

Rajan Amit Mehta

Department of Mathematics & Statistics
44 College Lane
Northampton, MA 01063
413-585-3644

Positions held

Associate Professor	Smith College	2016–present
Assistant Professor	Smith College	2013–2016
Lecturer	Smith College	2012–2013
Lecturer/Research Associate	Pennsylvania State University	2011–2012
Chauvenet Postdoctoral Lecturer	Washington University in Saint Louis	2007–2010
CNPq Postdoctoral Researcher	Instituto Nacional de Matemática Pura e Aplicada (IMPA), Rio de Janeiro	2006–2007
Teacher	Arrowsmith Academy, Berkeley, CA	1999–2001

Education

Ph.D.	May 2006	University of California, Berkeley	Mathematics. Thesis: Supergroupoids, double structures, and equivariant cohomology
B.A.	May 1999	University of Pennsylvania	Mathematics, Economics

Publications

1. Rajan Amit Mehta. Modular classes of Lie groupoid representations up to homotopy. *SIGMA* **11** (2015), 058, 10 pages.
2. Rajan Amit Mehta, Mathiéu Stienon, Ping Xu. The Atiyah class of a dg-vector bundle. *Comptes Rendus Math.* **353** (2015), no. 4, 357–362.
3. Rajan Amit Mehta. Lie algebroid modules and representations up to homotopy. *Indag. Math.* **25** (2014), no. 5, 1122–1134.
4. Rajan Amit Mehta. Differential graded contact geometry and Jacobi structures. *Lett. Math. Phys.* **103** (2013), 729–741.
5. Rajan Amit Mehta, Marco Zambon. L_∞ -algebra actions. *Diff. Geom. Appl.* **30** (2012), 576–587.
6. Rajan Amit Mehta, Xiang Tang. From double Lie groupoids to local Lie 2-groupoids. *J. Braz. Math. Soc.* **42** (2011), no. 4, 651–681.
7. Rajan Amit Mehta. On homotopy Poisson actions and reduction of symplectic Q -manifolds. *Diff. Geom. Appl.* **29** (2011), 319–328.

8. Alfonso Gracia-Saz, Rajan Amit Mehta. Lie algebroid structures on double vector bundles and representation theory of Lie algebroids. *Adv. Math.* **223** (2010), no. 4, 1236–1275.
9. Rajan Amit Mehta. Q -algebroids and their cohomology. *J. Sympl. Geom.* **7** (2009), no. 3, 263–293.
10. Rajan Amit Mehta. Q -groupoids and their cohomology. *Pacific J. Math.* **242** (2009), no. 2, 311–332.

Preprints

1. Rajan Amit Mehta, Xiang Tang. Constant symplectic 2-groupoids. Submitted. Preprint at arXiv:1702.01139
2. A. Gracia-Saz, M. Jotz Lean, K. C. H. Mackenzie, R. A. Mehta. Double Lie algebroids and representations up to homotopy. Submitted. Preprint at arXiv:1409.1502
3. Rajan Amit Mehta, Xiang Tang. Symplectic structures on the integration of exact Courant algebroids. Submitted. Preprint at arXiv:1310.6587
4. Alfonso Gracia-Saz, Rajan Amit Mehta. \mathcal{VB} -groupoids and representation theory of Lie groupoids. To appear in *J. Sympl. Geom.*. Preprint at arXiv:1007.3658

Teaching

SMITH COLLEGE

MTH 111: Calculus I (Spring 2014)

MTH 112: Calculus II (Spring 2013)

MTH 211: Linear Algebra (Fall 2012, Spring 2013, Fall 2013, Spring 2014, Spring 2015, Spring 2016)

MTH 238: Number Theory (Fall 2014, Fall 2016)

MTH 280: Advanced Calculus (Spring 2014)

MTH 370: Topology (Fall 2013)

MTH 381: Geometry and Mechanics (Spring 2016)

MTH 382: Complex Analysis (Fall 2012, Fall 2014, Fall 2016)

Special studies: Geometry of Surfaces (Spring 2013), Research in Applied Mathematics (Fall 2014), Putnam Practicum (Fall 2012, Fall 2013, Fall 2014), Algebraic Topology (Spring 2015)

PENN STATE

Ordinary Differential Equations

WASHINGTON UNIVERSITY

Calculus I for Social Sciences

Calculus II for Social Sciences

Differential Equations

Calculus III

Mathematical Methods for the Physical Sciences

Advanced Linear Algebra

Topics in Geometry: Classical Mechanics on Manifolds

UC BERKELEY

Instructor for Multivariable Calculus, Advanced Linear Algebra
Teaching assistant for Calculus I, Calculus II, Calculus I for Social Sciences, Multivariable Calculus, Advanced Linear Algebra

ARROWSMITH ACADEMY

Geometry, AP Calculus.

Honors & awards

Guido Weiss Award for teaching service (Washington University)	2008
Herbert Alexander Prize for outstanding dissertations in pure mathematics (UC Berkeley)	2006
Outstanding Graduate Student Instructor Award (UC Berkeley)	2002
Jean Picker Fellowship (Smith College)	2014–2015
Postdoctoral Research Fellowship, (Brazilian National Research Council (CNPq))	2006–2007
NSF VIGRE Fellowship	1999–2000

Invited Talks

October 2016	“Constant symplectic 2-groupoids and their corresponding Courant algebroids”, University of Pennsylvania, Deformation Theory Seminar
November 2015	“Modular classes for Lie groupoid representations up to homotopy”, University of Pennsylvania, Deformation Theory Seminar
October 2015	“Linear groupoid structures and the adjoint representation of a Lie groupoid”, Temple University, Algebra Seminar
April 2015	“Paths, symmetries, and conservation laws in mechanics”, Siena College, Mathematics Colloquium
November 2014	“Representing representations up to homotopy”, UC Berkeley, Gone Fishing Poisson Geometry Meeting
October 2014	“Courant algebroids and $(2 + 1)$ -dimensional topological field theories”, UMass-Amherst, Geometry and Topology Seminar
October 2014	“Linear groupoid structures and representations up to homotopy”, University of Illinois, Symplectic and Poisson Geometry Seminar
September 2014	“Differential graded contact manifolds and Jacobi brackets”, University of Pennsylvania, Deformation Theory Seminar
March 2014	“Integration of DG symplectic manifolds via mapping spaces”, University of Pennsylvania, Deformation Theory Seminar
October 2013	“Integration of Courant algebroids and Dirac structures”, Penn State, Geometry and Physics Seminar
September 2013	“Integrating exact Courant algebroids”, Temple University, Gone Fishing Poisson Geometry Meeting
March 2013	“Integration of DG symplectic manifolds via mapping spaces”, UC Berkeley, Seminar on integration of Courant algebroids
March 2013	“Reduction of Poisson manifolds”, UMass-Amherst, Valley Geometry Seminar

August 2012	“Differential graded contact geometry”, Anogia, Greece, 10 th Conference on Geometry and Physics (GAP X)
July 2012	“Symplectic 2-groupoids and Courant algebroids”, Utrecht University, 8 th Biennial Conference on Poisson Geometry (Poisson 2012)
November 2011	“Adjoint representations of Lie groupoids and Lie algebroids”, University of Pennsylvania, Deformation Theory Seminar
October 2011	“Double Lie groupoids, Lie 2-groupoids, and integration of Courant algebroids”, Washington University, Gone Fishing Poisson Geometry Meeting
October 2011	“The fundamental group(oid) of a Lie groupoid”, Cornell University, PSU-Cornell Joint Symplectic Seminar
September 2011	“Homotopy Poisson actions”, Penn State, Geometry and Physics Seminar
March 2011	“Double Lie groupoids, Lie 2-groupoids, and integration of Courant algebroids”, Instituto Nacional de Matemática Pura e Aplicada, Math-Physics Seminar
November 2010	“Homotopy Poisson actions”, University of Toronto, Symplectic Geometry Seminar
November 2010	“From double groupoids to 2-groupoids”, University of Victoria, Mathematics Colloquium
September 2009	“(Super)representations of Lie groupoids”, University of Missouri-Saint Louis, Mathematics Colloquium
July 2009	“From double groupoids to 2-groupoids”, University of Porto, Geometry Seminar
July 2009	“ \mathcal{VB} -algebroids and characteristic classes”, University of Porto, XVIII th Oporto Meeting on Geometry, Topology, and Physics
July 2009	“From double groupoids to 2-groupoids”, University of Sheffield, Differential Geometry Seminar
November 2008	“On models for the adjoint representation of a Lie algebroid”, University of Göttingen, Born-Hilbert Seminar
January 2008	“A supergeometric approach to Courant algebroid and generalized complex reduction”, University of Toronto, Symplectic Geometry Seminar
April 2007	“Simplicial Lie algebroids”, ETH Zürich, Mathematical Physics Seminar
April 2006	“ Q -groupoids, double structures, and double complexes”, Stanford University, Northern California Symplectic Geometry Seminar

Service

Refereed papers for *Journal of Differential Geometry*, *Communications in Mathematical Physics*, *Journal of Geometry and Physics*, *Journal of Symplectic Geometry*, *Pacific Journal of Mathematics*, *Indagationes Mathematicae*, *Journal of Geometric Mechanics*, *Israel Journal of Mathematics*, *Journal of Homotopy and Related Structures*, *SIGMA*, *Travaux Mathématiques*, *Symmetry*, and *Topology Proceedings*.

Webmaster for Mathematics & Statistics Department	2014–2016
Putnam Competition Organizer	2012–2015
Monthly Math Problem Contest Organizer	2012–2015
Hiring Committee	2013–2015
Science Center Committee on Diversity	Spring 2017 – present
Served on panel for AEMES Lunchbag on Graduate School	February 2015
Served on panel discussion about graduate studies and careers in STEM fields	October 2013
Faculty coordinator for the Washington University Undergraduate Math Club	2009–2010
Supervisor for a graduate student reading course on partial differential equations on manifolds, Washington University	Fall 2009