

## Geometry and Physics of $G_2$ Manifolds

Tuesday April 29, 2003

- 8:30–9:30 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:30–10:30 **Sergei Gukov** (Harvard University)  
*Tutorial: Special Holonomy Manifolds and Their Applications in String Theory I*
- 10:30–11:00 *Coffee Break*
- 11:00–12:00 **Naichung Conan Leung** (University of Minnesota, Twin Cities)  
*Tutorial: Geometry of  $G_2$  manifolds I*
- 12:00–2:00 *Lunch (on your own)*
- 2:00–3:00 **Robert Bryant** (Duke University)  
*Some remarks on associative submanifolds*
- 3:00–3:30 *Coffee Break*
- 3:30–4:00 **Frederik Witt** (Oxford University)  
*Generalized  $G_2$  structure*
- 4:00–4:10 *Break*
- 4:10–4:40 **Shengli Kong** (Northeastern University)  
*From nearly Kahler manifolds to  $G_2$  manifolds*
- 5:00–7:00 *Wine/Cheese Reception (Hosted by IPAM)*



## Wednesday April 30, 2003

- 8:30–9:30 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:30–10:30 **Sergei Gukov** (Harvard University)  
*Tutorial: Special Holonomy Manifolds and Their Applications in String Theory II*
- 10:30–11:00 *Coffee Break*
- 11:00–12:00 **Naichung Conan Leung** (University of Minnesota, Twin Cities)  
*Tutorial: Geometry of  $G_2$  manifolds II*
- 12:00–2:00 *Lunch (on your own)*
- 2:00–3:00 **Alexei Kovalev** (Cambridge University)  
*Coassociative fibrations of compact  $G_2$  manifolds*
- 3:00–3:30 *Coffee Break*
- 3:30–4:30 **Sergei Gukov** (Harvard University)  
*Topology Change in  $G_2$  and Spin(7) Manifolds*

## Thursday May 1, 2003

- 8:30–9:30 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:30–10:30 **Christopher Pope** (Texas A&M University)  
*(Almost) Special Holonomy and M-theory*
- 10:30–11:00 *Coffee Break*
- 11:00–12:00 **Eric Zaslow** (Northwestern University)  
*Duality and fibrations on  $G_2$ -manifolds*
- 12:00–2:00 *Lunch (hosted by IPAM)*
- 2:00–3:00 **Cumrun Vafa** (Harvard University)  
 *$G_2$ , Calabi-Yau Threefolds and Topological Strings*
- 3:00–3:30 *Coffee Break*
- 3:30–4:30 *Panel Discussion*

## Friday May 2, 2003

- 8:30–9:15 *Check-In/Light Breakfast (Hosted by IPAM)*
- 9:15–10:15 **Mirjam Cvetič** (University of Pennsylvania)  
*Couplings in M-theory on G2 Holonomy Spaces from Type II String Theory on Orientifolds with Intersecting D6-Branes*
- 10:15–10:45 *Coffee Break*
- 10:45–11:45 **Shing-Tung Yau** (Harvard University)  
*Construction of G2 manifold*
- 11:45–12:00 *Conclusion*

