

## Program

# Monday, January 26

## Jan. 26 Morning – Room 510

8:20–8:40 **Opening**

8:40–9:30 Chair: Qing Zhou

Speaker: **Boju Jiang** (Peking University)

**On Conway's potential function for colored links**

9:30–10:00 Coffee Break

10:00–10:50 Chair: Yukio Matsumoto

Speaker: **Se-Goo Kim** (Kyung Hee University)

**Topological versus smooth concordance groups**

10:50–11:00 Break

11:00–11:50 Chair: Fengchun Lei

Speaker: **Riccardo Piergallini** (University of Camerino)

**Coverings, handles and ribbons**

12:00– Lunch

13:40–17:25 Parallel sessions in Rooms 510, 508 and 504

18:00– Dinner (Reception)

## Jan. 26 Afternoon Session 1 – Room 510

Chair: Zhi Lu

13:40–14:05 **Yukio Matsumoto** (Gakushuin University)

**Relatively non-singular hermitian forms in low and higher dimensional knot theory**

14:05–14:30 **Ho Lee** (KAIST)

**Mutation and arc-index**

14:30–14:40 Break

14:40–15:05 **Hwa Jeong Lee** (KAIST)

**Crossing number of twisted torus knots of type  $(p, q, 2, s)$**

15:05–15:30 **Sangyop Lee** (Chung-Ang University)

**Twisted torus knots**

15:30–16:00 Coffee Break

Chair: Bin Yu

16:00–16:25 **Yongju Bae** (Kyungpook National University)

**Descending tangles and unknotting operations of links**

16:25–16:50 **Zhenkun Li** (Peking University)

**Width of satellite knot and its companion**

16:50–17:00 Break

17:00–17:25 **Sang Youl Lee** (Pusan National University)

**Canonical genera of Whitehead doubles of alternating 3-braid knots**

18:00– Dinner (Reception)

## Jan. 26 Afternoon Session 2 – Room 508

Chair: Zhiqing Yang

13:40–14:05 **Tetsuya Abe** (Tokyo Institute of Technology and Osaka City University Advanced Mathematical Institute)

**Fibered knots with the same 0-surgery and the slice-ribbon conjecture**

14:05–14:30 **Taehee Kim** (Konkuk University)

**The solvable filtration of the knot concordance group**

14:30–14:40 Break

14:40–15:05 **Hye Jin Jang** (POSTECH)

**2-torsion in the Grope filtration of the knot concordance group**

15:05–15:30 **Mi Jeong Yeon** (Kyung Hee University)

**Rasmussen invariants of an infinite family of general pretzel knots**

15:30–16:00 Coffee Break

Chair: Hao Zheng

16:00–16:25 **Toshitake Kohno** (The University of Tokyo)

**Higher holonomy of braids**

16:25–16:50 **Sangrok O** (KAIST)

**Quasi-isometric invariants of graph 2-braid groups**

16:50–17:00 Break

17:00–17:25 **Jung Hoon Lee** (Chonbuk National University)

**Bridge spheres for the unknot are topologically minimal**

18:00– Dinner (Reception)

## Jan. 26 Afternoon Session 3 – Room 504

Chair: Jiming Ma

13:40–14:05 **Mikio Furokawa** (Hiroshima University)

**Commensurability between once-punctured Klein bottle groups and once-punctured torus groups**

14:05–14:30 **Hiroataka Akiyoshi** (Osaka City University)

**Side parameter for the torus with a single cone point**

14:30–14:40 Break

14:40–15:05 **Naoki Sakata** (Hiroshima University)

**A generalization of the Cannon-Dicks fractal tessellation**

15:05–15:30 **Peng Cheng Xu** (Oklahoma State University)

**P-moves between pants block decompositions of 3-manifolds**

15:30–16:00 Coffee Break

Chair: Tian Yang

16:00–16:25 **Youngjin Cho** (KAIST)

**Automorphism groups of some Artin groups**

16:25–16:50 **Hyo Won Park** (University of Utah)

**A metric on an outer space for 2-dimensional right-angled Artin groups**

16:50–17:00 Break

17:00–17:25 **Seonggu Jeong** (KAIST)

**Geometry of Brady complex**

18:00– Dinner (Reception)

# Tuesday, January 27

## Jan. 27 Morning – Room 510

♣ Group photo taking during Coffee Break in front of the Science Building

08:40–9:30 Chair: Ki Hyoung Ko

Speaker: **Kimihiko Motegi** (Nihon University)

*L*-space surgeries and Seifert surgeries on knots

09:30–10:30 ♣ **Group photo taking** and Coffee Break

10:00–10:50 Chair: Akio Kawauchi

Speaker: **Fuquan Fang** (Capital Normal University)

**Bounding problem of almost flat manifolds**

10:50–11:00 Break

11:00–11:50 Chair: Seiichi Kamada

Speaker: **Jiming Ma** (Fudan University)

**Geometry of the augmented disk graph**

12:00–12:40 Lunch

13:40–17:50 Parallel sessions in Rooms 510, 508 and 504

18:00– Dinner

## Jan. 27 Afternoon Session 1 – Room 510

Chair: Zhiqiang Bao

13:40–14:05 **Gyo Taek Jin** (KAIST)  
**Quadrisequant approximation of unknots**

14:05–14:30 **Kyungpyo Hong** (Korea University)  
**Quantum knot mosaics and the enumeration**

14:30–14:40 Break

14:40–15:05 **Seungsang Oh** (Korea University)  
**Introduction to the state matrix algorithm for multiple self-avoiding polygon enumerations**

15:05–15:30 **Hyuntae Kim** (KAIST)  
**Knots in cubic lattices**

15:30–16:00 Coffee Break

Chair: Fan Ding

16:00–16:25 **Bin Yu** (Tongji University)  
**A note on homotopy classes of nonsingular vector fields on  $S^3$**

16:25–16:50 **Byunghee An** (IBS Center for Geometry and Physics)  
**Criterion for the Legendrian simplicity of connected sum of knots**

16:50–17:00 Break

17:00–17:25 **Takahiro Oba** (Tokyo Institute of Technology)  
**Stein fillings of homology 3-spheres and mapping class groups**

17:25–17:50 **Kenta Hayano** (Hokkaido University)  
**Multisections of Lefschetz fibrations and topology of symplectic 4-manifolds**

18:00– Dinner

## Jan. 27 Afternoon Session 2 – Room 508

Chair: Mingxing Zhang

13:40–14:05 **Ayako Ido** (Nara Women's University)

**On keen Heegaard splitting**

14:05–14:30 **Qilong Guo** (Peking University)

**Connectivity of some simplicial complex associate to handlebody**

14:30–14:40 Break

14:40–15:05 **Yanqing Zou** (Dalian Nationalities University)

**The properties of locally large distance 2 Heegaard splittings**

15:05–15:30 **Fengling Li** (Dalian University of Technology)

**Invariants of 3-manifolds from intersecting kernels of Heegaard splittings**

15:30–16:00 Coffee Break

Chair: Hao Zhao

16:00–16:25 **Faze Zhang** (Dalian University of Technology)

**The subset of  $\mathbb{R}^3$  realizing metrics on curve complex**

16:25–16:50 **Seonmi Choi** (Kyungpook National University)

**On knotted real projective planes**

16:50–17:00 Break

17:00–17:25 **Chao Qian** (University of Chinese Academy of Sciences)

**Isoparametric foliations and related topics**

18:00– Dinner

## Jan. 27 Afternoon Session 3 – Room 504

Chair: Hongzhu Gao

13:40–14:05 **Jinseok Cho** (KIAS)

**The optimistic limit of colored Jones polynomial**

14:05–14:30 **Ayumu Inoue** (Aichi University of Education)

**The zeros of Alexander polynomials and colorability of knots by rotations**

14:30–14:40 Break

14:40–15:05 **Adrian Jimenez Pascual** (The University of Tokyo)

**On Lassos and the Jones polynomial of satellite knots**

15:05–15:30 **Fumikazu Nagasato** (Meijo University)

**On some families of minimal elements for the partial ordering on prime knots**

15:30–16:00 Coffee Break

Chair: Xiangjun Wang

16:00–16:25 **Migiwa Sakurai** (National Institute of Technology, Ibaraki College)

**An affine index polynomial invariant and the forbidden move of virtual knots**

16:25–16:50 **Kai Zhang** (Dalian University of Technology)

**On  $2k$ -move**

16:50–17:00 Break

17:00–17:25 **Hideo Takioka** (JSPS, Osaka City University AMI)

**A characterization of the  $\Gamma$ -polynomials of knots with the clasp numbers at most two**

17:25–17:50 **Zhiqing Yang** (Dalian University of Technology)

**Marked knot diagrams and their applications**

18:00– Dinner



# Wednesday, January 28

## Jan. 28 Morning – Room 510

8:40–9:30 Chair: Shicheng Wang

Speaker: **Jae Choon Cha** (Pohang University of Science and Technology)

**Von Neumann-Cheeger-Gromov  $L^2$  rho invariants and topology of 3-manifolds**

09:30–10:30 Coffee Break

10:00–10:50 Chair: Ying Zhang

Speaker: **Takefumi Nosaka** (Kyushu University)

**The relative cup products and quandle cocycle invariants of knots**

10:50–11:00 Break

11:00–11:50 Chair: Toshitake Kohno

Speaker: **Chao Wang** (University of Science and Technology of China)

**Embedding surfaces into 3-dimensional sphere with maximum symmetry**

12:00–12:40 Lunch

13:40–17:25 Parallel sessions in Rooms 510, 508 and 504

18:00– Dinner

## Jan. 28 Afternoon Session 1 – Room 510

Chair: Ximin Liu

13:40–14:05 **Seiichi Kamada** (Osaka City University)

**Quandle presentation of 1-handles attached to surface-knots**

14:05–14:30 **Yewon Joung** (Pusan National University)

**Applying Lipson’s state models to marked graph diagrams of surface-links**

14:30–14:40 Break

14:40–15:05 **Masahide Iwakiri** (Saga University)

**Unknotting numbers for handlebody-knots and Alexander quandle colorings**

15:05–15:30 **Jieon Kim** (Pusan National University)

**Quandle 3-cocycle invariants of surface-links in  $\mathbb{R}^4$**

15:30–16:00 Coffee Break

Chair: Zhiyun Cheng

16:00–16:25 **Kengo Kawamura** (Osaka City University)

**Ribbon-clasp 2-knots and virtual curves**

16:25–16:50 **Kota Takahashi** (Osaka City University)

**Classification of ribbon 2-knot groups by using twisted Alexander polynomial**

16:50–17:00 Break

17:00–17:25 **Kouki Sato** (Tokyo Gakugei University)

**Non-orientable genus of a knot in punctured Spin 4-manifolds**

18:00– Dinner

## Jan. 28 Afternoon Session 2 – Room 508

Chair: Youlin Li

13:40–14:05 **Min Hoon Kim** (POSTECH)

**Cheeger-Gromov rho invariant and complexity of lens spaces**

14:05–14:30 **Yasuyoshi Tsutsumi** (Oshima National College of Maritime Technology)

**On the third Ohtsuki invariants for the Brieskorn-Hamm manifolds**

14:30–14:40 Break

14:40–15:05 **Kazuhiro Ichihara** (Nihon University)

**Non left-orderable surgeries and generalized Baumslag-Solitar relators**

15:05–15:30 **Mitsunori Hori** (Hiroshima University)

**Five-fold cyclic branched covers of genus one two-bridge knots are  $L$ -spaces**

15:30–16:00 Coffee Break

Chair: Teruhisa Kadokami

16:00–16:25 **Teruaki Kitano** (Soka University)

**Reidemeister torsion of a homology 3-sphere obtained by  $1/n$ -surgeried along a  $(p, q)$ -torus knot**

16:25–16:50 **Satoshi Matsumura** (Osaka City University)

**Torsion invariants of knots**

16:50–17:00 Break

17:00–17:25 **Masaaki Suzuki** (Meiji University)

**Non-meridional epimorphisms between knot groups**

18:00– Dinner

## Jan. 28 Afternoon Session 3 – Room 504

Chair: Youfa Han

13:40–14:05 **Reiko Shinjo** (Kokushikan University)

**A construction of a link projection satisfying the equation from Euler characteristic**

14:05–14:30 **Hyoungjun Kim** (Korea University)

**Minor minimal bipartite intrinsically knotted graphs with 22 edges**

14:30–14:40 Break

14:40–15:05 **Jun Ge** (Xiamen University)

**Equivalence classes of knot colorings and minimum number of colors**

15:05–15:30 **Fuji Zhang** (Xiamen University)

**Links produced by some unitary operations of graphs**

15:30–16:00 Coffee Break

Chair: Xuezhi Zhao

16:00–16:25 **Shicheng Wang** (Peking University)

**Graphs in 3-sphere with maximum symmetry**

16:25–16:50 **Qiang Zhang** (Xi'an Jiaotong University)

**On the fixed subgroups of homeomorphisms on Seifert manifolds**

16:50–17:00 Break

17:00–17:25 **Akio Kawachi** (OCAMI)

**On ribbon surface-link**

18:00– Dinner

# Thursday, January 29

## Jan. 29 Morning – Room 510

08:40–09:30 Chair: Gyo Taek Jin

Speaker: **Ser Peow Tan** (National University of Singapore)

**Polynomial automorphisms of  $\mathbb{C}^n$  preserving the Markoff-Hurwitz polynomial**

09:30–10:30 Coffee Break

10:00–10:50 Chair: Jae Choon Cha

Speaker: **Tian Yang** (Stanford University)

**On type-preserving representations of the four-punctured sphere group**

10:50–11:00 Break

11:00–11:50 Chair: Boju Jiang

Speaker: **Naoko Kamada** (Nagoya City University)

**Virtual knots and twisted knots**

## Jan. 29 Afternoon

♣ **Free Time**

18:00– Dinner