

Biographical Sketch

David Damanik

a. Professional Preparation

University of Frankfurt, Germany, Mathematics, M. Sc., 1995

University of Frankfurt, Germany, Computer Science, M. Sc., 1996

University of Frankfurt, Germany, Mathematics, Ph. D., 1998

California Institute of Technology, Mathematics, 1999–2000

University of California at Irvine, Mathematics, 2000–2001

California Institute of Technology, Mathematics, 2001–2006

b. Appointments

Robert L. Moody, Sr. Chair in Mathematics, Rice University, Houston, TX, 2015 – present

Department Chair, Rice University, Houston, TX, 2014 – 2017

Wiess Career Development Chair, Rice University, Houston, TX, 2011 – 2016

Professor of Mathematics, Rice University, Houston, TX, 2009 – present

Associate Professor of Mathematics, Rice University, Houston, TX, 2006 – 2009

Sherman Fairchild Senior Research Fellow, Caltech, Pasadena, CA, 2003 – 2006

Sherman Fairchild Postdoctoral Scholar, Caltech, Pasadena, CA, 2001 – 2003

Visiting Assistant Professor, University of California, Irvine, CA, 2000 – 2001

Visiting Associate, Caltech, Pasadena, CA, 1999 – 2000

c. Products

(i) Five products most closely related to the proposed project

1. D. Damanik, M. Goldstein, On the existence and uniqueness of global solutions for the KdV equation with quasi-periodic initial data, *J. Amer. Math. Soc.* **29** (2016), 825–856

2. D. Damanik, M. Goldstein, M. Lukic, The isospectral torus of quasi-periodic Schrödinger operators via periodic approximations, *Invent. Math.* **207** (2017), 895–980

3. D. Damanik, R. Killip, B. Simon, Perturbations of orthogonal polynomials with periodic recursion coefficients, *Ann. of Math.* **171** (2010), 1931–2010

4. D. Damanik, S. Tcheremchantsev, Upper bounds in quantum dynamics, *J. Amer. Math. Soc.* **20** (2007), 799–827

5. D. Damanik, A. Gorodetski, W. Yessen, The Fibonacci Hamiltonian, *Invent. Math.* **206** (2016), 629–692

(ii) Five other significant products

1. D. Damanik, R. Killip, Half-line Schrödinger operators with no bound states, *Acta Math.* **193** (2004), 31–72

2. D. Damanik, M. Goldstein, On the inverse spectral problem for the quasi-periodic Schrödinger equation, *Publ. Math. Inst. Hautes Études Sci.* **119** (2014), 217–401

3. A. Avila, D. Damanik, Absolute continuity of the integrated density of states for the almost Mathieu operator with non-critical coupling, *Invent. Math.* **172** (2008), 439–453

4. D. Damanik, B. Simon, Jost functions and Jost solutions for Jacobi matrices, I. A necessary and

sufficient condition for Szegő asymptotics, *Invent. Math.* **165** (2006), 1–50

5. A. Avila, J. Bochi, D. Damanik, Opening gaps in the spectrum of strictly ergodic Schrödinger operators, *J. Eur. Math. Soc.* **14** (2012), 61-106

d. Synergistic Activities

1. Co-organized meetings at MFO/Oberwolfach (2005, 2009, 2011, 2012, 2013, 2014, 2017), BIRS/Banff & Oaxaca (2004, 2011, 2015, 2019), Isaac Newton Institute/Cambridge (2015) and various other venues

2. Organized spectral theory brown bag seminar at Rice (2007–present); co-organized VIGRE seminar on random matrices at Rice (2010)

3. Supervised undergraduate research projects at Rice (David Baugh 2007–2008, Jon Erickson, Gerhardt Hinkle, Alan Vu 2015) and Caltech (Anael Verdugo 2002, Timothy Nguyen 2005)

4. Designed new courses at Rice (Honors ODE, Aperiodic Order, Quantum Dynamics)

e. Collaborators & Other Affiliations

(i) Collaborators

1. Michael Baake (Universität Bielefeld, Germany), 2. Ilia Binder (University of Toronto, Canada), 3. Valmir Bucaj (Rice University, USA), 4. Mark Embree (Virginia Tech, USA), 5. Jon Erickson (Rice University, USA), 6. Jake Fillman (Virginia Tech, USA), 7. Vitalii Gerbuz (Rice University, USA), 8. Michael Goldstein (University of Toronto, Canada), 9. Anton Gorodetski (UC Irvine, USA), 10. Uwe Grimm (Open University, UK), 11. Gerhardt Hinkle (Columbia University, USA), 12. Qing-Hui Liu (Beijing Institute of Technology, China), 13. Milivoje Lukic (Rice University), 14. Darren Ong (Xiamen University, Malaysia), 15. Yan-Hui Qu (Tsinghua University, China), 16. Wilhelm Schlag (Yale University, USA), 17. Selim Sukhtaiev (Rice University, USA), 18. Tom VandenBoom (Yale University, USA), 19. Mircea Voda (University of Chicago, USA), 20. Alan Vu (Rice University, USA), 21. Fengpeng Wang (Ocean University, China), 22. William Yessen (Rice University, USA), 23. Peter Yuditskii (Johannes Kepler Universität Linz, Austria), 24. Zhenghe Zhang (UC Riverside, USA)

(ii) Graduate and Postdoctoral Advisors

1. Joachim Weidmann, Department of Mathematics, University of Frankfurt, Germany
2. Barry Simon, Department of Mathematics, California Institute of Technology, USA
3. Svetlana Jitomirskaya, Department of Mathematics, University of California at Irvine, USA

(iii) Thesis Advisor and Postgraduate-Scholar Sponsor

Thesis Advisor (10): Landon Jennings, Helge Krüger, Janine Dahl, Zheng Gan, Paul Munger, Darren Ong, Jake Fillman, Tom VandenBoom, Vitalii Gerbuz, Valmir Bucaj

Postgraduate-Scholar Sponsor (5): Gökalp Alpan, Sergey Belov, Milivoje Lukic, William Yessen, Zhenghe Zhang