Hanul Jeon

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Education

Ph.D.	**Mathematics**
Cornell University, Advisor: Justin Moore and James Walsh	*Aug 2021 – May 2026 (Expected)*
Visiting Scholar	
Vienna University of Technology, Supervisor: Juan P. Aguilera	*Jan 2025 – Jul 2025*
M.Sc.	**Mathematics**
Seoul National University, Advisor: Otto van Koert	*Mar 2017 – Feb 2021*
Thesis: *Constructive Ackermann's interpretation*	
B.Sc.	**Mathematics**
Sunkyunkwan University	*Mar 2013 – Feb 2017*

Experience

Republic of Korea Air Force	
Compulsory military service	*Aug 2017 – Jul 2019*

Publications

[1] Kinkar Ch Das, Han-ul Jeon, and Nenad Trinajstić. "Comparison between the Wiener index and the Zagreb indices and the eccentric connectivity index for trees". In: *Discrete Applied Mathematics* 171 (2014), pp. 35–41.

[2] Hanul Jeon. "Constructive Ackermann's interpretation". In: *Annals of Pure and Applied Logic* 173.5 (2022), p. 103086.

[3] Hanul Jeon and Richard Matthews. "Very large set axioms over constructive set theories". In: *The Bulletin of Symbolic Logic* 30.4 (2024), pp. 455–535.

[4] Hanul Jeon. "On Separating Wholeness Axioms". To appear in: *Journal of Symbolic Logic*.

[5] Hanul Jeon. "The proof-theoretic strength of Constructive Second-order set theories". To appear in: *Notre Dame Journal of Formal Logic*.

[6] Hanul Jeon and James Walsh. *Generalized ordinal analysis and reflection principles in set theory*. 2023. arXiv: 2312.12859 [math.LO].

[7] Hanul Jeon. *The behavior of higher proof theory I: Case Σ^1_2*. 2024. arXiv: 2406.03801 [math.LO].

[8] Hanul Jeon. "On a cofinal Reinhardt embedding without Powerset". To appear in: *Fundamenta Mathematicae*.

[9] Hanul Jeon. *Proof-theoretic dilator and intermediate pointclasses*. 2025. arXiv: 2501.11220 [math.LO].

[10] Hanul Jeon. *Martin's measurable dilator*. 2025. arXiv: 2503.12713 [math.LO].

[11] Hanul Jeon et al. *Ranking theories via encoded β-models*. 2025. arXiv: 2503.20470 [math.LO].

Teaching Experiences

Grader	
Mathematical Logic	*Fall 2024*
Grader	
History of Mathematics	*Spring 2023*
Grader	
Applied logic	*Fall 2023*

Grader
Introduction to Analysis   *Spring 2023*
Grader
Mathematical Logic   *Fall 2022*
Tutor
Sublime Learning Community Tutoring   *Spring, Summer, Fall 2020*
Covered Mathematics and its practice (Spring 2020) and Mathematics for biological scientists (Summer 2020, Fall 2020).
Grader
Mathematics for ecologists   *Fall 2020*
Teaching Assistant and Grader
Advanced Mathematics and its practice II.   *Fall 2020*
Equivalent to Multivariable Calculus Honors. Managed students' presentation.
Teaching Assistant and Grader
Logic and Set theory   *Spring 2020*
Teaching Assistant and Grader
Mathematics and its practice II.   *Fall 2019, Summer 2020, Winter 2020*
Equivalent to Multivariable Calculus. Managed an exercise course.
Teaching Assistant and Grader
Mathematics and its practice I.   *Spring 2017, Spring 2019*
Equivalent to Calculus. Managed an exercise course.
Tutor
Sunkyun Tutoring for Advanced Algebra   *Spring 2016*
Covered Chapters 4 and 5 of Hungerford's *Algebra*

Grants and Fellowships

Hutchinson Fellowship 2024–2025:   *Fall 2025*
OeAD Ernst Mach Grant: 6,250 EUR   *Feb 2025 – Jul 2025*
Cornell Research Travel Grant: 1100 USD (for Austrian visit)   *Oct 2024*
The National Scholarship for Science and Engineering: *Mar 2013 - Dec 2016*

Talks

On proof-theoretic dilator and Pohlers' characteristic ordinals   **Universisät Wien**
Reverse Mathematics and Higher Computability Theory Workshop   *July 2025*
Dilators in Descriptive set theory   **TU Wien**
TU Wien Computational Logic Seminar   *April 2025*
On proof-theoretic dilator and Pohlers' characteristic ordinals   **Changwon University**
4th Korea Logic day   *January 2025*
On a cofinal Reinhardt embedding without Powerset   **CUNY Graduate Center**
CUNY Set theory seminar   *October 2024*
On Separating Wholeness Axioms   **Iowa State University**
2024 North American ASL Annual Meeting   *May 2024*
Proof theory for higher pointclasses   **University of Pennsylvania**
UPenn Logic and Computation Seminar   *April 2024*
On Separating Wholeness Axioms   **Virtual**
3rd Korean Logic Day   *Jan 2024*
On Separating Wholeness Axioms   **Cornell University**
Cornell Logic Seminar   *May 2023*
Very large set axioms over constructive set theories   **Cornell University**
Cornell Logic Seminar   *Apr 2022*
Consequences of the axiom of choice   **Cornell University**
Olivetti Club   *Mar 2022*