

# Program

Talks by professors take place in Room 110.  
For parallel sessions, talks written in the first line take place in Room 110  
and those written in the second line take place in Room 127.

## Tuesday, 21 January

9:30–10:30

**Jian Zhou (Tsinghua University)**

*Boson-fermion correspondence and Witten-Kontsevich tau-function*

10:40–11:40

**Takashi Sakajo (Kyoto University)**

*Mathematical theory of potential flows in multiply connected domains*

13:40–14:10

**Hansol Hong (Seoul National University)**

*Localized mirror functors and HMS for  $\mathbb{P}_{a,b,c}^1$  (HMS = Homological mirror symmetry)*

**Xumin Gu (Fudan University)**

*Partial Regularity of Solutions to the Four-Dimensional Navier-Stokes Equations*

14:20–14:50

**Maho Yokota (Kyoto University)**

*Noether problem for some easy groups*

**Jaehoon Kang (Seoul National University)**

*Tangential limits for harmonic functions with respect to  $\phi(\Delta)$ : stable and beyond*

15:00–15:30

**Tsung-Ju Lee (National Taiwan University)**

*Weil-Petersson metric on the moduli of Calabi-Yau varieties*

**Jung-Hyun Bae (Sungkyunkwan University)**

*Eigenvalue results for nonlinear maximal monotone operators*

16:00–16:30

**Yong Wei (Tsinghua University)**

*Sharp diameter estimates for compact manifold with boundary*

**Yuri Yatagawa (The University of Tokyo)**

*Two invariants of ramification*

16:40–17:10

**Zhi-You Chen (National Central University)**

*On the Uniqueness and Structure of Solutions to the System Arising from Chern-Simons Models*

**Hirokazu Shinjo (Tohoku University)**

*Coefficients of L-functions of certain type of curves*

17:20–17:50

**Kotaro Kawai (Tohoku University)**

*Deformations of associative submanifolds in nearly parallel  $G_2$ -manifolds*

**Seongan Lim (Ewha Woman's University)**

*On the Homomorphic Encryption NTRU*

## Wednesday, 22 January

9:30–10:30

**Jungkai Chen (National Taiwan University)**

*Geometry of varieties of general type*

10:40–11:40

**Quanshui Wu (Fudan University)**

*Poisson (co)homology and duality*

13:40–14:10

**Koichi Shimada (The University of Tokyo)**

*Group Actions on von Neumann Algebras*

**Kameng Nip (Tsinghua University)**

*Combinations of Shop Scheduling and the Shortest Path Problem*

14:20–14:50

**Ryunosuke Ozawa (Tohoku University)**

*Limit formulas for metric measure invariants and phase transition property*

**Sheng-Hua Chen (National Taiwan University)**

*Edge Roman Domination on Graphs*

15:00–15:30

**Jiyoung Han (Seoul National University)**

*Distribution of integral lattice points in an ellipsoid with a diophantine center*

**Myeongmin Kang (Seoul National University)**

*Inexact accelerated augmented Lagrangian method for linearly constrained  $\ell_1$ - $\ell_2$  minimization*

16:00–16:30

**Li Ming (Fudan University)**

*The interior estimate for convex solutions of 2-Hessian equations and a rigidity theorem*

**Yasuhiro Ishituka (Kyoto University)**

*Some geometric aspects of 2-descent of hyperelliptic Jacobians*

16:40–17:10

**Chong Tian (Fudan University)**

*Unstability of pseudoharmonic maps between pseudo-Hermitian manifolds*

**Kazuki Sato (Tohoku University)**

*The solubility of diagonal cubic equations*

17:20–17:50

**Jungchan Lee (Sungkyunkwan University)**

*Some variational problem on almost Hermitian structures*

**Chiu-Ju Lin (National Tsing Hua University)**

*Competition of phytoplankton species for light with wavelength*

18:00–18:30

**Chan Yong Kim (Sungkyunkwan University)**

*Bertrand curves in  $\mathbb{R}^3$  and  $S^3(1)$*

**Liping Li (Fudan University)**

*Regular subspaces of Dirichlet forms*

## Thursday, 23 January

9:00–9:30

**Yong Hu (Fudan University)**

*Inequality of Noether type for smooth minimal 3-folds of general type*

**Kota Uriya (Tohoku University)**

*Asymptotic behavior of a solution to a system of quadratic nonlinear Schrödinger equations in two dimensions*

9:40–10:10

**Jian Xiao (Fudan University)**

*Weak transcendental holomorphic Morse inequalities on compact Kähler manifolds*

**Xu Qing (Fudan University)**

*Backward Stochastic Schrödinger Equations and related topics*

10:20–10:50

**Yen-Wen Fan (National Taiwan University)**

*An Optimal Gap Theorem in a Complete Strictly Pseudoconvex CR  $(2n + 1)$ -Manifold*

**Makoto Fujiwara (Tohoku University)**

*Uniform and constructive provability in reverse mathematics*

11:00–11:30

**Masatoshi Kitagawa (The University of Tokyo)**

*Stable branching laws for spherical varieties*

**Jinyeong Park (Seoul National University)**

*Practical synchronization of Kuramoto system with an intrinsic dynamics*

11:40–12:10

**Yuichiro Tanaka (The University of Tokyo)**

*Visible actions on generalized flag varieties and a generalization of the Cartan decomposition*

**Eun-Kyung Kim (Ewha Woman's University)**

*Relations between Multilinear Maps and Fully Homomorphic Encryption Scheme*

## Friday, 24 January

9:30–10:30

**Shanjian Tang (Fudan University)**

*Linear-Quadratic Optimal Control: from deterministic to stochastic*

10:40–11:40

**Seok-jin Kang (Seoul National University)**

*Cyclotomic categorification theorem and 2-representation theory*

13:40–14:10

**Yuuya Takayama (Research Institute for Mathematical Sciences)**

*Introduction to bow varieties*

**Ye Li (Tsinghua University)**

*A class of nonconforming quadrilateral finite elements for incompressible flow*

14:20–14:50

**Yusuke Nakamura (The University of Tokyo)**

*Minimal model program and singularity theory*

**Jihoon Ok (Seoul National University)**

*$L^{p(\cdot)}$ -regularity theory for the gradient of weak solutions for elliptic and parabolic equations in divergence form*

15:00–15:30

**Yuhei Suzuki (The University of Tokyo)**

*Amenable minimal Cantor systems of free groups arising from diagonal actions*

**Jinsu Kim (Seoul National University)**

*Efficient Fully Homomorphic Encryption*

16:00–16:30

**Bo Li (Tsinghua University)**

*Infinitely many solutions for the prescribed curvature problem of polyharmonic operator*

**Tse-Chung Yang (National Taiwan University)**

*Monomial, Gorenstein, and Bass orders*

16:40–17:10

**Sz-Sheng Wang (National Taiwan University)**

*Calabi-Yau threefolds with small contractions*

**Nobuaki Naganuma (Tohoku University)**

*Asymptotic error distributions of the Crank-Nicholson scheme for SDEs driven by fractional Brownian motion*

17:20–17:50

**Qizhi Wang (Fudan University)**

*Conformal Positive Mass Theorem for Asymptotically Flat Manifolds with Inner Boundary*

**Cheng-Fang Su (National Central University)**

*The existence of solutions of 2-dimensional incompressible Navier-Stokes equations on a moving domain in an optimal Sobolev space*