The Abdus Salam International Centre for Theoretical Physics

Summer School and Conference on Geometry and Topology of 3-Manifolds

Organizer(s): M. Boileau, C. Petronio, B. Zimmermann
Local Organizer(s): L. Göttsche
Trieste - Italy, 06 - 24 June 2005

Venue: Adriatico Guest House Kastler Lecture Hall

Final programme

Monday, 6 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:30	(Room: Adriatico Guest House (Lower Level 1)) **REGISTRATION AND ADMINISTRATIVE FORMALITIES**
14:15 - 14:30	**Opening**
14:30 - 15:30	**C. Petronio** / *Università di Pisa, Pisa, Italia* **Introduction to 3-Dimensional Topology - 1**
15:30 - 16:00	--- Break ---
16:00 - 17:00	**B. Zimmermann** / *Università di Trieste, Trieste, Italia* **Geometries of 3-Manifolds - 1**

Tuesday, 7 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00	**B. Zimmermann** / *Università di Trieste, Trieste, Italia* **Geometries of 3-Manifolds - 2**
10:00 - 10:45	--- Break ---

10:45 - 12:15	**C. Series** / *University of Warwick, Coventry, United Kingdom* **Kleinian Groups - 1**
12:15 - 14:00	--- Lunch Break ---
14:00 - 15:30	**C. Petronio** / *Università di Pisa, Pisa, Italia* **Introduction to 3-Dimensional Topology - 2**
15:30 - 16:00	--- Break ---
16:00 - 17:00	**B. Zimmermann** / *Università di Trieste, Trieste, Italia* **Geometries of 3-Manifolds - 3**

Wednesday, 8 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00	**B. Zimmermann** / *Università di Trieste, Trieste, Italia* **Geometries of 3-Manifolds - 4**
10:00 - 10:45	--- Break ---
10:45 - 12:15	**C. Series** / *University of Warwick, Coventry, United Kingdom* **Kleinian Groups - 2**
12:15 - 14:00	--- Lunch Break ---
14:00 - 15:30	**C. Sinestrari** / *Università degli Studi di Tor Vergata, Roma, Italia* **Introduction to Ricci Flow - 1**
15:30 - 16:00	--- Break ---
16:00 - 17:00	**C. Petronio** / *Università di Pisa, Pisa, Italia* **Introduction to 3-Dimensional Topology - 3**

Thursday, 9 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00	**C. Sinestrari** / *Università degli Studi di Tor Vergata, Roma, Italia* **Introduction to Ricci Flow - 2**
10:00 - 10:45	--- Break ---
10:45 - 12:15	**C. Series** / *University of Warwick, Coventry, United Kingdom* **Kleinian Groups - 3**
12:15 - 14:00	--- Lunch Break ---
14:00 - 15:00	**C. Petronio** / *Università di Pisa, Pisa, Italia* **Introduction to 3-Dimensional Topology - 4**
15:00 - 15:30	--- Break ---
15:30 - 17:00	**C. Series** / *University of Warwick, Coventry, United Kingdom* **Kleinian Groups - 4**

Friday, 10 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00	**C. Sinestrari** / *Università degli Studi di Tor Vergata, Roma, Italia* **Introduction to Ricci Flow - 3**
10:00 - 10:45	--- Break ---
10:45 - 12:15	**C. Petronio** / *Università di Pisa, Pisa, Italia* **Introduction to 3-Dimensional Topology - 5**
12:15 - 14:00	--- Lunch Break ---
14:00 - 15:30	**C. Sinestrari** / *Università degli Studi di Tor Vergata, Roma, Italia* **Introduction to Ricci Flow - 4**
15:30 - 16:00	--- Break ---
16:00 - 17:00	**B. Zimmermann** / *Università di Trieste, Trieste, Italia* **Geometries of 3-Manifolds - 5**

Monday, 13 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00	**S. Maillot** / *Université Louis Pasteur, Strasbourg, France* **Hyperbolic and Convergence Groups - 1**
10:00 - 10:45	--- Break ---
10:45 - 12:15	**J. Souto** / *Université Paul Sabatier, Toulouse, France* **Tameness and Marden's Conjecture - 1**
12:15 - 14:00	--- Lunch Break ---
14:00 - 15:30	**L. Bessières and G. Besson** / *Université de Grenoble I, St. Martin d'Heres, France* **Ricci Flow with Surgery - 1**
15:30 - 16:00	--- Break ---
16:00 - 17:00	**M. Boileau** / *Université Paul Sabatier, Toulouse, France* **Cheeger-Gromov Theory - 1**

Tuesday, 14 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00	**S. Maillot** / *Université Louis Pasteur, Strasbourg, France* **Hyperbolic and Convergence Groups - 2**
10:00 - 10:45	--- Break ---
10:45 - 12:15	**J. Souto** / *Université Paul Sabatier, Toulouse, France* **Tameness and Marden's Conjecture - 2**
12:15 - 14:00	--- Lunch Break ---

14:00 - 15:30 **L. Bessières and G. Besson** / *Université de Grenoble I, St. Martin d'Heres, France*
Ricci Flow with Surgery - 2

15:30 - 16:00 --- Break ---

16:00 - 17:00 **M. Boileau** / *Université Paul Sabatier, Toulouse, France*
Cheeger-Gromov Theory - 2

Wednesday, 15 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00 **M. Boileau** / *Université Paul Sabatier, Toulouse, France*
Cheeger-Gromov Theory - 3

10:00 - 10:45 --- Break ---

10:45 - 12:15 **L. Bessières and G. Besson** / *Université de Grenoble I, St. Martin d'Heres, France*
Ricci Flow with Surgery - 3

12:15 - 14:00 --- Lunch Break ---

WEDNESDAY AFTERNOON: FREE

Thursday, 16 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00 **S. Maillot** / *Université Louis Pasteur, Strasbourg, France*
Hyperbolic and Convergence Groups - 3

10:00 - 10:45 --- Break ---

10:45 - 12:15 **J. Souto** / *Université Paul Sabatier, Toulouse, France*
Tameness and Marden's Conjecture - 3

12:15 - 14:00 --- Lunch Break ---

14:00 - 15:30 **L. Bessières and G. Besson** / *Université de Grenoble I, St. Martin d'Heres, France*
Ricci Flow with Surgery - 4

15:30 - 16:00 --- Break ---

16:00 - 17:00 **M. Boileau** / *Université Paul Sabatier, Toulouse, France*
Cheeger-Gromov Theory - 4

Friday, 17 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 10:00 **S. Maillot** / *Université Louis Pasteur, Strasbourg, France*
Hyperbolic and Convergence Groups - 4

10:00 - 10:45 --- Break ---

10:45 - 12:15 **J. Souto** / *Université Paul Sabatier, Toulouse, France*
Tameness and Marden's Conjecture - 4

12:15 - 14:00 --- Lunch Break ---

14:00 - 15:30 **L. Bessières and G. Besson** / *Université de Grenoble I, St. Martin d'Heres, France*
Ricci Flow with Surgery - 5

In the last lecture of the School it was announced that Perelman's proof of Poincaré's conjecture has been checked and is correct. (Room:Adriatico Guest House Kastler Lecture Hall)

Monday, 20 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

09:15 - 10:00 **I. Agol** / *University of Illinois at Chicago, USA*
Volumes of hyperbolic Haken 3-manifolds

10:15 - 11:00 **J. Brock** / *Brown University, Providence, USA*
Heegaard splittings, pants decompositions of surfaces and volumes of hyperbolic 3-manifolds

11:00 - 11:45 --- Break -- REGISTRATION (for NEW ARRIVALS only) in the Adriatico Guest House, Lower Level 1. ---

11:45 - 12:30 **A.D. Mednykh** / *Sobolev Institute of Mathematics, Novosibirsk, Russia*
Hyperbolic and spherical volume for knots, links and polyhedra

12:30 - 14:30 --- Lunch Break ---

14:30 - 15:15 **P.B. Shalen** / *University of Illinois at Chicago, USA*
Hyperbolic volume and classical topology

15:30 - 16:00 **B. Martelli** / *Università di Pisa, Italy*
Dehn surgery on links in 3-manifolds

16:00 - 16:45 --- Break ---

16:45 - 17:15 **S. Baseilhac** / *Université de Grenoble I, St Martin d'Heres*
On dilogarithms of triangles in the complex plane

17:30 - 18:00 **H. Weiss** / *Ludwig-Maximilians-Universität München, Germany*
Rigidity of cone-3-manifolds

Tuesday, 21 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

09:15 - 10:00 **J. Souto** / *Université Paul Sabatier, Toulouse, France*
The rank of the fundamental group of hyperbolic 3-manifolds fibering over the circle

10:15 - 11:00 **S. Boyer** / *Université du Quebec a Montreal, Canada*
Minimal hyperbolic 3-manifolds and character varieties

11:00 - 11:45 --- Break ---

11:45 - 12:30 **M. Lackenby** / *University of Oxford, U.K.*
Covering spaces of orbifolds

12:30 - 14:30 --- Lunch Break ---

14:30 - 15:15 **S. Matveev** / *Chelyabinsk State University, Russia*
Roots of 3-manifolds, cobordisms, knotted graphs, and orbifolds

15:15 - 16:00 --- Break ---

16:00 - 16:30 **S. Maillot** / *Université Louis Pasteur, Strasbourg, France*
A spherical decomposition for open Riemannian 3-manifolds

16:45 - 17:15 **R. Piergallini** / *Università di Camerino, Italy*
Wild branching surfaces and topological 4-manifolds

Wednesday, 22 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

08:45 - 09:30 **B. Perron** / *Université de Bourgogne, Dijon, France*
A homotopic intersection theory on surfaces. Applications to mapping class groups and braids

09:45 - 10:30 **S. Wang** / *Peking University, Beijing, P.R. China*
1-domination between 3-manifolds and between knots

10:30 - 11:15 --- Break ---

11:15 - 12:00 **N. Dunfield** / *CALTECH, Pasadena, USA*
Does a random 3-manifold fiber over the circle?

12:15 - 13:00 **M. Heusener** / *Université Blaise Pascal, Aubiere, France*
Deformations of reducible representations of 3-manifold groups into PSL(2,C)

WEDNESDAY AFTERNOON: FREE

Thursday, 23 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

09:15 - 10:00 **D. Cooper** / *University of California, Santa Barbara, USA*
Pseudo-conformal Geometry and 3-Manifolds

10:15 - 11:00 **M. Kapovich** / *University of California, Davis, USA*
Cohomological dimension and critical exponent of Kleinian groups

11:00 - 11:45 --- Break ---

11:45 - 12:30 **O. Collin** / *Université du Quebec a Montreal, Canada*
Floer homology and the A-polynomial

12:30 - 14:30 --- Lunch Break ---

14:30 - 15:15 **M. Baker** / *Université de Rennes I, France*
A combination theorem for convex hyperbolic manifolds with applications to surfaces in 3-manifolds

15:30 - 16:00 **L. Paoluzzi** / *Université de Bourgogne, Dijon, France*
Determining prime satellite knots by means of their cyclic branched covers

16:00 - 16:45 --- Break ---

16:45 - 17:15 **R. Frigerio** / *Università di Pisa, Italy*
Uncountably many Kleinian groups and mapping class groups

17:30 - 18:00 **D. Thurston** / *Harvard University, Cambridge, USA*
How efficiently do 3-manifolds bound 4-manifolds?

Friday, 24 June 2005 (Room:Adriatico Guest House Kastler Lecture Hall)

09:15 - 10:00 **C.D. Hodgson** / *University of Melbourne, Australia*
Computation of geometric structures on 3-dimensional orbifolds and manifolds

10:15 - 11:00 **A.W. Reid** / *University of Texas, Austin, USA*
LERF, extensions and covers of 3-manifolds

11:00 - 11:45 --- Break ---

11:45 - 12:30 **K. Bromberg** / *University of Utah, Salt Lake City, USA*
The density conjecture for Kleinian groups with bounded geometry

12:30 - 14:30 --- Lunch Break ---

14:30 - 15:15 **J. Porti** / *Universidad Autónoma de Barcelona*
Spherical cone structures on 2-bridge knots and links

15:15 - 16:00 --- Break ---

16:00 - 16:30 **M. Mecchia** / *Università di Trieste, Italy*
Finite groups acting on homology spheres

16:45 - 17:15 **Y.-E. Choi** / *University of California, Davis, USA*
Lines of minima in Teichmueller space