Section 07:
Lie Groups and Lie Algebras

Invited Lectures

Wednesday, 19 August **MA 005**

14:00 – 14:45 **Minoru Wakimoto,** Kyushu University, Fukuoka, Japan
Representation theory of affine superalgebras at the critical level *(I: p.96)*
Chair: Richard E. Borcherds

15:00 – 15:45 **Kari Vilonen,** Brandeis University, Waltham, USA
Topological Methods in Representation Theory *(I: p.95)*
Chair: Wolfgang Soergel

Wednesday, 19 August **MA 004**

16:15 – 17:00 **Laurent Lafforgue,** Université Paris-Sud, Orsay, France
Chtoucas de Drinfeld et applications *(I: p.92)*
Chair: James Arthur

17:15 – 18:00 **Robert Edward Kottwitz,** University of Chicago, Chicago, USA
Harmonic analysis on semisimple p-adic Lie algebras *(I: p.91)*
Chair: Michael Rapoport

Thursday, 20 August **MA 004**

14:00 – 14:45 **Alexander Eskin,** University of Chicago, Chicago, USA
Counting problems and semisimple groups *(I: p.91)*
Chair: Peter Sarnak

15:00 – 15:45 **Joseph Bernstein,** Tel Aviv University, Tel Aviv, Israel
Analytic structures on representation spaces of reductive groups *(I: p.88)*
Chair: Wolfgang Soergel

Friday, 21 August **MA 004**

16:15 – 17:00 **Vera Serganova,** University of California, Berkeley, USA
On representations of Lie superalgebras *(I: p.95)*
Chair: Olivier Mathieu

17:15 – 18:00 **Shahar Mozes,** Hebrew University, Jerusalem, Israel
Products of trees, lattices and simple groups *(I: p.93)*
Chair: Peter Sarnak

Saturday, 22 August **MA 004**

14:00 – 14:45 **James Greig Arthur,** University of Toronto, Toronto, Canada
Towards a stable trace formula *(I: p.87)*
Chair: Michael Rapoport

15:00 – 15:45 **Ivan V. Cherednik,** The University of North Carolina at Chapel Hill, Chapel Hill, USA
From double Hecke algebra to analysis *(I: p.89)*
Chair: Olivier Mathieu

Short Communications and Poster Sessions

Short Communications — Thursday, 20 August

Symmetric Spaces — **H 112**
Chair: Walter J. Michaelis

16:15 – 16:30	**Sergei S. Platonov,** Petrozavodsk State University, Petrozavodsk, Russia *Invariant subspaces of some function spaces on symmetric spaces*	*(p.109)*
16:30 – 16:45	**Shigeru Aoki,** Takushoku University, Hachioji-shi, Tokyo, Japan *Invariant Eigendistributions on* $U(1,2)/(U(1,1) \times U(1,1))$	*(p.101)*
16:45 – 17:00	**Adam Koranyi,** Lehman College, Tenafly, NY, USA *Equivariant differential operators on homogeneous vector bundles over* G/MAN	*(p.107)*

Lie Groups — **H 112**
Chair: Adam Koranyi

17:15 – 17:30	**Dietrich Burde,** University of Düsseldorf, Düsseldorf, Germany *Affine and projective structures on Lie groups*	*(p.103)*
17:30 – 17:45	**Michael Wüstner,** Technische Universität Darmstadt, Darmstadt, Germany *Lie groups with surjective exponential function*	*(p.111)*
17:45 – 18:00	**Walter J. Michaelis,** University of New Orleans, LA, USA *The exponential matrices of non-commuting matrices may commute*	*(p.108)*

Short Communications — Friday, 21 August

Quantum Groups and Vertex Operator Algebras — **H 112**
Chair: Gerald Höhn

14:00 – 14:15	**Kailash C. Misra,** North Carolina State University, Raleigh, NC, USA *Demazure Crystals for quantum affine Lie algebras*	*(p.108)*
14:15 – 14:30	**Naihuan Jing,** North Carolina State University, Raleigh, NC, USA *Quantized Kac-Moody algebras and symmetric functions*	*(p.106)*
14:30 – 14:45	**Gerald Höhn,** Universität Freiburg, Freiburg, Germany *Vertex Operator Algebras and 3-Dimensional Topological Quantum Field Theories*	*(p.105)*

Quantum Groups and Poisson Homogeneous Spaces — **H 112**
Chair: Kailash C. Misra

15:00 – 15:15	**Pu Zhang,** Univ. of Sci. and Tech. of China, Hefei, PR China *Ringel-Hall algebras and quantum groups*	*(p.111)*
15:15 – 15:30	**Ho Hai Phung,** International Centre for Theoretical Physics, Trieste, Italy *Rational representations of matrix quantum groups of type* A_n	*(p.109)*
15:30 – 15:45	**Eugene A. Karolinsky,** Kharkov State University, Kharkov, Ukraine *A classification of Poisson homogeneous spaces of complex reductive Poisson-Lie groups*	*(p.106)*

Short Communications — Saturday, 22 August

Topological Groups — **H 112**
Chair: Wolfgang Reinhold Bergmann

16:15 – 16:30	**Boris S. Khots,** Compressor Controls Corporation, Des Moines, Iowa, USA *Fifth Hilbert problem and infinite-dimensional P-groups*	*(p.106)*
16:30 – 16:45	**Grigori Lazarevich Litvinov,** International Sophus Lie Center, Moscow, Russian Federation *Group algebras and nonunitary representations of smooth groups*	*(p.107)*
16:45 – 17:00	**Julio Cesar Rebelo,** Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil *Associating vector fields to certain subgroups of* $\mathrm{Diff}^{\,w}(S^1)$*: applications to ergodicity and rigidity*	*(p.109)*

Amenable Groups Chair: Grigori L. Litvinov		**H 112**
17:15 – 17:30	**Wolfgang Reinhold Bergmann,** Università della Basilicata, Potenza, Italy *Amenable Groups and Generalized Cuntz Algebras*	*(p.102)*
17:30 – 17:45	**Alexander I. Shtern [Chtern],** Moscow State University, Moscow, Russia *Quasi-Symmetry and Amenability*	*(p.110)*

Short Communications — Monday, 24 August

Representations I Chair: Carina Boyallian		**H 112**
14:00 – 14:15	**Jose I. Liberati,** MIT, Cambridge, USA *Quasifinite Highest Weight Modules over the Lie Algebra of Matrix Differential Operators on the Circle*	*(p.107)*
14:15 – 14:30	**María L. Barberis,** FaMAF — Universidad Nacional, Córdoba, Argentina *Quaternionic representations*	*(p.101)*
14:30 – 14:45	**Paolo Casati,** University of Milan, Milan, Italy *α–stratified modules of real reductive groups*	*(p.104)*

Representations II Chair: Jose I. Liberati		**H 112**
15:00 – 15:15	**Leandro R. Cagliero,** Fa.M.A.F. — Univ. Nac. de Cordoba, Cordoba, Argentina *(K,M)-spherical submodules of the universal enveloping algebra of a real rank one semisimple Lie group $G_\circ$*	*(p.103)*
15:15 – 15:30	**Carina Boyallian,** MIT-Math. Dept., Cambridge, MA, USA *On Bernstein polynomials for compact Lie groups*	*(p.103)*
15:30 – 15:45	**Tuong Ton-That,** University of Iowa, Iowa City, USA *I Invariant Theory for some Infinite-Dimensional Lie Groups*	*(p.110)*

Short Communications — Tuesday, 25 August

Various Topics I Chair: Michael Forger		**H 112**
16:15 – 16:30	**Lizhen Ji,** University of Michigan, Ann Arbor, MI, USA *The trace class conjecture in the Selberg trace formula*	*(p.106)*
16:30 – 16:45	**Alexander Baranov,** Inst. Math. Acad. Sci. Belarus, Minsk, Belarus *Finitary simple Lie algebras*	*(p.101)*
16:45 – 17:00	**Michael Forger,** Universidade de São Paulo, São Paulo, Brazil *Symmetry and Symmetry Breaking: An Algebraic Approach to the Genetic Code*	*(p.104)*

Various Topics II Chair: Alexander Baranov		**H 112**
17:15 – 17:30	**Thomas Bouetou,** Université de Yaounde I, Yaounde, Cameroun *About Bol algebras*	*(p.102)*
17:30 – 17:45	**Lyudmyla L. Barannyk,** National Academy of Sciences of Ukraine, Kyiv, Ukraine *On an algorithm for classifying subalgebras of the Poincaré algebra $AP(2,n)$*	

Poster Session — Monday, 24 August

16:15 – 18:00 **MA 144**

Helge Glöckner, Technische Universität Darmstadt, Darmstadt, Germany
Scale functions on p-adic Lie groups *(p.105)*

Nikolai Gromov, Komi Science Center RAS, Syktyvkar, Russia
Nonsemisimple Cayley-Klein groups and its quantization *(p.105)*