

최인혁

이력서/2022년 12월 최종 수정

대전광역시 유성구 대학로 291 한국과학기술원 수리과학과
이메일: inhyeokchoi@kaist.ac.kr, inhyeokchoi48@gmail.com
웹사이트: <https://inhyeokchoi48.github.io>

연구 관심사

제 연구는 기하위상수학, 기하군론 및 동역학 등에 걸쳐 있습니다. 핵심 키워드는 다음과 같습니다. Teichmüller space, mapping class groups, Outer space, $\text{Out}(F_N)$, Gromov hyperbolic spaces, $\text{CAT}(0)$ spaces, random walks, dynamics of groups acting on spaces.

학력

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|-----------------|---|
| 09/2018– | KAIST 수리과학과 석박사통합과정 지도교수: 백형렬 |
| 03/2015–08/2018 | KAIST 물리학, 수리과학 및 생명과학 학사 졸 최우등 졸업 |

기타 경력

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|-----------------|---|
| 12/2018–02/2019 | Tokyo Institute of Technology 교환학생 |
| 08/2017–02/2018 | École Polytechnique Fédérale de Lausanne 교환학생 |
| 12/2015–06/2017 | KAIST Biomedical Optics Lab 학사연구원 지도교수: 박용근 |
| 06/2015–08/2015 | University of California, Berkeley 교환학생 |

Awards and Honors

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| 08/2022 | Best TA Award, 2022 Spring semester, Dept. of Mathematical Sciences, KAIST |
| 03/2017 | Dean's list, 2016 Fall semester, College of Natural Sciences, KAIST |
| 12/2016 | Silver Prize, Korean Undergraduate Mathematics Competition (전국 대학생수학경시대회), Korean Mathematical Society |
| 03/2015–08/2018 | Korea Presidential Science Scholarship (대통령과학장학생), Korea Student Aid Foundation |
| 03/2015–08/2018 | KAIST Presidential Fellowship |

논문

1. Limit laws on Outer space, Teichmüller space, and $\text{CAT}(0)$ spaces
Preprint (2022). arXiv:2207.06597.
2. Random walks on mapping class groups (survey paper)
With *Hyungryul Baik*.
Preprint (2021). arXiv:2110.04868.
3. Pseudo-Anosovs are exponentially generic in mapping class groups
Preprint (2021). To appear in **Geometry & Topology**. arXiv:2110.06678.
4. Central limit theorem and geodesic tracking on hyperbolic spaces and Teichmüller spaces
Preprint (2021). arXiv:2106.13017.

5. Linear growth of translation lengths of random isometries on Gromov hyperbolic spaces and Teichmüller spaces
With *Hyungrul Baik and Dongryul M. Kim*.
Preprint (2021). arXiv:2103.13616.
6. Simple length spectra as moduli for hyperbolic surfaces and rigidity of length identities
With *Hyungrul Baik and Dongryul M. Kim*.
Preprint (2020). arXiv:2012.05652.
7. On the surjectivity of the Symplectic representation of the mapping class group
With *Hyungrul Baik and Dongryul M. Kim*.
Preprint (2020). To appear in **Topology and its Applications**. arXiv:2008.10142.
8. Topological entropy of pseudo-Anosov maps from a typical Thurston construction
With *Hyungrul Baik and Dongryul M. Kim*.
Online published in **International Mathematics Research Notices**, <https://doi.org/10.1093/imrn/rnab167> (2021).
9. Inhyeok Choi, KyeoReh Lee, and YongKeun Park. Compensation of aberration and speckle noise in quantitative phase imaging using lateral shifting and spiral phase integration. *Optics Express*, 25(24) pp. 30771-30779 (2017).

연구 발표

초청 발표

- 2022.11.08. Random subgroup is quasi-isometrically embedded. *Geometry and Topology Seminar, CUNY*.
- 2022.11.08. The log-regularity of the hitting measure on the Gromov boundary. *Group actions, Geometry and Dynamics Seminar, Yale University*.
- 2022.11.02. Asymmetry of a typical outer automorphism. *Geometry and Topology Seminar, Temple university*.
- 2022.10.27. Simple length spectrum of a hyperbolic surface. *Hyperbolic lunch, University of Toronto*.
- 2022.10.24. Mapping class group, Teichmüller space and Bers' proof of Nielsen-Thurston's classification. *Dynamics Seminar, University of Toronto*.
- 2022.05.12. Typical behavior of random mapping classes and outer automorphisms. *Fudan Topology Seminar*. (온라인)
- 2022.04.11. Limit laws beyond hyperbolic spaces. *AIM Workshop "Random walks beyond hyperbolic groups"*.
- 2021.12.03. Limit laws for random walks on mapping class groups. *Conformal Dynamics and Groups Seminar, BICMR*. (온라인)
- 2021.11.29. Random walks on mapping class groups favor pseudo-Anosovs. *Dynamics Seminar, University of Toronto*. (온라인)
- 2021.11.18. Random walks, counting problems and genericity of loxodromics. *Geometry and Topology Seminar, Technion*. (온라인)
- 2021.10.06. Random walks on Gromov hyperbolic spaces and Teichmüller spaces. *Tokyo Tech Topology Seminar*. (온라인)
- 2021.07.22. Random walks on Gromov hyperbolic spaces and Teichmüller spaces. *Pacific Dynamics Seminar*. (온라인)
- 2021.02.03. Simple length spectra of a generic hyperbolic surface determine its isometry class. *Virtual Seminar on Geometry and Topology*. (온라인)

참가 발표

- 2022.05.31. Frequently contracting geodesics and random mapping class. *PK2 Topology Workshop*.
- 2022.04.25. Limit laws and their consequences on MCG and $\text{Out}(Fn)$. 5-min lightning talk, *IHP Conference "Mapping Class Groups and $\text{Out}(Fn)$ "*.
- 2022.01.18. Random mapping classes are pseudo-Anosov. *The 17th East Asian Conference on Geometric Topology*. (온라인)
- 2021.01.26. Rigidity of length Identities of hyperbolic surfaces. *The 16th East Asian Conference on Geometric Topology*. (온라인)
- 2020.10.30. Random walks and mapping class groups. 10-minute talk at *Geometric Group Theory in East Asia*. (온라인)

교육

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|----------------|-------------------------------------|
| 2022 가을 | MAS102 미적분학 II & MAS430 조합적 위상수학 조교 |
| 2022 봄 | MAS109 선형대수학개론, MAS201 응용미분방정식 조교 |
| 2021 가을 | MAS201 응용미분방정식, MAS441 르베그적분론 조교 |
| 2021 봄 | MAS109 선형대수학개론, MAS331 위상수학 조교 |
| 2020 가을 | MAS102 미적분학 II, MAS441 르베그적분론 조교 |
| 2020 봄 | MAS201 응용미분방정식 총괄조교 |
| 2019 가을 | MAS201 응용미분방정식, MAS441 르베그적분론 조교 |
| 2019 봄 | MAS201 응용미분방정식, MAS331 위상수학 조교 |
| 2018 가을 | MAS355 수리통계학 조교 |
| 2017 봄, 2018 봄 | MAS101 미적분학 I 학부생조교 |

봉사 및 대외활동

- 다음 저널에 심사 의견 제출: *Annales Henri Lebesgue*
- 고등과학원 웹진 (Horizon)에 수학 만화 연재