

# Summary of 2006 Research Activities

**The activities of** CMI researchers and research programs are described below. Researchers and programs are selected by the Scientific Advisory Board (see inside back cover).

## Clay Research Fellows

Artur Avila began his three-year appointment in July 2006. He is currently working at IMPA in Rio de Janeiro, Brazil, where he received his Ph.D.

Samuel Payne graduated from the University of Michigan and is working at Stanford University. He has a four-year appointment that began in June 2006.

Sophie Morel graduated from Université de Paris-Sud, where she is currently conducting her work. She began her five-year appointment in October 2006 at the Institute for Advanced Study in Princeton.

Avila, Payne, and Morel joined CMI's current group of research fellows Daniel Biss (University of Chicago), Maria Chudnovsky (Columbia University), Ben Green (MIT), Bo'az Klartag (Princeton University), Ciprian Manolescu (Columbia University), Maryam Mirzakhani (Princeton University), David Speyer (University of Michigan), András Vasy (Stanford) and Akshay Venkatesh (Courant Institute).

## Research Scholars

Wolfgang Ziller (University of Pennsylvania). September 1, 2005—June 30, 2006 at IMPA, Brazil.

Yaroslav Vorobets (Pidstryhach Institute for Applied Problems of Mechanics and Mathematics of Ukraine). September 1, 2005—August 31, 2006 at Texas A&M University.

Tom Coates (Harvard University). February 1—May 31, 2006. Research on Gromov-Witten Theory at MSRI.

Dihua Jiang (University of Minnesota). May 1—May 31, 2006. Working with Bao-Châu Ngô in Orsay.



*Clay Research Fellow Samuel Payne.*

Alan Carey (Australian National University). May 1—July 30, 2006 at the Erwin Schrodinger Institute in Vienna.

Ludmil Katzarkov (University of California, Irvine). June 1—June 30, 2006 at the University of Miami.

Mihalis Dafermos (University of Cambridge). December 31, 2006 – December 30, 2007.

## Senior Scholars

Yongbin Ruan (University of Wisconsin, Madison). January—May 2006. MSRI program on New Topological Methods in Physics.

Jean-Louis Colliot-Thélène (Université de Paris-Sud). January 9—May 19, 2006. MSRI program on Rational and Integral Points on Higher-Dimensional Varieties.

Robion Kirby (Stanford University). June 25—July 15, 2006. PCMI program on Low-Dimensional Topology.



*Clay Research Fellow Artur Avila.*

Yakov Eliashberg (Stanford University). June 25–July 15, 2006. PCMI program on Low-Dimensional Topology.

Peter Newstead (University of Liverpool). October 2006. Tufts–BU joint semester on Vector Bundles.

John Milnor (SUNY, Stony Brook). June 25, 2006–July 2, 2006. PCMI program on Low-Dimensional Topology.

### Book Fellows

Appointed in 2006 were Ralph Greenberg (University of Washington), who began working on the monograph *Topics in Iwasawa Theory*, and John Morgan (Columbia University) and Gang Tian (Princeton and MIT), who collaborated on the monograph *Ricci Flow and the Poincaré Conjecture*.

### Liftoff Fellows

CMI appointed nineteen Liftoff Fellows for the summer of 2006. Clay Liftoff Fellows are recent Ph.D. recipients who receive one month of summer salary and travel funds before their first academic position. See [www.claymath.org/liftoff](http://www.claymath.org/liftoff).

### Research Programs Organized and Supported by CMI

February 1–May 31. Eigenvarieties program at Harvard University.

February 24–27. Conference on Lie Groups, Dynamics, Rigidity and Arithmetic at Yale University.

April 6–12. Workshop on Additive Combinatorics at CRM (Montreal).

April 26. Public Lecture by Persi Diaconis.

May 10–15. Eigenvarieties Workshop at CMI.

May 14–16. Conference on Automorphic Forms and *L*-Functions at Weizmann Institute of Science (Tel Aviv).

May 17–22. Conference on Global Dynamics Beyond Uniform Hyperbolicity at Northwestern University.

June 19–24. Conference on Hodge Theory at Venice International University (Italy).

June 19–July 14. Workshops on Affine Hecke Algebras and Langlands Program at CIRM (Luminy, France).

July 17–August 11. CMI Summer School on Arithmetic Geometry at Göttingen, Germany.

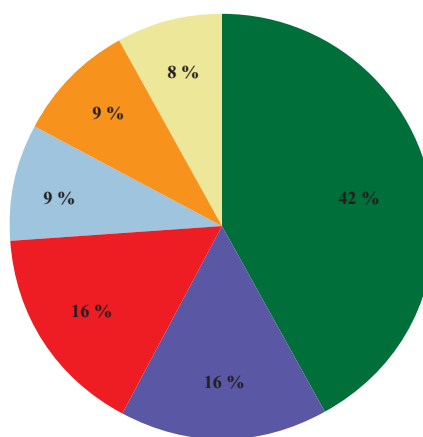
October 5–10. Moduli Spaces of Vector Bundles at CMI.

October/November. Clay Research Conference.

### Program Allocation

Estimated number of persons supported by CMI in selected scientific programs for calendar year 2006:

Research Fellows, Research Awardees, Senior Scholars, Research Scholars, Book Fellows and Public Lecturers	30
Summer School participants and faculty	135
Student Programs, participants and faculty	100
CMI Workshops, Liftoff program	60
Participants attending joint programs and the Independent University of Moscow	> 1000



Research Expenses for Fiscal Year 2006  
(comparative allocations change annually based on scientific merit)