Curriculum Vitae

Rowan KILLIP
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Research interests

Mathematical physics: Hamiltonian PDE, spectral theory, random matrix theory, and integrable systems.

Education and Employment

2009–   Professor, Department of Mathematics, UCLA, Los Angeles, CA.

2016   Visiting Researcher, IHES, Bures-sur-Yvette, France.

2015   Research Professor, MSRI, Berkeley, CA.

2006–9 Associate Professor, Department of Mathematics, UCLA, Los Angeles, CA.

2007–8 Member, Institute for Advanced Study, Princeton NJ.

2003–6 Assistant Professor, Department of Mathematics, UCLA, Los Angeles, CA.

2002–3 Olga Taussky–John Todd Instructor, California Institute of Technology, Pasadena, CA.

2002   Visitor, Institut Mittag-Leffler, Stockholm, Sweden. (Aug–Sept)

2000–2 Hans Rademacher Instructor, University of Pennsylvania, Philadelphia, PA. (Sept–Dec 2000, Jan–Aug 2002)

2001   Member, Institute for Advanced Study, Princeton NJ. (Jan–Dec)

2000   Visitor, Ecole Polytechnique, Palaiseau, France. (Jan–May)

1996–2000 Ph.D., California Institute of Technology, Pasadena, CA.
Thesis: *Perturbations of one-dimensional Schrödinger operators preserving the absolutely continuous spectrum.* Defended: August 8, 2000. Degree conferred: June 2001.
Advisor: B Simon.

1995–6 M.Sc. with distinction, University of Auckland, Auckland, New Zealand.
Theses: *Sub-ground state phenomena in narrow channels.*
Advisor: B Pavlov.
An appraisal of phase measurements.
Advisor: H M Wiseman.

1991–4 B.Sc.(hons) with 1$^{\text{st}}$ class honours, University of Auckland, Auckland, New Zealand.

Grants/Awards

2023   Frontiers of Science Award, International Congress of Basic Science.

2022   NSF Grant DMS-2154022.

2020   Best Article Accepted and Published in SIMA.

2019   Honorable mention, UCLA Division of Physical Sciences Outstanding Discovery Award.

2019   NSF Grant DMS-1856755.

2016	NSF Grant DMS-1600942.
2016	Visiting researcher, IHES.
2015	Research Professorship, MSRI.
2015	Simons Fellowship.
2012	NSF Grant DMS-1265868.
2012	Sorgenfrey Distinguished Teaching Award.
2010	NSF Grant DMS-1001531.
2007	NSF Grant DMS-0701085.
2004	NSF Grant DMS-0401277.
2004	Alfred P. Sloan Research Fellowship.
2000	Clay Mathematics Institute Lift-off Fellowship.
1999	Alfred P. Sloan Doctoral Dissertation Fellowship.
1996	William Pickering Fellowship.
1995	Faculty of Science Scholarship.
1995	Fowlds Prize
1994	University of Auckland Masters/Honors Scholarship.
1994	Annual Prize in Mathematics.
1994	Senior Scholarship in Physics.
1993	Senior Scholarship in Pure Mathematics.

Selected Invited Lectures

2023	Special lecture, Institute for Applied Physics and Computational Mathematics, Beijing.
2023	Invited speaker, "Contemporary Analysis and Its Applications", Portorož, Slovenia.
2023	Invited speaker, "Geometric and Functional Inequalities and Applications", online.
2021	Invited speaker, "Harmonic Analysis and PDEs Lectures", online.
2021	Invited speaker, Rivière-Fabes Symposium.
2020	Colloquium, Rice University.
2019	Invited speaker, "Spectral methods in Mathematical Physics", Institut Mittag-Leffler.
2018	Invited speaker, "PDEs and Geometric Measure Theory", ETH, Zürich.
2017	Invited speaker, "Workshop on Inverse Scattering and Dispersive PDEs", Fields Institute.
2016	Invited speaker, "Nonlinear Waves Conference", IHÉS, Paris.
2016	Invited speaker, "Singularity formation and long-time behavior in dispersive PDEs", Bonn.
2014	Invited speaker, Texas Analysis and Mathematical Physics Symposium.
2013	Colloquium, Princeton University.
2008	Applied and Interdisciplinary Mathematics Seminar, Ann Arbor, MI.
2008	Colloquium, Northwestern University.
2008	Colloquium, Caltech.
2007	Colloquium, Northwestern University.
2007	Plenary lecture, "Quantum Mathematics International Conference (QMath10)", Moeciu.

2007	Plenary lecture, "Orthogonal polynomials, Special functions and Applications", CIRM.
2006	Plenary lecture, "Spectral Theory and Mathematical Physics Conference", Pasadena, CA.
2002	Plenary lecture, "Operator Theory and its applications in mathematical physics", Institute of Mathematics, Polish Academy of Sciences.

Other Teaching/Conference Activities

Co-organizer, "Dispersive Integrable Systems: Pathfinders in Hamiltonian Systems", Institut Henri Poincaré, Paris, France, 2026.

Co-organizer and mini-course presenter "Workshop on Nonlinear Dispersive Wave Equations", Peking University, China, 2022.

Lecture series, Institute for Applied Physics and Computational Mathematics, Beijing, 2018.

Mini-course "KdV and spectral theory", IHES, May, 2016.

Co-organizer and principal speaker, "Participating School on Critical Nonlinear Dispersive Equations", Daejon, Korea July 20-24, 2015.

Lunch-time Lecture (for graduate students) Princeton, University, March 2013.

Madison Autumn Analysis & PDE Workshop (for students + postdocs) Nov. 2012.

Expository Lectures (for students), Winter Workshop on co-compact embeddings, Bangalore, 2012.

Lecture notes (jointly with M.Visan), "Nonlinear Schrödinger equations at critical regularity." (112pp.) for Clay Summer School in Zurich.

Organizer, Graduate Analysis seminar, 2008-Present.

Expository Lectures (for students), Summer Workshop, "Partial Differential Equations: Analysis, Applications, and Inverse Problems", Waitangi, 2007.

Co-organizer, Summer School, Hamiltonian Mechanics and Integrable Systems, 2004.

Student/postdoctoral mentoring:

Graduate Students: Eric Ryckman (Ph.D. 2007), Jason Murphy (PhD 2014), Samantha Xu (Ph.D. 2014), Casey Jao (PhD 2016), Adam Azzam (PhD 2017), Yunfeng Zhang (PhD 2018), Maria Ntekoume (PhD 2020), Gyu Eun Lee (PhD 2021), Blaine Talbut (PhD 2021), Thierry Laurens (PhD 2023), Itai Bar-Natan (PhD candidate), Nicholas Hu (PhD candidate), Matthew Kowalski (PhD candidate), James Hogan (PhD candidate).

Postdoctoral Scholars: Betsy Stovall (2009–2012), Rostyslav Kozhan (2010–2013), Yu Zhang (2014–2016), Yannis Angelopoulos (2016–2018), Benjamin Harrop-Griffiths (2018–2022), Justin Forlano (2020–2023), Zhimeng Ouyang (2021–2022), Andreia Chapouto (2021–2023).

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