

# Index Theory and Complex Geometry Part 2

(29 Apr–3 May 2024)



## ORGANIZING COMMITTEE

Tien Cuong Dinh  
National University of Singapore

Fei Han  
National University of Singapore

Xiaonan Ma  
Université Paris Diderot - Paris 7

Shu Shen  
Sorbonne Université

Mathai Varghese  
University of Adelaide

## Venue

IMS Auditorium  
Institute for Mathematical Sciences  
3 Prince George's Park Singapore 118402

**Index Theory and Complex Geometry Part 2**  
Section A: Recent progresses in Complex Geometry  
29 Apr–3 May 2024

Monday, 29 April 2024		
Time	Title	Speaker
0830–0900	Registration	
Session Chair: Xiaonan Ma (Université Paris Diderot - Paris 7)		
0900–0950	Toeplitz operators and zeros of square-integrable random holomorphic sections	George Marinescu Universität zu Köln, Germany
0950–1005	Break	
1005–1055	Semi-classical analysis in several complex variables	Chin-Yu Hsiao Academia Sinica, Taipei
1055–1110	Break	
1110–1200	Wess-Zumino-Witten equation and asymptotic semistability of direct images	Siarhei Finski École Polytechnique, France
1200–1400	Lunch Break	
Session Chair: Laurent Stolovitch (Université Côte d'Azur, France)		
1400–1450	The Central Limit Theorem for generic birational maps	Gabriel Vigny Université de Picardie Jules Verne, France
1450–1505	Break	
1505–1555	Dynamics of Hénon-like maps	Karim Rakhimov Uzbekistan
1555–1620	Break	
1620–1710	Parabolic implosion in two complex variables	Fabrizio Bianchi Università di Pisa, Italy
Tuesday, 30 April 2024		
Time	Title	Speaker
0845–0900	Registration	
Session Chair: Xiangyu Zhou (Chinese Academy of Sciences, China)		
0900–0950	From holomorphic isometries to functional transcendence on quotients of bounded symmetric domains by arbitrary cocompact lattices	Ngaiming Mok The University of Hong Kong, Hong Kong
0950–1005	Break	
1005–1055	Local rigidity of actions of isometries on compact real analytic Riemannian manifolds	Laurent Stolovitch Université Côte d'Azur, France

Tuesday, 30 April 2024		
Time	Title	Speaker
1055–1110	Break	
1110–1200	Localization of characteristic forms of coherent sheaves and holomorphic foliations	Lucas Kaufmann Université d'Orléans, France
1200–1400	Lunch Break	
Session Chair: Junjiro Noguchi (The University of Tokyo, Japan)		
1400–1450	Hölder continuous solution to complex Monge-Ampère equations	Slawomir Kolodziej Jagiellonian University, Poland
1450–1505	Break	
1505–1555	Regularity of the Siciak-Zaharjuta extremal function on compact Kähler manifolds	Ngoc-Cuong Nguyen Korea Advanced Institute of Science & Technology, Korea
1555–1620	Break	
1620–1710	Geodesics in function spaces	Slawomir Dinew Jagiellonian University, Poland

### Wednesday, 01 May 2024

*IMS is closed today for Labour Day Public Holiday.*

### Thursday, 02 May 2024

Time	Title	Speaker
0845–0900	Registration	
Session Chair: Slawomir Kolodziej (Jagiellonian University, Poland)		
0900–0950	On Lang's conjecture, number of rational sections and related topics	Junjiro Noguchi The University of Tokyo, Japan
0950–1005	Group Photo & Break	
1005–1055	GCD, abc and quasi-hyperbolicity	Julie Tzu-Yueh Wang Academia Sinica, Taipei
1055–1110	Break	
1110–1200	Non-integrated defect relation for holomorphic curves into algebraic varieties	Min Ru University of Houston, USA
1200–1400	<b>Lunch Reception at IMS</b>	
Session Chair: Min Ru (University of Houston, USA)		
1400–1450	Multiplier ideal/submodule sheaves and converse $L^2$ theory	Xiangyu Zhou Chinese Academy of Sciences, China
1450–1505	Break	

Thursday, 02 May 2024		
Time	Title	Speaker
1505–1555	Volume of Components of Lelong Upper-Level Sets	Do Duc Thai Hanoi National University of Education, Vietnam
1555–1620	Break	
1620–1710	Lebesgue points of functions in complex Sobolev spaces	Duc-Viet Vu Universität zu Köln, Germany
1800	Workshop Dinner The Scholar Restaurant	
Friday, 03 May 2024		
Time	Title	Speaker
0845–0900	Registration	
Session Chair: George Marinescu (Universität zu Köln, Germany)		
0900–0950	<i>Distinguished Visitor Lecture Series</i> The hypoelliptic Laplacian in real and complex geometry	Jean-Michel Bismut Université Paris-Saclay, France
0950–1005	Break	
1005–1055	The eta invariant of a circle bundle on a Fano manifold Savale	Nikhil Savale Universität zu Köln, German
1055–1110	Break	
1110–1200	Gravitating vortices and cosmic strings	Vamsi Pritham Pingali Indian Institute of Science, India

This schedule is accurate as of 02 May 2024 and is subjected to changes.