Section 06: Topology

Invited Lectures

Wednesday, 19 August — MA 004

14:00 – 14:45 **Robert A. Oliver,** Université Paris-Nord, Villetaneuse, France
Vector bundles over classifying spaces *(I: p.84)*
Chair: Charles B. Thomas

15:00 – 15:45 **Ronald A. Fintushel,** Michigan State University, East Lansing, USA
Ronald J. Stern, University of California, Irvine, USA
Knot Surgery on 4-Manifolds *(I: p.86)*
Chair: Ulrich Koschorke

Thursday, 20 August — MA 004

16:15 – 17:00 **Tomotada Ohtsuki,** Tokyo Institute of Technology, Tokyo, Japan
A filtration of the set of integral homology 3-spheres *(I: p.82)*
Chair: W.B. Raymond Lickorish

17:15 – 18:00 **Clifford Henry Taubes,** Harvard University, Cambridge, USA
The Geometry of the Seiberg-Witten Invariants *(I: p.86)*
Chair: Dieter Kotschick

Friday, 21 August — MA 004

14:00 – 14:45 **Alexander N. Dranishnikov,** University of Florida, Gainesville, USA and Steklov Math. Institute, Moscow, Russia
Dimension theory and large Riemannian manifolds *(I: p.79)*
Chair: Alexander S. Mishchenko

15:00 – 15:45 **Michael Hartley Freedman,** Microsoft Corporation, Redmond, USA
Topological views of computational complexity *(I: p.80)*
Chair: Robert D. Edwards

Saturday, 22 August — MA 004

16:15 – 17:00 **William Gerard Dwyer,** University of Notre Dame, Notre Dame, USA
Lie groups and p-compact groups *(I: p.79)*
Chair: Albrecht Dold

17:15 – 18:00 **Mark Mahowald,** Northwestern University, Evanston, USA
Toward a global understanding of $\pi_*(S^n)$ *(I: p.81)*
Chair: Albrecht Dold

Short Communications and Poster Sessions

Short Communications — Wednesday, 19 August

Group Actions — **H 112**
Chair: Reinhard E. Schultz

16:15 – 16:30	**Charles B. Thomas,** University of Cambridge, Cambridge, Great Britain *Contact structure and spherical space forms*	*(p.98)*
16:30 – 16:45	**Harald Biller,** Universität Stuttgart, Stuttgart, Germany *Actions of large compact Lie groups on spheres*	*(p.85)*
16:45 – 17:00	**Takashi Tsuboi,** University of Tokyo, Tokyo, Japan *On the group of area preserving homeomorphisms*	*(p.99)*

Knots — **H 112**
Chair: Hitoshi Murakami

17:15 – 17:30	**Alan H. Durfee,** Mount Holyoke College, South Hadley, MA, USA *Polynomial representations of knots*	*(p.87)*
17:30 – 17:45	**Hugh R. Morton,** University of Liverpool, Liverpool, Great Britain *The Burau matrix and Fiedler's invariant for closed braids*	*(p.94)*
17:45 – 18:00	**Vladimir V. Vershinin,** Sobolev Institute of Mathematics, Novosibirsk, Russia *Generalizations of Braids: Homology and Vassiliev Invariants*	*(p.100)*

Short Communications — Thursday, 20 August

Gauge Theory and Low Dimensional Topology — **H 112**
Chair: Ronald J. Stern

14:00 – 14:15	**Yong S. Cho,** Ewha Women's University, Seoul, Korea, Republic of *Finite Group Actions and Seiberg-Witten Invariants*	*(p.87)*
14:15 – 14:30	**Nikolai Saveliev,** University of Michigan, Ann Arbor, MI, USA *Casson invariant and surface singularities*	*(p.97)*
14:30 – 14:45	**Louis H. Kauffmann,** University of Illinois, Chicago, USA *Functional Integrals and the Kontsevich Integral*	*(p.90)*

Knots and 3-Manifolds — **H 112**
Chair: Jonathan A. Hillman

15:00 – 15:15	**Joel Hass,** University of California, Davis, CA, USA *The number of Reidemeister Moves Needed for Unknotting*	*(p.89)*
15:15 – 15:30	**Cherry Kearton,** University of Durham, Durham, Great Britain *Alexander ideals of classical knots*	*(p.90)*
15:30 – 15:45	**Michelangelo Vaccaro,** Roma, Italy *Unicity of the topological type of the simply connected 3-manifolds*	*(p.99)*

Short Communications — Friday, 21 August

Geometric Topology — **H 112**
Chair: Alexander N. Dranishnikov

16:15 – 16:30	**Dusan Repovs,** University of Ljubljana, Ljubljana, Slovenia *On Banach-Mazur compacta and their geometric properties*	*(p.96)*
16:30 – 16:45	**Washington Mio,** Florida State University, Tallahassee, FL, USA *On the geometric topology of homology manifolds*	*(p.94)*
16:45 – 17:00	**Arkady Skopenkov,** Dept. of Mathematics, Kolmogorov College, Moscow, Russia *A Generalization of The Haefliger-Weber Theorem on Embeddings of Manifolds in $\mathbb{R}^m$*	*(p.97)*

Hyperbolic 3-Manifolds **H 112**
Chair: Nikolai Gusevskii

17:15 – 17:30	**Vitalii S. Makarov,** Univ. Drujb. Narod., Moscow, Russia *Regular maps and hyperbolic 3-manifolds*	*(p.92)*
17:30 – 17:45	**Alexander D. Mednykh,** Sobolev Institute of Mathematics, Novosibirsk, Russia *The volumes and isometries of Heegaard genus two hyperbolic three manifolds*	*(p.93)*
17:45 – 18:00	**Andrei Yu. Vesnin,** Sobolev Institute of Mathematics, Novosibirsk, Russia *On 3-manifolds with cyclic symmetry*	*(p.100)*

Short Communications — Saturday, 22 August

Algebraic Topology I **H 112**
Chair: Jean-Michel Lemaire

14:00 – 14:15	**Igor Kriz,** University of Michigan, Ann Arbor, Michigan, U.S.A. *Real-oriented homotopy theory*	*(p.91)*
14:15 – 14:30	**Carlos Prieto,** Instituto de Matematicas, Mexico, D.F., Mexico *Quasifibrations and Bott periodicity*	*(p.95)*
14:30 – 14:45	**Alexander S. Mishchenko,** Moscow State University, Moscow, Russia *Local combinatorial Hirzebruch formula*	*(p.94)*

Algebraic Topology II **H 112**
Chair: Daniel H. Gottlieb

15:00 – 15:15	**Carles Casacuberta,** Universitat Autònoma de Barcelona, Bellaterra, Spain *A universal space for plus-constructions*	*(p.86)*
15:15 – 15:30	**Samson Saneblidze,** A. Razmadze Mathematical Institute, Tbilisi, Georgia *Adams Cobar Construction as a Cubical Complex*	*(p.97)*
15:30 – 15:45	**Hirotaka Tamanoi,** University of California Santa Cruz, Santa Cruz, USA *BP cohomology theory and v_n-series*	*(p.98)*

Short Communications — Monday, 24 August

Manifolds and Dynamics **H 112**
Chair: Tadayoshi Mizutani

16:15 – 16:30	**Levan A. Alania,** Moscow St. Univ., Dept. of Mech. & Math, Moscow, Russia *De Rham cohomology with local coefficients*	*(p.85)*
16:30 – 16:45	**Alexander Fel'shtyn,** E.-M.-Arndt-Universität Greifswald, Greifswald, Germany *Reidemeister torsion and dynamical zeta functions in Nielsen theory*	*(p.88)*
16:45 – 17:00	**Efthimios Kappos,** University of Sheffield, Sheffield, England *Manifolds: Differential Topology: Controllability of Vector Fields*	*(p.90)*

4-Manifolds **H 112**
Chair: Alexander D. Mednykh

17:15 – 17:30	**J. Scott Carter,** University South Alabama, Mobile, AL, United States of America *The Diagrammatics of Hopf Categories and Invariants of 4-Dimensional Manifolds*	*(p.86)*
17:30 – 17:45	**Nikolai Gusevskii,** Universidade Federal de Minas Gerais, Belo Horizonte, Brazil *Complex hyperbolic surfaces and discrete groups in complex hyperbolic geometry*	*(p.88)*
17:45 – 18:00	**Alexander Prishlyak,** Taras Shevchenko Kiev University, Kiev, Ukraine *Morse function conjugation on 4-manifolds*	*(p.95)*

Short Communications — Tuesday, 25 August

2-Manifolds and Related Questions — H 112
Chair: Carl-Friedrich Bödigheimer

14:00 – 14:15	**José-Luis Estévez,** Universidad Nacional de Educación a Distancia, Madrid, Spain *A presentation for the mapping class group of a non-rientable surface from Hatcher and Thurston's* *(p.87)*
14:15 – 14:30	**Dmitri V. Millionshikov,** Moscow State University, Moscow, Russia *Krichever-Novikov algebras* *(p.93)*
14:30 – 14:45	**Andreas Zastrow,** Ruhr-Universität Bochum, Bochum, Germany *Planar Sets are Aspherical* *(p.100)*

Algebraic Topology III — H 112
Chair: Leonard Mdzinarishvili

15:00 – 15:15	**Ivan Ivansic,** Faculty of Electrical Engeneering, University of Zagreb, Zagreb, Croatia *Borsuk's Index and Pointed Movability for Projective Movable Continua* *(p.89)*
15:15 – 15:30	**Sibe Mardesic,** Department of Mathematics, University of Zagreb, Zagreb, Croatia *Strong shape for topological spaces* *(p.92)*
15:30 – 15:45	**Mihkail M. Postnikov,** Steklov Math. Inst., Moscow, Russian Federation *Totality versus naturality* *(p.95)*

Short Communications — Wednesday, 26 August

Algebraic Topology of Manifolds — H 112
Chair: Lawrence W. Conlon

14:00 – 14:15	**Ulrich Koschorke,** Universität-Gesamthochschule Siegen, Siegen, Germany *μ-invariants of link maps in arbitrary manifolds* *(p.90)*
14:15 – 14:30	**Yuri V. Muranov,** Vladimir State University, Vladimir, Russia *Surgery and splitting obstruction groups for one-sided submanifolds* *(p.94)*
14:30 – 14:45	**Gerard A. Venema,** Calvin College, Grand Rapide, Michigan, USA *Representing homology classes of 4-manifolds* *(p.99)*

Lusternik-Shnirelmann Category — H 112
Chair: Hans Scheerer

15:00 – 15:15	**Jean-Michel Lemaire,** CNRS/SPM, Paris, France *Rational Lusternik-Schnirelmann category of Poincaré complexes* *(p.91)*
15:15 – 15:30	**Yuli B. Rudyak,** Universität-GH Siegen, Siegen, Germany *Lusternik–Schnirelmann category of symplectic manifolds and the Arnold conjecture* *(p.96)*

Poster Session **Monday, 24 August**

14:00 – 15:45 **MA 144**

Laura M. Anderson, Texas A&M University, College Station, TX, USA
Matroid bundles and characteristic classes *(p.85)*

Lorena Armas-Sanabria, Instituto de Matematicas, UNAM, Mexico D.F., Mexico
3-Pure Braids and Surgery *(p.85)*

Vitali Chatyrko, Linköping Univertitet, Linköping, Sweden
On infinite-dimensional Cantor manifolds *(p.86)*

Mario Eudave-Munoz, Instituto de Matematicas, UNAM, Mexico, D.F., Mexico
Incompressible surfaces in the exterior of tunnel number one knots *(p.88)*

Norikazu Hashiguchi, Nihon University, Tokyo, Japan
The surgery formula for the discrete Godbillon-Vey invariant *(p.89)*

Thang T.Q. Le, SUNY Buffalo, Buffalo, NY, USA
On Quantum and Finite Type Invariants of Homology 3-Spheres *(p.91)*

Jouni Luukkainen, University of Helsinki, Helsinki, Finland
The fundamentals of Lipschitz and quasiconformal manifolds *(p.92)*

Leonard Mdzinarishvili, Georgian Technical University, Tbilisi, Georgia
Partially continuous Alexander-Spanier cohomology theory *(p.93)*

Alexey Rasskazov, Novosibirsk State University, Novosibirsk, Russia
The structure of the canonical fundamental set for the 2-bridge link *(p.95)*

Sascha A. Rogmann, Heinrich-Heine-Universität Düsseldorf, Uedemerbruch, Germany
Growth functions of tessellations *(p.96)*

Richard J. Steiner, University of Glasgow, Glasgow, Great Britain
Pasting in multiple categories *(p.98)*

Paul R. Turner, University of Aberdeen, Aberdeen, Great Britain
The homology of spaces representing exact cohomology theories *(p.99)*