



Special Issue on Advances in Proof Theory

Call for Papers

Proof Theory is one of the principal branches of Mathematical Logic. Since Gerhard Gentzen's introduction of the Sequent Calculus and Natural Deduction, Proof Theory has evolved into a broad and influential discipline with profound applications in the foundations of mathematics, computer science, philosophy, and artificial intelligence. It provides formal methods for analysing mathematical proofs, logical consequence, computational processes, and the structure of inferential analysis. Contemporary Proof Theory encompasses a wide range of topics, including Proof Analysis, Structural and Substructural Proof Theory, Ordinal Analysis, Sequent Calculus, Cut-Elimination, Natural Deduction, Normalisation, Hilbert's Axiomatic Systems, Proof Theory of Arithmetic, Proof Complexity, Proof-Theoretic Semantics, Proof Search, Automated Deduction, and Type Theory. Recent advances continue to strengthen the connections between Proof Theory and Formal Verification, Programming Languages, Category Theory, Constructive Mathematics, Computational Logic, and the Philosophy of Logic.

In this special issue, we intend to invite front-line researchers and authors to submit original research and review articles on **Advances in Proof Theory**. Potential topics include, but are not limited to:

- Proof Analysis
- Structural Proof Theory
- Substructural Proof Theory
- Sequent Calculus
- Cut-Elimination
- Natural Deduction
- Normalisation
- Hilbert's Axiomatic Systems
- Ordinal Analysis
- Proof Theory of Arithmetic
- Proof-Theoretic Semantics
- General Proof Theory
- History of Proof Theory
- Consistency Proofs
- Reverse Mathematics
- Conservativity Results
- Proof Transformations
- Deep Inference
- Proof Complexity



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- Proof Search
 - Type Theory
 - Lambda Calculus
 - Constructive Mathematics
 - Classical Logic
 - Intuitionistic Logic
 - Linear Logic
 - Relevant Logic
 - Paraconsistent Logic
 - Modal Logic
 - Categorical Proof Theory
 - Computational Interpretations of Proofs
 - Automated Theorem Proving
 - Interactive Theorem Proving
 - Proof Assistants
 - Formal Verification
 - Foundations of Logic
 - Foundations of Mathematics
 - Philosophy of Proof Theory
 - Proof Theory and Artificial Intelligence
 - Applications of Proof Theory in Computer Science
 - Emerging Directions in Proof Theory

Authors should read over the journal's [For Authors](#) carefully before submission. Prospective authors should submit an electronic copy of their complete manuscript through the journal's [Paper Submission System](#).

Please kindly notice that the “**Special Issue**” under your manuscript title is supposed to be specified and the research field “**Special Issue – *Advances in Proof Theory***” should be chosen during your submission.

According to the following timetable:

Submission Deadline	October 30th, 2026
Publication Date	December 2026

Guest Editor: Dr. Khashayar Irani (University of London, UK)

For publishing inquiries, please feel free to contact the Editorial Assistant at submission.entrance1@scirp.org

APM Editorial Office