint operators under random perturbations*, Ann.Henri Poincaré 18, no. 2, 435-517, 2017.

[2] J. Sjöstrand, M. Vogel, *Large Bi-Diagonal matrices and random perturbations*, J. of Spectral Volume 6, Issue 4, pp. 977-1020, 2016.

[1] J. Sjöstrand, M. Vogel, *Interior eigenvalue density of Jordan matrices with random perturbations*, Analysis Meets Geometry: A Tribute to Mikael Passare Trends in Mathematics, pp 439-466, 2017.

Visits

August 2015	**Research visit**, *Erwin Schrödinger Institute, Program Modern Theory of Wave Equations*, Vienna, Austria.
March 2015	**Research visit**, *Isaac Newton Institute for Mathematical Sciences, Program Periodic and Ergodic Spectral Problems*, Cambridge, United Kingdom.

Organisational duties

2015– 2017	**Workgroup on Spectral Problems and Mathematical Physics**, *I co-organised with Konstantin Pankrashkin a bi-monthly seminar focusing on spectral theory and mathematical physics*, Laboratoire de Mathématiques, Université Paris Sud 11, France.

Recent talks and expository work

March 2018	**Analysis Seminar**, *Northwestern University*, Chicago, Illinois, USA.
Januray 2018	**Bay Area Microlocal Analysis Seminar**, *Stanford University*, California, USA.
Mai 2017	**Séminaire Laurent Schwartz**, *Institut des Hautes Études Scientifiques*, France.
March 2017	**Mathematical Physics and PDE Seminar**, *Rennes*, France.
February 2017	**Mathematical Physics Seminar**, *Dortmund*, Germany.
February 2017	**Mathematical Physics Seminar**, *Dijon*, France.
December 2016	**Conference: New trends in Semiclassical analysis**, *Domaine de Chalès*, France.
November 2016	**Seminar of the group Dynamical Systems, Analysis and Geometry**, *Université d'Avignon, Avignon*, France.
November 2016	**Seminar of the Analysis group**, *Université de Strasbourg, Strasbourg*, France.
October 2016	**Seminar of the group Non-linear Analysis and Partial Differential Equations**, *Université Libre de Bruxelles, Brussels*, Belgium.

September 2016	**Mathematical Physics and Analysis Seminar**, *Institute of Science and Technology Austria, Klosterneuburg*, Austria.
September 2016	**Seminar of the group Mathematical Physics and Partial Differential Equations**, *Université de Bordeaux, Bordeaux*, France.
Febuary 2016	**Seminar of the group Partial Differential Equations**, *Université Paris 13, Paris*, France.
Febuary 2016	**Eighth meeting of the GDR Quantum Dynamics**, *Campus de Saint Martin d'Hères, Grenoble*, France.
September 2015	**Seminar of the group Numerical Analysis and Partial Differential Equations**, *Université Paris Sud, Orsay*, France.
March 2015	**Periodic and Ergodic Spectral Problems**, *Isaac Newton Institute for Mathematical Sciences, Cambridge*, United Kingdom.
December 2014	**The Mathematics of Quantum Disordered System**, *Euler International Mathematical Institute, St. Petersburg*, Russia.
October 2014	**Spectral Problems in Mathematical Physics Seminar**, *Institut Henri Poincaré, Paris*, France.
July 2014	**Statistics and Probability Seminar**, *Université de Bourgogne, Dijon*, France.

Selected Attendance to Conferences, Workshops and Schools

December 2016	**New trends in semiclassical analysis**, *Domaine de Chalès*, France.
Mai 2016	**Random matrices, free probability and determinantal processes**, *Université de Lille*, France.
December 2015	**Semiclassical Analysis and Non-self-adjoint Operators**, *CIRM, Marseille*, France.
August 2015	**Modern Theory of Wave Equations**, *Erwin Schrödinger Institute, Vienna*, Austria.
March, June 2015	**Random and Other Ergodic Problems**, *Periodic and Ergodic Spectral Problems, Isaac Newton Institute for Mathematical Sciences, Cambridge*, United Kingdom.
January 2015	**Periodic, Almost-Periodic, and Random Operators: Instructional School**, *Periodic and Ergodic Spectral Problems, Isaac Newton Institute for Mathematical Sciences, Cambridge*, United Kingdom.
December 2014	**The Mathematics of Quantum Disordered System**, *Euler International Mathematical Institute, St. Petersburg*, Russia.
September 2013	**Microlocal Analysis and Spectral Theory**, *CIRM, Marseille*, France.
July 2013	**Summer School on Non-selfadjoint Operators, Semi-classical Analysis and Evolution Problems**, *Project ANR NOSEVOL, Île de Berder*, France.
June 2013	**Quantum Chaos, Resonances and Semiclassical Measures**, *Station Biologique de Roscoff, Finistere*, France.
June 2013	**Journées EDP**, *Biarritz*, France.
Mai 2013	**Workshop on Analytic Microlocal Analysis**, *Northwestern University, Illinois*, USA.
September 2012	**Premirère rencontre du project ANR NOSEVOL**, *Université de Orsay*, France.
July 2012	**Summer School on Quantum Chaos**, *Erwin Schrödinger Institute, Vienna*, Austria.

Other

July/August 2009	**Internship at CERN**, *Geneva*, Switzerland. Supervisor: Andreas Salzburger. Working on the fast ATLAS track simulation FATRAS. Attending the CERN summer school lecture program on particle physics.

Language

German	**native**	
English	**fluent**	*Cambridge Certificate in Advanced English (CAE)*
French	**fluent**	
Italian	**basic**	