

# MIST IV: Mathematics Inspired by String Theory

## 4th Workshop & Lecture Series

Jointly organized by The Institute of Mathematical Sciences & Department of Mathematics, CUHK

April 5th - May 4th, 2016

5/F, Academic Building No. 1 [AB1], The Chinese University of Hong Kong

### April 5 (Tuesday)

10:00 - 11:00 [502a] **Ronan Conlon:** Non-compact Calabi-Yau manifolds

### April 6 (Wednesday)

10:00 - 11:00 [502a] **Ronan Conlon:** Asymptotically conical Calabi-Yau manifolds I

14:30 - 15:00 [5B] *TEA*

15:00 - 17:00 [502a] **Weiwei Wu:** Lagrangian Floer theory I

### April 7 (Thursday)

10:00 - 11:00 [501a] **Ronan Conlon:** Asymptotically conical Calabi-Yau manifolds II

15:00 - 16:00 [501a] **Si Li:** BV quantization and geometric applications I

16:00 - 16:30 [5B] *TEA*

16:30 - 17:00 [501a] **Ryosuke Takahashi:** The moduli space of  $Z_2$  harmonic spinors

### April 8 (Friday)

10:00 - 11:00 [502a] **Ronan Conlon:** Asymptotically conical Calabi-Yau manifolds III

15:00 - 16:00 [502a] **Conan Leung:** Geometry & Topology, an introduction I (*for undergraduate*)

### April 11 (Monday)

09:30 - 10:30 [502a] **Yong Wei:** Introduction of G2 structures

11:00 - 12:00 [502a] **Si Li:** BV quantization and geometric applications II

### April 12 (Tuesday)

09:30 - 10:30 [502a] **Yong Wei:** Laplacian flow for closed G2 structures, I

10:30 - 11:00 [5B] *TEA*

11:00 - 12:00 [502a] **Weiwei Wu:** Lagrangian Floer theory II

14:00 - 16:00 [501a] **Yanki Lekili:** Koszul duality in Floer theory

16:00 - 16:30 [5B] *TEA*

16:30 - 17:00 [501a] **Yalong Cao:** Counting coherent sheaves on Calabi-Yau 4-folds

17:00 - 17:30 [501a] **Yi Zhang:** SYZ transformations for coisotropic A-branes

18:30 *BANQUET*

April 13 (Wednesday)

09:30 - 10:30 [502a] **Yong Wei:** Laplacian flow for closed G2 structures, II  
TEA  
10:30 - 11:00 [5B]  
11:00 - 12:00 [502a] **Yanki Lekili:** Generating Hamiltonian 6-manifolds  
15:00 - 17:00 [502a] **Laurentiu George Maxim:** Topology of singularities I

April 14 (Thursday)

09:30 - 11:30 [501a] **Laurentiu George Maxim:** Topology of singularities II  
TEA  
14:00 - 14:30 [5B]  
14:30 - 16:30 [501a] **Weiwei Wu:** Lagrangian Floer theory III

April 15 (Friday)

15:00 - 16:00 [502a] **Conan Leung:** Geometry & Topology, an introduction II (*for undergraduate*)

April 18 (Monday)

09:30 - 11:30 [502a] **Laurentiu George Maxim:** Topology of singularities III

April 20 (Wednesday)

09:30 - 10:30 [502a] **Weiwei Wu:** Dehn twists exact sequences through Lagrangian cobordism  
TEA  
10:30 - 11:00 [5B]  
11:00 - 12:00 [502a] **Weiyi Zhang:**  $J$ -holomorphic subvarieties  
14:30 - 15:30 [502a] **Laurentiu George Maxim:** Cohomology representations of external and symmetric products of varieties  
15:30 - 16:00 [5B] TEA  
16:00 - 16:30 [502a] **Hansol Hong:** Noncommutative mirror functors

April 21 (Thursday)

09:30 - 10:30 [501a] **Miles Anthony Reid:** Finite subgroups of  $SL(2, \mathbb{C})$  and  $SL(3, \mathbb{C})$  and their role in algebraic geometry  
10:30 - 11:00 [5B] TEA  
11:00 - 12:00 [501a] **Jiajin Zhang:** Bundles over rational surfaces and degenerate elliptic curves  
14:30 - 15:00 [501a] **Qingyuan Jiang:** A Generalization of Homological Projective Duality  
15:00 - 15:30 [5B] TEA  
15:30 - 16:00 [501a] **Ying Xie:** Mirror symmetry for cubic fourfolds  
18:30 BANQUET

April 22 (Friday)

14:00 - 15:00 [502a] **Conan Leung:** Geometry & Topology, an introduction III (*for undergraduate*)

April 25 (Monday)

09:30 - 11:30 [502a] **Laurentiu George Maxim:** Topology of singularities IV  
14:00 - 16:00 [LSB222] **Dr. Roland ABUAF:** Homological Units  
16:00 - 17:30 [5B] *Cocktail party*

April 26 (Tuesday)

14:30 - 16:30 [501a] **Weiwei Wu:** Lagrangian Floer theory IV

April 27 (Wednesday)

09:30 - 11:30 [502a] **Laurentiu George Maxim:** Topology of singularities V  
14:00 - 14:30 [5B] *TEA*  
14:30 - 16:30 [502a] **Weiwei Wu:** Lagrangian Floer theory V

April 28 (Thursday)

09:30 - 11:30 [501a] **Laurentiu George Maxim:** Topology of singularities VI  
14:00 - 14:30 [5B] *TEA*  
14:30 - 16:30 [501a] **Weiwei Wu:** Lagrangian Floer theory VI

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