The University of Newcastle -Nihon University joint workshop on Applied Mathematics

Date: 1st (Sat) – 4th (Tue) November, 2025
Location: E203, Nihon University Newcastle Campus

Program

2025/11/1

13:50~14:00 Opening Remark

Chair : Masaru Ito (Nihon University)

14:00~14:30 Miki Aoyagi (Nihon University)
Singular models in learning theory and information criteria

14:45~15:15 James McCoy (The University of Newcastle)
Isoperimetric inequality for multiply-winding curves

Chair: Mike Meylan (The University of Newcastle)

15:30~16:00 Masashi Mizuno (Nihon University)
A stochastic model of grain boundary motion

16:15~16:45 Stephan Tornier (The University of Newcastle)
Groups acting on trees

17:00~17:30 Ravi Pethiyagoda (The University of Newcastle)
Water waves big and small

2025/11/2

Chair: Masashi Mizuno (Nihon University)

11:00~11:30 Mike Meylan (The University of Newcastle)
The abstract linear wave equation and applications to hydrodynamics

11:45~12:15 Dave Smith (The University of Newcastle)
Fokas diagonalization

12:30~14:00 Lunch

Chair: Ravi Pethiyagoda (The University of Newcastle)

14:00~14:30 Takanori Nagamine (Nihon University)
Problems in Affine Algebraic Geometry: An Introduction

14:45~15:15 Masaru Ito (Nihon University)
Geometry of convex cones and conic optimization

Chair: Takanori Nagamine (Nihon University)

15:30~16:00 Florian Breuer (The University of Newcastle)
On Modular Polynomials

16:15~16:45 Kota Saito (Nihon University)
Prime-representing constants

17:00~17:30 Andreas Heinecke (The University of Newcastle)
Duality for frames and application to multivariate wavelet frame construction

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11:00~11:45 Discussion

12:00~14:00 Lunch

Chair: Miki Aoyagi (Nihon University)

15:00~15:20 Kouta Araki (Nihon University)
Long-time behavior of the dissipation function for free energy in the nonlinear Fokker-Planck equation with spatial inhomogeneous diffusion of porous medium type

15:30~15:50 Yuki Miyazaki (Nihon University)
Gradient methods for multiobjective optimization problems

Chair: Dave Smith (The University of Newcastle)

16:00~16:20 Afnan Abdullah M Aldosri (The University of Newcastle)
Wave scattering at a rectangular junction of four waveguides

16:30~16:50 Jahne Meyer (The University of Newcastle)
Hyperbolic motion of polygons via semi-discrete linear geometric flows

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11:00~12:00 Discussion

12:00~14:00 Lunch

14:00~17:00 Group discussion

17:00~17:30 Closing