

# The 20th Northeastern Symposium on Mathematical Analysis

Date: 18-19 February 2019

Venue: Kawai Hall, Graduate School of Science, Tohoku University  
at Kita-Aobayama Campus

6-3, Aramaki Aza-Aoba, Aoba-ku, Sendai 980-8578

<http://www.sci.tohoku.ac.jp/english/access/>

URL: <https://www.math.sci.hokudai.ac.jp/sympo/nema/20.html>

## Program

### February 18 (Mon.)

- 9 : 30~9 : 40            Opening
- 9 : 40~10 : 30        Paolo Salani (Università di Firenze)  
To Logconcavity and beyond
- 10 : 40~11 : 30      Shigeaki Koike (Tohoku University)  
 $L^p$ -viscosity solution theory - revisited -  
  
Lunch break
- 13 : 10~13 : 50      Yutaka Terasawa (Nagoya University)  
Weak solutions for a diffuse interface model for two-phase  
flows of incompressible fluids with different densities and  
nonlocal free energies
- 14 : 00~14 : 40      Kohei Umeta (Nihon University)  
Laplace hyperfunction and Čech-Dolbeault cohomology
- 15 : 00~15 : 20      Daichi Komori (Hokkaido University)  
An application of Čech-Dolbeault cohomology to pseudodif-  
ferential operators
- 15 : 20~15 : 40      Mamoru Okamoto (Hokkaido University)  
(non-)Existence of (a)symmetrically rotating solution for a  
mathematical model of self-propulsion
- 15 : 40~16 : 00      Keisuke Asahara (Hokkaido University)  
Spectral analysis of a bosonic quadratic Hamiltonian
- 16 : 20~18 : 10      Poster session at Room 205 in Science Complex A
- 18 : 30~              Banquet at ESPACE Ouvert

## February 19 (Tue.)

- 9 : 40~10 : 30      Yasunori Okada (Chiba University)  
Formal and analytic aspects of coupling equations for some partial differential equations
- 10 : 40~11 : 30      Reiji Tomatsu (Hokkaido University)  
Centrally free actions of  $C^*$ -tensor categories on von Neumann algebras
- Lunch break
- 13 : 10~13 : 50      Hironobu Sasaki (Chiba University)  
The scattering problem for the three-dimensional cubic nonlinear Klein-Gordon equation with rapidly decreasing input data
- 14 : 00~14 : 30      Long-Jie Zhang (University of Tokyo)  
Mean curvature flow with driving force for symmetric motion with singular initial data
- 14 : 50~15 : 10      Lorenzo Cavallina (Tohoku University)  
On a two-phase overdetermined problem: from a theoretical and numerical point of view
- 15 : 10~15 : 30      Junyong Eom (Tohoku University)  
Large time behavior of ODE type solutions to nonlinear diffusion equations
- 15 : 30~15 : 50      Taiga Kumagai (Tokyo Institute of Technology)  
Some convergence result for nonconvex Hamilton-Jacobi equations and ode systems on graphs
- 15 : 50~16 : 10      Poster award ceremony & Closing

## Posters

1. Yuki Fukui (University of Tokyo, M2)  
Construction of weak solution of a weighted inverse mean curvature flow
2. Zhongyang Gu (University of Tokyo, M2)  
On the Helmholtz decompositions of vector fields of bounded mean oscillation and in real Hardy spaces over the half space
3. Md. Rabiul Haque (Tohoku University, D2)  
Convection-Diffusion equation with initial data in uniformly local Lebesgue spaces
4. Koichi Komada (Tohoku University, D1)  
Final state problem for class of nonlinear nonlocal dispersive equation
5. Huanyuan Li (University of Tokyo, D3)  
Blow-up criteria for the strong solutions to the incompressible fluids of Korteweg type
6. Tatsuya Matsui (Tohoku University, M2)  
Singular limit of the damped-wave-type magnetohydrodynamics in Fourier-Lebesgue spaces
7. Kuniyasu Misu (Hokkaido University, M2)  
Asymptotic shape of solutions to the mean curvature flow equation with discontinuous source terms
8. Ryosuke Nakasato (Tohoku University, D1)  
Global existence of the two-dimensional density-dependent magnetohydrodynamics system in homogeneous Besov spaces
9. Tomoyuki Oka (Tohoku University, M2)  
Space-time homogenization for the fast diffusion equation
10. Jun Okamoto (University of Tokyo, M2)  
Random discretization of O'Hara knot energy
11. Wataru Saito (Hokkaido University, M2)  
Asymptotic stability for a system of delay differential equations and its application
12. Kei Sasaki (Tohoku University, M2)  
Scattering problem for the cubic nonlinear Schrödinger equation with a double delta potential

