

**Interactions of Statistics and Geometry (ISAG) II**  
**Talks/Research Discussion**  
(17–26 October 2024)



**ORGANIZING COMMITTEE**

Co-chairs

Stephan Huckemann  
*University of Göttingen*

Ezra Miller  
*Duke University*

Zhigang Yao  
*National University of Singapore*

**Venue**

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

**Registration**



For more information: <https://ims.nus.edu.sg/events/isagii/>

**Talks/Research Discussion  
(17–26 October 2024)**

Thursday, 17 October 2024		
Time	Title	Speaker
0900–0925	Registration	
0925–0930	Welcome Remarks	Zhigang Yao <i>National University of Singapore, Singapore</i>
Session Chair: Ezra Miller (Duke University)		
0930–1030	Object Correspondence for Statistics via Interior Geometry	Stephen M. Pizer <i>University of North Carolina at Chapel Hill, USA</i>
1030–1100	<i>Coffee Break</i>	
1100–1200	Backwards PCA for Compositional Data	Steve Marron <i>University of North Carolina, USA</i>
1200–1400	<i>Lunch Break</i>	
Session Chair: Stephan Huckemann (University of Göttingen)		
1400–1500	Testing for Uniqueness of Estimators	Benjamin Eltzner <i>Max Planck Institute for Mathematics in the Sciences, Germany</i>
1500–1530	<i>Coffee Break</i>	
1530–1630	Comparison Theorems of Phylogenetic Spaces and Algebraic Fans	Yingying Wu <i>University of Houston, USA</i>
Friday, 18 October 2024		
Time	Title	Speaker
0915–0930	Registration	
Session Chair: Zhigang Yao (National University of Singapore)		
0930–1030	<i>Joint Distinguished Talk with Statistics and Math</i> Fitting Smooth Functions to Data	Charles Fefferman <i>Princeton University, USA</i>
1030–1100	<i>Coffee Break</i>	
1100–1200	Probing the Shape of Metric and Networked Data Through Observables	Washington Mio <i>Florida State University, USA</i>
1200–1330	<i>Lunch Break</i>	

Friday, 18 October 2024		
Time	Title	Speaker
Session Chair: Ezra Miller (Duke University)		
1330–1430	Moduli Spaces of Metrics and locally symmetric spaces	Wilderich Tuschmann <i>Karlsruher Institut für Technologie, Germany</i>
1445	<u>Program Excursion</u> 1-way transfer to Tanah Merah Ferry Terminal	
Monday, 21 October 2024		
Time	Title	Speaker
0915–0930	Registration	
Session Chair: Stephan Huckemann (University of Göttingen)		
0930–1030	Kunita flows, shape stochastics, and phylogenetic inference	Stefan Sommer <i>Københavns Universitet, Denmark</i>
1030–1100	<i>Coffee Break</i>	
1100–1200	Advances in Geometric statistics with Flag spaces	Xavier Pennec <i>Université Côte d'Azur INRIA, Sophia-Antipolis, France</i>
1200–1400	<i>Lunch Break</i>	
Session Chair: Zhigang Yao (National University of Singapore)		
1400–1500	Using Geometry in Non-Parametric Statistics	John Aston <i>University of Cambridge, UK</i>
1500–1515	<i>Coffee Break</i>	
1515–1615	Modeling shapes and surfaces	Sayan Mukherjee <i>Max Planck Institute for Mathematics in the Sciences, Germany</i>
1615–1715	Principal Decomposition with Nested submanifolds	Jiaji Su <i>National University of Singapore, Singapore</i>
Tuesday, 22 October 2024		
Time	Title	Speaker
0915–0930	Registration	
Session Chair: Steve Marron (University of North Carolina)		
0930–1030	Manifold Learning, Explanations and Eigenflows	Marina Meila <i>University of Washington, USA</i>
1030–1100	<i>Group Photo &amp; Coffee Break</i>	

Tuesday, 22 October 2024		
Time	Title	Speaker
1100–1200	Inference for a Riemannian Ornstein-Uhlenbeck Process on Covariance Matrices	Yvo Pokern <i>University College London, UK</i>
1200–1400	<b>Lunch Reception at IMS</b>	
Session Chair: Steve Marron (University of North Carolina)		
1400–1500	The random tangent field and central limit theorems on stratified spaces	Jonathan Mattingly <i>Duke University, USA</i>
1500–1515	<i>Coffee Break</i>	
1515–1615	Toward a scaling-rotation geometry of symmetric positive definite matrices	Armin Schwartzmann <i>University of California, San Diego, USA</i>
1615–1715	Information Geometry: An Invitation	Jun Zhang <i>University of Michigan, USA</i>

Wednesday, 23 October 2024		
Time	Title	Speaker
0915–0930	Registration	
Session Chair: Stephan Huckemann (Mathematik an der Universität Göttingen)		
0930–1030	Topological deep learning: The past, present, and future	Guowei Wei <i>Michigan State University, USA</i>
1030–1100	<i>Coffee Break</i>	
1100–1200	Metric geometry of spaces of persistence diagrams	Fernando Galaz-García <i>Durham University, UK</i>
1200–1400	<i>Lunch Break</i>	
Session Chair: Steve Marron (University of North Carolina)		
1400–1500	Huber means on Riemannian manifolds	Sungkyu Jung <i>Seoul National University, Korea</i>
1500–1530	<i>Coffee Break</i>	
1530–1630	Optimal lifts and their roles in the asymptotics of inference on shapes	Susovan Pal <i>Vrije Universiteit Brussel, Belgium</i>
1630–1730	Research Discussion	
1830–2200	Program Dinner <i>By invitation only</i>	

Thursday, 24 October 2024		
Time	Title	Speaker
0915–0930	Registration	

Thursday, 24 October 2024		
Time	Title	Speaker
Session Chair: Stephan Huckemann (University of Göttingen)		
0930–1030	The influence of the cut locus on the CLT for Frechet means	Huiling Le <i>The University of Nottingham, UK</i>
1030–1100	<i>Coffee Break</i>	
1100–1200	GLMY Theory and Topological Statistics	Jie Wu <i>BIMSA, China</i>
1200–1400	Lunch Break	
1400	<u><i>Programe Excursion</i></u> Hiking Location: <i>TBA</i>	

This schedule is accurate as of 23 Oct 2024 and is subjected to changes.