Eyal M. Subag

Contact Information

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Employment

S. Chowla Research Assistant Professor at the Department of Mathematics of Penn State University (host: Nigel Higson).	08/2015-08/2017
Postdoctoral Fellow at the School of Mathematical Sciences, Tel Aviv University (host: Joseph Bernstein).	08/2013-08/2015

Education

PhD, Mathematics, Technion	2009-2013
MSc, Physics, Technion	2006-2009
BA, Mathematics-Physics (Cum Laude), Technion	2001-2006

Research Interests

Representation theory of Lie groups:
Classical theory, Geometric methods, and Applications.

Publications

1. R. Heinonen, E. G. Kalnins, W. Miller, Jr. and E. Subag, Structure relations and Darboux contractions for 2D 2nd order superintegrable systems, SIGMA **11** (2015), 043, arXiv:1502.00128v2 [math-ph]
2. E. M. Subag, E. M. Baruch, J. L. Birman and A. Mann, On new families of wavelets and Gabor analysis arXiv:1403.1224 [math.RT], submitted.
3. E. M. Subag, E. M. Baruch, J. L. Birman, and A. Mann, On the contraction of so(4) to iso(3), *Nankai Series in Pure, Applied Mathematics and Theoretical Physics- Vol. **11**, Symmetries and Groups in Contemporary Physics. Proceedings of the XXIX International Colloquium on Group-Theoretical Methods in Physics*, 2013, arXiv:1210.6023[math-ph].
4. E. M. Subag, E. M. Baruch, J. L. Birman, and A. Mann, Strong contraction of the representations of the three dimensional Lie algebras, *J. Phys. A: Math. Theor.* **45** 265206, 2012, arXiv:1112.5738v2 [math-ph].
5. E. M. Subag, E. M. Baruch, J. L. Birman and A. Mann, A definition of contraction of Lie algebra representations using direct limit, *J. Phys. Conf. Ser.* **343** 012116, 2012.
6. N. Soker and E. Subag, A Possible Hidden Population of Spherical Planetary Nebulae, *The Astronomical Journal* **130** 2717, 2005.

Papers in preparation

1. J. Bernstein, N. Higson, and E. M. Subag, On families of classical groups and their generalized (g,K)-modules I.
2. E. M. Subag, On contraction of so(n) to iso(n-1) via the Gelfand-Tsetlin basis.
3. E. M. Subag, E. M. Baruch, J. L. Birman, and A. Mann, On the zero energy limit of the Hydrogen atom.

Conferences and Workshops	Amitsur Symposium in Algebra, Weizmann institue, Rehovot, Israel .	July 2015
	A masterclass on Representation theory of groups, quantum groups, and operator algebras, Copenhagen, Denmark. Delivered a talk: "Algebraic families of Harish-Chandra pairs and their modules".	June 2015
	Second Joint International Meeting of the Israel Mathematical Union and the American Mathematical Society, Bar Ilan and Tel-Aviv universities.	June 2014
	Representations of reductive groups; A conference dedicated to David Vogan on his 60th birthday, MIT.	May 2014
	"Towards the proof of the geometric Langlands conjecture", Institute for Advanced Studies at the Hebrew University of Jerusalem.	March 2014
	"Twelfth Night Workshop in Representation Theory", Weizmann institute of science, Rehovot, Israel.	January 2014
	A masterclass on Geometric Structure in the Representation Theory of p-adic groups, Copenhagen, Denmark.	August 2013
	The Atlas Workshop and Conference on Unitary Representations of Real Reductive Groups, Salt Lake City, Utah.	July 2013
	Representation Theory, Automorphic Forms, and Complex Geometry. A conference in honor of the 70th birthday of Wilfried Schmid, Harvard University.	May 2013
	Spring School on Group C*-algebras, Sde Boker, Israel.	March 2013
	The XXIX International Colloquium on Group-Theoretical Methods in Physics, Tianjin, China. Delivered a talk: "Contraction of so(n) Representations via the Gelfand-Tsetlin Bases".	August 2012
	Lie Theory Workshop on Quantum Groups, Stanford University. A weekend in the workshop series "Lie Groups, Lie Algebras and their Representations".	February 2012
	The seventh international conference on Quantum Theory and Symmetries, Prague, Czech Republic. Delivered a talk: "Contraction of Representations of Three Dimensional Lie Algebras".	August 2011
	"Finitely Presented Groups; where do we go from here ?", The city college of New York.	October 2009
	"Things you can do with SL(2)-the mathematics of 2×2 matrices". Workshops for graduate students, Technion, Israel.	September 2008
Seminar Talks	"Algebraic families of Harish-Chandra pairs and their modules", Ben-Gurion University.	July 2015
	"Families of Harish Chandra modules connecting compact and noncompact Lie groups", Representation Theory and Algebraic Geometry seminar, Mathematics department, Weizmann Institute.	January 2015
	"Families of Harish Chandra modules connecting compact and noncompact Lie groups", Groups, Dynamics, and Related Topics seminar, Mathematics department, Technion.	January 2015
	"Families of Harish Chandra modules connecting compact and noncompact Lie groups", MSRI, Berkeley.	October 2014
	"Families of Harish Chandra modules connecting compact and noncompact Lie groups", Lie Groups and Representation Theory Seminar, Mathematics department, University of Maryland.	October 2014
	"Families of Harish Chandra modules connecting compact and noncompact Lie groups", Geometry and Physics Seminar, Mathematics department, Penn State University.	October 2014
	"On Contractions of Representations of Orthogonal Lie algebras", Algebra, Geometry and Physics Seminar, Max Planck Institute for Mathematics, Bonn.	November 2013

	"On Contractions of Representations of Orthogonal Lie algebras", Lie Groups and Representation Theory Seminar, Mathematics department, University of Maryland.	May 2013
	"On Contractions of Representations of Orthogonal Lie algebras", Groups, Dynamics, and Related Topics seminar, Mathematics department, Technion.	April 2013
	"On Contractions of Lie algebra Representations and Direct Limits", Lie Groups Seminar, Mathematics department, Yale University.	October 2012
	"A New perspective on the Inonu-Wigner contractions", Analysis seminar, Mathematics department, Technion.	June 2012
	"A New perspective on the Inonu-Wigner contractions", Representation Theory and Algebraic Geometry seminar, Mathematics department, Weizmann Institute.	May 2012
	"A New perspective on the Inonu-Wigner contractions", Noncommutative Geometry Seminar, Mathematics department, Penn State.	February 2012
	"A New perspective on the Inonu-Wigner contractions", Mathematical Physics seminar, School of Mathematics, University of Minnesota.	February 2012
	"Inonu-Wigner contractions as direct limits", Algebra seminar, Mathematics department, Technion.	June 2010
	"Contraction of $SO(4)$ representations", Theoretical Mathematical Physics seminar, Physics department, Technion.	October 2008

Awards	The Jacobs Fellowship for PhD students, Graduate School of the Technion.	2011/2

Short Term Visits	MSRI.	October 2014
	Max-Planck Institute for Mathematics.	July-August 2014
	Penn State University.	May 2014
	Max-Planck Institute for Mathematics.	October-November 2013
	University of Minnesota.	June-July 2012
	City College of the City University New York.	September 2009

Professional Service	Referee for Journal of Noncommutative Geometry.
Teaching Experience	Teaching assistant (Technion):
	Algebra 1, Calculus 1, Calculus 2, Fourier series and integral transforms, Complex functions, Geometry and Symmetry, Introduction to Metric and Topological spaces, Electromagnetism and waves, Lab in mechanics 1.