Seung uk Jang

Contact Details

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Employment

2023– **Post-doc**, *Université de Rennes*, Rennes, *France*.
UMR CNRS 6625, Groups of Algebraic Transformations (GOAT)
Mentor: Serge Cantat

Education

2014–2023 **Ph.D of Math**, *University of Chicago*, Chicago, IL, *USA*.
Mathematics
Advisors: Simion FIlip; Alex Eskin
Thesis: Hyperkähler Kummer Rigidity and the Vieta Involutions on Tropical Markov Cubics

2021 **Master of Science**, *University of Chicago*, Chicago, IL, *USA*.
Mathematics

2013–2014 **Master of Science**, *KAIST*, Daejeon, *South Korea*.
Mathematical Sciences

2009–2013 **Bachelor of Science**, *KAIST*, Daejeon, *South Korea*.
Mathematical Sciences, with minor on Computer Science

Research Interests

Algebraic and Complex Dynamical Systems; Ergodic theory; Non-archimedean Analysis

Preprints

2024 **Orbits of Automorphism Groups of Affine Surfaces over p-adic Fields**, *Serge Cantat and Seung uk Jang*.
available as a preprint in `arXiv:2410.08579`

2023 **Vieta Involutions on Tropical Markov Cubics**, *Seung uk Jang*.
available as a preprint in `arXiv:2306.11357`

Publications

2024 **Kummer Rigidity for Hyperkähler Automorphisms**, *Seung uk Jang*.
J. Mod. Dyn. **20**, pp. 183–213.
https://doi.org/10.3934/jmd.2024005

2018 **Quantum unique ergodicity and the number of nodal domains of eigenfunctions**, *Seung uk Jang and Junehyuk Jung*.
J. Amer. Math. Soc. **31**, no. 2, pp. 303-318.
http://dx.doi.org/10.1090/jams/883

Academic Talks

2024 **Markoff Surfaces in the p-adic World**, *Workshop: Group Actions with Hyperbolicity and Measure Rigidity*.

2024 **Lightening talk**, *5-min. presentations, CIRM Research School 2968* Group Actions and Rigidity: Around the Zimmer Program.

2023 **Vieta Involutions on Tropical Markov Cubics**, *Poster session, CIRM Research School 2794* Renormalization and Visualization for packing, billiard, and surfaces.

2023 **Do Tropical Markov Cubics dream of Hyperbolic Origami?**, *KAIST, Daejeon, South Korea*.
Talks based on the work *Vieta Involutions on Tropical Markov Cubics*, through various approaches including number theory, geometric topology, and dynamical systems.

2022 **Kummer Rigidity for Hyperbolic Hyperkähler Automorphisms**, *BiSTRO mini conference (on-line)*..

2022 **Currents and Plurisubharmonic Potentials**, *IUPUI*.
Presented in learning talks of 2022 Several Complex Dynamics School

2022 **Discovering a nontriviality of the δ-ϵ definition, in a math way**, *University of Chicago*.
UChicago Pedagogy Seminar, Dept. of Math

2021 **Kummer Rigidity for Hyperbolic Hyperkaehler Automorphisms**, *University of Chicago*.
UChicago Dynamics Seminar

2019 **A Mechanical model for Lorenz System**, *KIAS*.
introductary material for the Lorenz system and its analysis

2015 **Quantum ergodicity and the number of nodal domains of eigenfunctions**, *SNU*.
work done with Junehyuk Jung

2009 **Lattice Edge Number of Figure Eight Knot**, *2009 KMS-AMS Joint Meeting*, poster session.
work done with Hun Kim, Gyo Taek Jin, Choon Bae Jeon, Sang Hyuk Moon, Sang Hyun Park, Yoo Shin Song

2007 **Generalizing 2D Geometric Properties to 3D With the Aid of DGS**, *ATCM 2007*, contributed talks.
work done with Dohyun KIM, Hyobin LEE, Youngdae KIM

Experience

Teaching

Fall 2019 – Fall 2022 **Lecturer**, *University of Chicago*, Chicago.

Graduate Student Lecturer for various courses, in:

- Frechman Calculus course (Math 151-153): Fall 2019 – Spring 2020, Fall 2020 – Winter 2021 (Remote), Fall 2021 – Winter 2022
- Linear algebra (Math 196): Fall 2022
- *Mathematical Methods for Social Sciences* (Math 195): Spring 2021

Other Employments

Fall 2016 – Summer 2019 **Researcher**, *NIMS*, Daejeon.

Center for Applications of Mathematical Principles

Employment as an Alternative military service for Korea

Working on public understanding of (industrial) mathematics in Korea, including

- public lectures, generally towards 7th-12th grades students,
- running and maintaining IMAGINARY exhibitions in Korea, and
- exploring and developing new items in mathematics that can appeal to general public.