

The 9th Graduate Student Workshop on Mathematics

Osaka City University
July 26– 30, 2015

Program

	Sun (26 Jul)	Mon (27 Jul)	Tue (28 Jul)	Wed (29 Wed)
13:20-13:30	Opening			
13:30-14:30	Naoki Hamamoto Masato Hashizume Megumi Sano Kei Takioka	Miho Hatanaka Zeng Haozhi Hideya Kuwata Yusuke Suyama	Bo Geon Kim Joo-young Jin Jie Meng Akimasa Tamagaki	Kengo Kawamura Megumi Hashizume Maria de los Angeles Guevara Hernandez Kaori Hasegawa
14:30-14:50	Break			
14:50-15:35	Dong Kyu Kim Minjae Kwon Seung Min Lee	Xianghui Xu Soo Hyun Park Jeong Min Ha	Atsushi Mochizuki Kouki Sato Hironaga Ogawa	Youngyong Park Beomseok Kim Takafumi Sato
15:35-15:50	Break			
15:50-16:35	Amal Al Kharusi Byeorhi Kim Seonmi Choi	Daehwan Kim Gyu Jong Kim Minoru Yoshida	Su Hyeon Jeong Geun Young Kim Ji Hee Kim	Semin Oh Shouhei Machida Eun-Kyung Cho

Sunday 26 July

(Every talk is expected to be of 12 minute length.)

13:20–13:30 Opening

13:30–14:30 Chairperson: Young Ho Im (Pusan National University)

1. Naoki Hamamoto (Osaka City University, D2)
Estimates for the number of negative eigenvalues of Schrödinger operators
2. Masato Hashizume (Osaka City University, D1)
On the Hardy-Sobolev inequalities
3. Megumi Sano (Osaka City University, D1)
The Hardy inequality in a limiting case with the quasi-scale invariance.
4. Kei Takioka (Osaka City University, M1)
Random walk and discrete heat equation

14:50–15:35 Chairperson: Hirotaka Akiyoshi (Osaka City University)

5. Dong Kyu Kim (Kyungpook National University, M2)
On S -Noetherian rings
6. Minjae Kwon (Kyungpook National University, M1)
On S -Nonnil-Noetherian rings
7. Seung Min Lee (Kyungpook National University, M2)
On a generalization of Hurwitz series rings

15:50–16:35 Chairperson: Hirotaka Akiyoshi (Osaka City University)

8. Amal Al Kharusi (Sultan Qaboos University, PhD)
On the crossing changes for surface-knots
9. Byeorhi Kim (Kyungpook National University, M2)
Gordian distances of the unknotting operation $H(T)$ of the rotation type
10. Seonmi Choi (Kyungpook National University, D2)
On Fox-Hosokawa conjecture

Monday 27 July

(Every talk is expected to be of 12 minute length.)

13:30–14:30 **Chairperson:** Taizo Kanenobu (Osaka City University)

1. Miho Hatanaka (Osaka City University, D3)
On representation decompositions of cohomology rings of toric manifolds associated to cycle graphs
2. Zeng Haozhi (Osaka City University, D3)
On Betti numbers of toric origami manifolds
3. Hideya Kuwata (Osaka City University, D3)
Some properties of integral topological toric manifolds
4. Yusuke Suyama (Osaka City University, D1)
Simplicial 2-spheres obtained from non-singular complete fans

14:50–15:35 **Chairperson:** Yongju Bae (Kyungpook National University)

5. Xianghui Xu (Pusan National University, D4)
Existence of solutions for vector p-Laplacian systems with singular weights
6. Soo Hyun Park (Pusan National University, D1)
Estimates for the Bergman kernel of Fock-type space
7. Jeong Min Ha (Pusan National University, D1)
A mixed norm equivalence on generalized Fock spaces

15:50–16:35 **Chairperson:** Jung Wook Lim (Kyungpook National University)

8. Daehwan Kim (Pusan National University, D3)
The characterization theorems of the generalized scherk surface and catenoid
9. Gyu Jong Kim (Kyungpook National University, D2)
Real hypersurfaces in Complex two-plane Grassmannians with certain structure Jacobi operator
10. Minoru Yoshida (Osaka City University, M1)
CMC surfaces and the sinh-Gordon equation

Tuesday 28 July

(Every talk is expected to be of 12 minute length.)

13:30–14:30 **Chairperson:** Sang Youl Lee (Pusan National University)

1. Bo Geon Kim (Kyungpook National University, M2)
Some inequalities of weighted shifts associated by directed trees
2. Joo-young Jin (Kyungpook National University, D4)
Backward extensions of recursively generated Hamburger-type weighted shifts and Aluthge transforms
3. Jie Meng (Pusan National University, M2)
On the Hermitian Positive Definite Solution to a Nonlinear Matrix Equation
4. Akimasa Tamagaki (Osaka City University, M1)
A continuous function whose Fourier series diverges at a point

14:50–15:35 **Chairperson:** Seiichi Kamada (Osaka City University)

5. Atsushi Mochizuki (Kyoto University (RIMS), D2)
On quantum invariants of 3-manifolds with genus one open book decompositions
6. Kouki Sato (Tokyo Institute of Technology, D1)
Heegaard Floer correction terms of $(+1)$ -surgeries of $(2, q)$ -cablings
7. Hironaga Ogawa (Osaka City University, M1)
The fundamental group and its application to knot theory

15:50–16:35 **Chairperson:** Seiichi Kamada (Osaka City University)

8. Su Hyeon Jeong (Pusan National University, M1)
Parities and odd polynomial invariants for virtual links
9. Geun Young Kim (Pusan National University, M1)
An index definition of parity mappings of a virtual link diagram
10. Ji Hee Kim (Pusan National University, M1)
Index polynomials for Gauss diagrams of virtual links

Wednesday 29 July

(Every talk is expected to be of 12 minute length.)

13:30–14:30 **Chairperson:** [Hirotaka Akiyoshi](#) (Osaka City University)

1. Kengo Kawamura (Osaka City University, D3)
The group of a semi-virtual knot diagram
2. Megumi Hashizume (Nara Women's University, D2)
On a homomorphism induced by a 4-valent graph on a surface
3. María de los Angeles Guevara Hernández
(Instituto Potosino de Investigación Científica y Tecnológica (IPICYT), D2)
Braid alternation number of a knot
4. Kaori Hasegawa (Osaka City University, M2)
Qualgebra colorings and cocycle invariants of spatial trivalent graphs

14:50–15:35 **Chairperson:** [Tetsuya Abe](#) (OCAMI)

5. Youngyong Park (Kyungpook National University, D4)
Early effect through resonances in time-dependent, nonlinear dynamical systems
6. Beomseok Kim (Kyungpook National University, D4)
Statistical properties of spatiotemporal chaos
7. Takafumi Sato (Osaka City University, M1)
Second-order Poincaré inequality

15:50–16:35 **Chairperson:** [Jung Wook Lim](#) (Kyungpook National University)

8. Semin Oh (Pusan National University, D3)
The number of ideals of $\mathbb{Z}[x]$ containing $x(x - \alpha)(x - \beta)$ with given index
9. Shouhei Machida (Osaka City University, M1)
One dimensional sums and Kostka polynomials
10. Eun-Kyung Cho (Pusan National University, M1)
On NI-rings and relations among π -regular rings and its related rings