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Hannes Jakob

Curriculum Vitae

Education

2022-2025 **Ph. D.**, *University of Freiburg*, Freiburg, *Summa cum Laude*
Dissertation titled "Variants of Mitchell Forcing"

2020-2022 **M. Sc.**, *University of Freiburg*, Freiburg
Master's Thesis in set theory titled "Generalised Tree Properties"

2017-2020 **B. Sc.**, *University of Freiburg*, Freiburg
Bachelor's Thesis in set theory titled "Cichon's Maximum"

Publications

[1] Hannes Jakob, Eyal Kaplan and Alejandro Poveda. On HOD-supercompactness and the HOD conjecture. *In preparation*, 2026.

[2] Hannes Jakob and John Krueger. A side condition principle with applications. *In preparation*, 2026.

[3] Tom Benhamou and Hannes Jakob. Stationary limits of the point spectrum. *In preparation*, 2026.

[4] Hannes Jakob and Jing Zhang. A topological rainbow ramsey theorem. *Submitted*, 2026.

[5] Hannes Jakob and Alejandro Poveda. On shelah's approachability ideal. *Submitted*, 2025.

[6] Hannes Jakob. Total failure of approachability at successors of singulars of countable cofinality. *Advances in Mathematics*, 469, 2026.

[7] Hannes Jakob and Maxwell Levine. Failure of approachability at the successor of the first singular for any cofinality. *Submitted (Promising report from the Mathematische Annalen)*, 2025.

[8] Hannes Jakob. On friedman's property. *Submitted (Promising report from the Journal of Mathematical Logic)*, 2025.

[9] Hannes Jakob. Cascading variants of internal approachability. *submitted*, 2024.

[10] Hannes Jakob and Maxwell Levine. Distinguishing internally club and approachable on an infinite interval. *Bulletin of the London Mathematical Society*, 57(4):1026–1039, 2025.

[11] Hannes Jakob. Slender trees and the approximation property. *Archive for Mathematical Logic*, 65:13–40, 2026.

[12] Hannes Jakob. Disjoint stationary sequences on an interval of cardinals. *Fundamenta Mathematicae*, 269(3):268–283, 2025.

Presentations

Invited Talks

10/2026 **The Non-Approachability Property at Singular Cardinals**, *26th Midrasha Mathematicae in Honor of Menachem Magidor*, Jerusalem

09/2026 **The Non-Approachability Property at Singular Cardinals**, *Young Set Theory Workshop*, Barcelona

05/2026 **A Topological Rainbow Ramsey Theorem**, *BLAST Conference 2026*, Waco, TX

11/2025 **On Shelah's Approachability Ideal**, *Luminy Workshop in Set Theory*, Luminy
Plenary Talk

01/2025 **On Friedman's Property**, *Oberwolfach Workshop in Set Theory*, Oberwolfach

11/2024 **Strong Distributivity and the Indestructibility of ISP**, Workshop: Compactness and Cardinal Invariants, Prague

Contributed Talks

09/2024 **Cascading Variants of Internal Approachability**, *European Set Theory Conference*, Münster

Seminar Talks

04/2026 **A Topological Rainbow Ramsey Theorem**, *UNT Set Theory Seminar*, Denton, TX

03/2026 **A Topological Rainbow Ramsey Theorem**, *Rutgers Logic Seminar*, New Brunswick, NJ

09/2025 **On Shelah's Approachability Ideal (2 parts)**, *UNT Set Theory Seminar*, Denton, TX

05/2025 **Failure of Approachability at the Successor of the first Singular for any Cofinality**, *Oberseminar: Mathematische Logik*, Freiburg

11/2024 **On Friedman's Property**, *Set Theory Seminar at the Czech Academy of Sciences*, Prague

04/2024 **Friedman's and Other Reflection Properties**, *Oberseminar: Mathematische Logik*, Freiburg

12/2023 **Forcings with the Approximation Property**, *Oberseminar: Mathematische Logik*, Freiburg

04/2023 **Strong Distributivity and Games on Posets**, *Oberseminar: Mathematische Logik*, Freiburg

Experience

Teaching Experience

2025-2028 **Visiting Assistant Professor**, *University of North Texas*, Denton, TX

Lecturing, writing worksheets, organizing/leading exercise sessions and managing teaching assistants for the following courses:

- Fall 2026: Calculus II (2 sections, one standard, one TAMS)
- Spring 2026: Introduction to Topology (mixed undergraduate/graduate course)
- Fall 2025: Calculus I (honors)

2023-2025 **Lecture Assistant**, *University of Freiburg*, Freiburg

Writing worksheets, organizing exercise sessions and managing teaching assistants for the following courses:

- Summer 2025: Topology
- Winter 2024/2025: Set Theory
- Winter 2023/2024: Combinatorics
- Summer 2023: Mathematical Logic
- Summer 2023: Prikry-Forcing (Seminar)

2018-2023 **Teaching Assistant**, *University of Freiburg*, Freiburg

Leading exercise sessions and grading worksheets for multiple courses, including "Mathematical Logic", "Set Theory" and "Recursion Theory".

Honors and Awards

Simon's Semester Junior Researcher, *Institute of Mathematics at the Polish Academy of Sciences*, Warsaw

Seal of Excellence (Grade: 95%), *MSCA Postdoctoral Fellowship 2025*

No Fellowship awarded due to lack of funding

Languages

German (Native)

English (Fluid)

Spanish (Basic)