

Singularities in Fluids and General Relativity Tutorial Sessions

(23, 26 & 27 December 2024)

ORGANIZING COMMITTEE

Co-chairs

Xinliang An

National University of Singapore

Mihalis Dafermos

University of Cambridge and Princeton University

Juhi Jang

University of South California

Yao Yao

National University of Singapore



Venue

IMS Executive Seminar Room

Bock S17, Level 3

10 Lower Kent Ridge Rd Singapore 119076

For more information: <https://ims.nus.edu.sg/events/singularities-in-fluids-and-general-relativity/>

**Singularities in Fluids and General Relativity
Tutorial Sessions
(23, 26 & 27 December 2024)**

Monday, 23 December 2024

Time	Title	Speaker
0915–0930	Registration	
0930–1110	<i>Tutorial 1 and 2</i> Desingularization and vortex confinement for incompressible Euler equations	In-Jee Jeong <i>Seoul National University, S. Korea</i>
1110–1140	Tea Break	
1140–1230	<i>Tutorial 1</i> Introduction to Mathematical General Relativity: Physical Heuristics	Xinliang An <i>National University of Singapore, Singapore</i>
1230–1400	Lunch Break	
1400–1450	<i>Tutorial 1</i> Stability, Oscillations, and Damping in Galactic Dynamics	Mahir Hadzic <i>University College London, UK</i>
1450–1540	<i>Tutorial 3</i> Desingularization and vortex confinement for incompressible Euler equations	In-Jee Jeong <i>Seoul National University, S. Korea</i>
1540–1610	Tea Break	
1610–1700	<i>Short talks by Junior Researchers</i>	
	Suppression of Chemotactic Singularity by Navier-Stokes Flow with Large Buoyancy	Zhongtian Hu <i>Duke University, USA</i>
	Finite-time Blowup for Keller-Segel-Navier-Stokes System in Three Dimensions	Tao Zhou <i>National University of Singapore, Singapore</i>

Thursday, 26 December 2024

Time	Title	Speaker
0915–0930	Registration	
0930–1110	<i>Tutorial 2 and 3</i> Stability, Oscillations, and Damping in Galactic Dynamics	Mahir Hadzic <i>University College London, UK</i>
1110–1140	Tea Break	
1140–1230	<i>Tutorial 1</i> Local Well-posedness of Einstein Vacuum Equations	Taoran He <i>National University of Singapore, Singapore</i>
1230–1400	Lunch Break	

Thursday, 26 December 2024		
Time	Title	Speaker
1400–1450	<i>Tutorial 2</i> Spacetime Decomposition and Double Null Formalism	Taoran He <i>National University of Singapore, Singapore</i>
1450–1520	Tea Break	
1520–1610	<i>Tutorial 1</i> Stability of Minkowski Spacetime	Dawei Shen <i>Columbia University, USA</i>
Friday, 27 December 2024		
Time	Title	Speaker
0915–0930	Registration	
0930–1020	<i>Tutorial 2</i> Stability of Kerr Black Holes	Dawei Shen <i>Columbia University, USA</i>
1020–1110	<i>Tutorial 2</i> Trapped Surface Formation	Xinliang An <i>National University of Singapore, Singapore</i>
1110–1140	Tea Break	
1140–1230	<i>Short talks by Junior Researchers</i>	
	Shock-type Singularity of the Hyperbolic-parabolic Chemotaxis System	Woojae Lee <i>Yonsei University, S. Korea</i>
	Shock Formation for Compressible Euler Equations and Related Systems via Self-similar Approach	Wenze Su <i>National University of Singapore, Singapore</i>