

« CONFORMAL AND KÄHLER GEOMETRY » Paris, September 10<sup>th</sup> – December 14<sup>th</sup>, 2012  
**Conference : « Conformal and Kähler Geometry »**  
 September 17<sup>th</sup> – 21<sup>st</sup>, 2012  
 Amphithéâtre Hermite

**ORGANIZERS**

**Matthew GURSKY** (Notre Dame University, USA), **Emmanuel HEBEY** (Université de Cergy Pontoise, France), **Franck PACARD** (École Polytechnique, France), **Jeff VIACLOVSKY** (University of Wisconsin, USA)

**SPEAKERS**

<b>Olivier BIQUARD</b>	(Université Pierre et Marie Curie, France)
<b>Gilles CARRON</b>	(Université de Nantes, France)
<b>Alice CHANG</b>	(Princeton University, USA)
<b>Robin GRAHAM</b>	(Washington University, USA)
<b>Hans-Joachim HEIN</b>	(Imperial College, UK)
<b>Rafe MAZZEO</b>	(Stanford University, USA)
<b>Aaron NABER</b>	(MIT, USA)
<b>Tristan RIVIERE</b>	(ETH Zürich, Switzerland)
<b>Richard SCHOEN</b>	(Stanford University, USA)
<b>Michael SINGER</b>	(University of Edinburgh, UK)
<b>Michael STRUWE</b>	(ETH Zürich, Switzerland)
<b>Gabor SZEKELYHIDI</b>	(University of Notre Dame, USA)
<b>Peter TOPPING</b>	(University of Warwick, UK)
<b>Gang TIAN</b>	(Princeton University, USA)
<b>Claire VOISIN</b>	(Ecole polytechnique, France)
<b>Paul YANG</b>	(Princeton University, USA)



**ihp** Institut  
Henri  
Poincaré

**Conformal and Kähler Geometry**  
 September 10<sup>th</sup> – December 14<sup>th</sup>, 2012  
 Institut Henri Poincaré – 11 rue Pierre et Marie Curie, 75005 Paris - France

Organizing Committee: M. Gursky (Notre Dame), E. Hebey (Cergy-Pontoise), F. Pacard (Ecole Polytechnique), J. Viaclovsky (Wisconsin)

■ **Mini-courses**

Olivier Druet - ENS-Lyon	: An introduction to Conformal Geometry
Simon Brendle - Stanford	: The Sphere Theorem
Fernando Coda Marques - IMPA	: The Yamabe Problem: compactness and noncompactness questions
Olivier Biquard - UPMC	: Asymptotic Geometry of Einstein Metrics
Claude LeBrun - Stony Brook	: Curvature Functionals, Kähler Metrics, and the Geometry of four- Manifolds
Sean Paul - Wisconsin	: An Introduction to the Tian-Yau-Donaldson Conjecture
Piotr Chruściel - Vienna	: Introduction to the Cauchy problem in general relativity

■ **Conferences**

September 17 - 21	« Conformal and Kähler Geometry » - IHP
October 8 - 12	« Geometry and Physics » - IHP
October 22 - 26	« Conformal Geometry » - Nantes
November 5 - 9	« Géométrie PDES » - IHP
December 10 - 14	« Recent Developments in Kähler Geometry » - IHP

Scientific Committee: J.-P. Bourguignon (IHES), S.-Y. A. Chang (Princeton), C. LeBrun (Stony Brook), R. Schoen (Stanford), P. Yang (Princeton)

Program coordinated by the Centre Émile Borel of the IHP  
 Registration is free but mandatory, directly from the website: [www.ihp.fr](http://www.ihp.fr)  
 Deadline for financial support request: February 12th, 2012  
 Participation of PhD students and postdocs is strongly encouraged  
 For more information, please contact the CEB Manager Sylvie Lhermitte: [s.lhermitte@ihp.fr](mailto:s.lhermitte@ihp.fr)  
 Scientific programme on <http://www.math.polytechnique.fr/ihp-ekgeom>

Supported also by: ANR, National Science Foundation, UCP, Ecole Polytechnique  
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## PROGRAM

### Monday September 17<sup>th</sup>

#### 01.00 pm – 02.00 pm Registration and Welcome Coffee - Ground floor

- 02.00 pm – 03.00 pm **Claire Voisin** Some applications of the Lefschetz standard conjecture.  
03.00 pm – 03.30 pm Coffee break  
03.30 pm – 04.30 pm **Paul Yang** Conformally invariant equations in CR geometry.  
04.45 pm – 05.45 pm **Rafe Mazzeo** Crossing edges and Kähler-Einstein metrics.

### Tuesday September 18<sup>th</sup>

- 09.30 am – 10.30 am **Olivier Biquard** Desingularization of Einstein orbifolds.  
10.30 am – 11.00 am Coffee break  
11.00 am – 12.00 pm **Michael Singer** Boundary value problems for anti-self-dual Einstein metrics.

#### 12.00 pm – 02.00 pm Lunch

- 02.00 pm – 03.00 pm **Tristan Riviere** Global Gauges and the existence of Minimal Yang-Mills Fields in Super-critical dimensions  
03.00 pm – 03.30 pm Coffee break  
03.30 pm – 04.30 pm **Gilles Carron** Stratified Yamabe problem.  
04.45 pm – 05.45 pm **Hans-Joachim Hein** Calabi-Yau manifolds modeled on cones.

### Wednesday September 19<sup>th</sup>

09.30 am – 10.30 am	<b>Alice Chang</b>	Boundary regularity of Bach flat metrics.
10.30 am – 11.00 am	Coffee break	
11.00 am – 12.00 pm	<b>Robin Graham</b>	New proof of Juhl's formulae for GJMS operators and Q-curvatures.

### Thursday September 20<sup>th</sup>

09.30 am – 10.30 am	<b>Aaron Naber</b>	Examples and Degeneracies of Manifolds with Ricci Curvature Bounds.
10.30 am – 11.00 am	Coffee break	
11.00 am – 12.00 pm	<b>Peter Topping</b>	Asymptotics of the Teichmueller harmonic map flow.

### 12.00 pm – 02.00 pm Lunch

02.00 pm – 03.00 pm	<b>Richard Schoen</b>	Metrics on surfaces which extremize eigenvalues.
03.00 pm – 03.30 pm	Coffee break	
03.30 pm – 04.30 pm	<b>Michael Struwe</b>	Conformal metrics of prescribed Gauss curvature.
<b>06.00 pm – 09.00 pm</b>	<b>Cocktail - IHP - Ground Floor</b>	

### Friday September 21<sup>st</sup>

09.30 am – 10.30 am	<b>Gang Tian</b>	Compactness theorems in Kähler geometry
10.30 am – 11.00 am	Coffee break	
11.00 am – 12.00 pm	<b>Gabor Székelyhidi</b>	Blowing up extremal Kähler manifolds.