

# Cortona 2017

## Analysis and Topology in Interaction

### Program for Monday June 26th

**9.00 - 9.55**

**Peter Teichner** (Max Plank Institute, Bonn and University of California, Berkeley)

*Super geometric interpretations of equivariant de Rham complexes*

**10.05 - 11.00**

**Claire Debord** (Université de Clermont-Ferrand)

*Blowup and deformation groupoids constructions related to index problems*

**11.00 - 11.30 Coffee break**

**11.35 - 12.30**

**Jean-Michel Bismut** (Université Paris-Sud (Orsay))

*Torsion and the Dirac operator*

**12.45 Lunch**

**16.00 - 16.30 Coffee break**

**16.30- 17.25**

**Pierre Albin** (University of Illinois at Urbana-Champaign)

*Mapping stratified surgery to analysis*

**17.35 - 18.30**

**Chris Kottke** (New College Florida)

*Compactification of monopole moduli spaces*

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## Analysis and Topology in Interaction

### Program for Tuesday June 27th

**9.00 - 9.55**

**Johannes Ebert** (Münster)

*Infinite loop space structures on spaces of positive scalar curvature metrics*

**10.05 - 11.00**

**Diarmuid Crowley** (Melbourne)

*On the (non)-additivity of the  $A$ -hat genus*

**11.00 - 11.30 Coffee break**

**11.35 - 12.30**

**Johannes Nordström** (University of Bath)

*Disconnecting the  $G_2$  moduli space*

**12.45 Lunch**

**16.00 - 16.30 Coffee break**

**16.30- 17.25**

**Jim Davis** (Indiana)

*Bordism of  $L^2$ -acyclic manifolds*

**17.35 - 18.30**

**Bernd Ammann** (Regensburg)

*The moduli space of Ricci-flat manifolds.*

(Joint work with Klaus Kröncke, Hartmut Weiß and Frederik Witt.)

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## Analysis and Topology in Interaction

### Program for Wednesday June 28

**9.00 - 9.25**

**Fabian Hebestreit** (Bonn)

*A vanishing theorem for tautological classes of aspherical manifolds (joint with M. Land, W. Lück and O. Randal-Williams)*

**9.35 - 10.00**

**Simone Cecchini** (Northeastern)

*$C^*$ -algebras and positive scalar curvature*

**10.10 - 10.35**

**Markus Land** (Bonn)

*L-theory of  $C^*$ -algebras and applications to isomorphism conjectures*

**10.40 - 11.10**

**Coffee break**

**11.10 - 11.35**

**Xuwen Zhu** (Stanford)

*The moduli space of constant curvature conical metrics*

**11.45 - 12.10**

**Vito Felice Zenobi** (Montpellier)

*Fibered boundary metrics and secondary invariant in K-theory*

**12.20 - 12.45**

**Rufolf Zeidler** (Münster)

*Obstructions to positive scalar curvature via submanifolds*

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## Analysis and Topology in Interaction

### Program for Thursday Jun 29

**9.00 - 9.55**

**Varghese Mathai** (Adelaide)

*Some new results on positive scalar curvature*

**10.05 - 11.00**

**George Skandalis** (Paris 7)

*A longitudinal index for singular foliations*

**11.00 - 11.30 Coffee break**

**11.35 - 12.30**

**Hang Wang** (Adelaide)

*Twisted Donaldson invariants*

**12.45 Lunch**

**16.00 - 16.30 Coffee break**

**16.30- 17.25**

**Jesse Gell-Redman** (Melbourne)

*Hodge theory on the moduli space of Riemann surfaces*

**17.35 - 18.30**

**Boris Botvinnik** (University of Oregon)

*Minimal hypersurfaces and bordism of positive scalar curvature metrics*

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## Analysis and Topology in interaction

### Program for Friday, Jun 30

**9.00 - 9.55**

**Nelia Charalambous** (University of Cyprus)

*The spectrum of the Laplacian on forms*

**10.05 - 11.00**

**Christian Bär** (Potsdam)

*Index theory for the Dirac operator on Lorentzian manifolds*

**11.00 - 11.30 Coffee break**

**11.35 - 12.30**

**Michael Joachim** (Universität Münster)

*Twisted spin<sup>c</sup> bordism and twisted K-homology*

**12.45 Lunch**

**14.00- 14.55**

**Bernhard Hanke** (Augsburg)

*Positive scalar curvature on manifolds with abelian fundamental groups*

**15.00 - 15.55**

**Frederic Rochon** (Montreal)

*New examples of complete Calabi-Yau metrics on  $\mathbb{C}^n$  for  $n \geq 3$*

**16.00 - 16.30 Coffee**