

JESSE PETERSON

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Education

PhD in Mathematics at UCLA, June 2006.

Advisor: Prof. Sorin Popa.

Dissertation title: 1-cohomology and rigidity in II_1 factors.

Bachelor of Science from Westmont College (USA), May 2001.

Academic Employment

Chancellor's Faculty Fellow - Vanderbilt University
2017 to 2019.

Associate Professor - Vanderbilt University
2014 to current.

Assistant Professor - Vanderbilt University
2008 to 2014.

NSF Postdoctoral Fellow - UC Berkeley
2006 to 2008.

Scientific mentor: Vaughan Jones.

Instructor - UCLA.
Spring 2004.

Teaching Assistant - UCLA.
Fall 2002 to Summer 2004.

Honors and Awards

NSF Grant FRG-1853989, Vanderbilt University, 2019-2022.

NSF Grant DMS-1801125, Vanderbilt University, 2018-2021.

NSF Grant DMS-1500998, Vanderbilt University, 2015-2018.

NSF Grant DMS-1201565, Vanderbilt University, 2012-2015.

Alfred P. Sloan Research Fellowship, Vanderbilt University, 2009-2013.

NSF Grant DMS-0901510, Vanderbilt University, 2009-2012.

NSF Math. Sci. Postdoctoral Research Fellowship, UC Berkeley, 2006-2008.

Clay Mathematics Institute Liftoff Fellowship, UC Berkeley, Summer 2006.

UCLA Dissertation Year Fellowship, UCLA, 2005-2006.

NSF-VIGRE Fellowship, UCLA, 2001-2002, 2004-2005.

Regent's Registration Fee Grant, UCLA, 2002-2004.

Outstanding first/second year student award, Westmont College, 1998.

Students

- Thomas Sinclair, Ph.D. in 2011, Vanderbilt University (joint advisor Dietmar Bisch).
- Chenxu Wen, Ph.D. in 2016, Vanderbilt University.
- Sayan Das, Ph.D. in 2017, Vanderbilt University (joint advisor with Vaughan Jones).
- Krishnendu Khan, Ph.D. in 2020, Vanderbilt University (joint advisor with Alexander Olshanskiy).
- Ishan Ishan, Ph.D. expected in 2021, Vanderbilt University.
- Dumindu DeSilva, Ph.D. expected in 2022, Vanderbilt University.
- Changying Ding, Ph.D. expected in 2023, Vanderbilt University.
- Srivatsav Kunnawalkam Elayavalli, Ph.D. expected in 2023, Vanderbilt University.

Publications and preprints

- U. Bader, R. Boutonnet, C. Houdayer, J. Peterson: Charnenability of arithmetic groups of product type, ArXiv:2009.09952, preprint 2020.
- S. Das, J. Peterson: Poisson boundaries of II_1 factors, ArXiv:2009.11787, preprint 2020.
- I. Ishan, J. Peterson, L. Ruth: Von Neumann equivalence and properly proximal groups, ArXiv:1910.08682, preprint 2019.
- D. Drimbe, A. Ioana, J. Peterson: *Cocycle superrigidity for profinite actions of irreducible lattices*, arXiv:1910.08642, preprint 2019.
- R. Boutonnet, A. Ioana, J. Peterson: *Properly proximal groups and their von Neumann algebras*, arXiv:1809.01881, preprint 2018, to appear in Annales scientifiques de l'École normale supérieure.
- J. Peterson: *Character rigidity for lattices in higher-rank groups*, preprint 2015.
- D. Creutz, J. Peterson: *Rigidity for characters on lattices and commensurators*, arXiv.org:1311.4513, preprint 2013.
- D. Creutz, J. Peterson: *Stabilizers of ergodic actions of lattices and commensurators*, Stabilizers of ergodic actions of lattices and commensurators, Transactions of the AMS **369** (2017), no. 6, 4119-4166.
- J. Peterson, A. Thom: *Character rigidity for special linear groups*, Journal für die reine und angewandte Mathematik (Crelles Journal) **716**, 207-228 (2016).
- H. Li, J. Peterson, K. Schmidt: *Ergodicity of principle algebraic group actions*, Contemp. Math., **631**, Amer. Math. Soc., Providence, RI, 2015.
- J. Peterson: *Examples of Group actions which are virtually W^* -superrigid*, arXiv.org:1002.1745, preprint 2010.
- I. Chifan, J. Peterson: *Some unique group-measure space decomposition results*, Duke Mathematical Journal **162** (11), 1923-1966 (2013).
- J. Peterson, T. Sinclair: *On cocycle superrigidity for Gaussian actions*, Ergodic Theory and Dynamical Systems **32** (1), 249-272 (2012).
- J. Peterson, A. Thom: *Group cocycles and the ring of affiliated operators*, Invent. Math. **185** (3), 561-592 (2011).
- J. Peterson: *L^2 -rigidity in von Neumann algebras*, Invent. math. **175**, 417-433 (2009)

- A. Ioana, J. Peterson, S. Popa: *Amalgamated Free Products of w -Rigid Factors and Calculation of their Symmetry Groups*, Acta Math. **200**, No. 1, 85-153 (2008).
- J. Peterson: *A 1-cohomology characterization of property (T) in von Neumann algebras*, Pacific Journal of Math. **243**, No. 1, 181-199 (2009)
- J. Peterson, S. Popa: *On the notion of relative property (T) for inclusions of von Neumann algebras*, J. Funct. Anal. **219**, no. 2, 469-483 (2005).

Recent conference and workshop lectures

- August 9-14, 2021 - YMC*A 2021, at Westfälische Wilhelms-Universität Münster (**lecture series**), Germany.
- January 6-9, 2021 - Joint Mathematics Meetings, Washington, D.C. AMS Special Session: Advances in Operator Algebras. (Online meeting).
- May 25-29, 2020 - The 48th Canadian Operator Symposium, at University of Toronto, Canada, (Online meeting).
- December 1 - 7, 2019 - Groups, Dynamics and Approximation, Mathematisches Forschungsinstitut Oberwolfach, Germany.
- August 11 - August 17, 2019 - C^* -algebras, Mathematisches Forschungsinstitut Oberwolfach, Germany.
- August 5-10, 2019 - Geometry and Approximation, Technische Universität Dresden, Germany.
- November 25-30, 2018 - Model theory and operator algebras, at Banff International Research Station, Canada.
- November 3, 2018 - Nebraska-Iowa Functional Analysis Seminar, at University of Nebraska.
- October 13-14, 2018 - East Coast Operator Algebra Symposium, at Texas Christian University.
- May 21-25, 2018 - (Sub)factors in Maui 2018, UH Maui College.
- May 29-June 2, 2018 - Great Plains Operator Theory Symposium (**plenary speaker**), Miami University.
- April 30-May 5, 2018 - Approximation properties in operator algebras and ergodic theory, at Institute of Pure and Applied Mathematics.
- April 28, 2018 - Operator algebras at UCLA: A celebration of Masamichi Takesaki, at UCLA/Institute of Pure and Applied Mathematics.
- March 24-March 25, 2018 - Brazos analysis seminar, at Baylor University.
- February 26-March 9, 2018 - L^2 -invariants and their analogues in positive characteristics, at Instituto de Ciencias Matemáticas, Spain.
- January 29-February 2, 2018 - Classification of group von Neumann algebras, at the American Institute of Mathematics.
- January 22-26, 2018 - New methods for Zimmer's conjecture, at Institute of Pure and Applied Mathematics.
- April 3-7, 2017 - Spring school on analysis on groups and measured group theory (**lecture series**), at Northwestern University.
- September 26-30, 2016 - Amenability of discrete groups, at the American Institute of Mathematics.