



The International Autumn School "Proof and Computation. Foundations of Mathematics, Computer Science, and Philosophy" will be held from 10th to 16th September 2023 at [Haus der bayerischen Landwirtschaft](#) in Herrsching near Munich. Its aim is to bring together young researchers in the field of Foundations of Mathematics, Computer Science and Philosophy. Previous autumn schools in this series were [PC22](#), [PC21](#), [PC19](#), [PC18](#), [PC17](#), [PC16](#).

Scope

- Predicative Foundations
- Constructive Mathematics and Type Theory
- Computation in Higher Types
- Extraction of Programs from Proofs

Courses

- Stefania Centrone: Husserl on the totality of all conceivable arithmetical operations
- Yannick Forster: MetaCoq
- Hugo Herbelin: The logical structure and computational contents of choice, bar induction and related principles
- Matthias Hutzler: Introduction to synthetic algebraic geometry
- Georg Moser: Cichon's conjecture on the slow growing hierarchy
- Andrea Reichenberger: Philosophy and history of computation: Turing machine
- Monika Seisenberger: Extraction of programs from proofs

Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
09:00–09:50	Mainzer	Moser	Herbelin	Reichenb	Seisenb
09:50–10:30	*Coffee*	*Coffee*	*Coffee*	*Coffee*	*Coffee*
10:30–11:20	Centrone	Hutzler	Moser	Herbelin	Centrone
11:30–12:20	Forster	Reichenb		Hutzler	Groups
15:00–15:50	Reichenb	Forster		Centrone	Herbelin
15:50–16:30	*Coffee*	*Coffee*		*Coffee*	*Coffee*
16:30–17:20	Seisenb	Seisenb		Forster	Hutzler
17:30–18:20	Moser	Groups		Groups	Groups



Working groups

There will be an opportunity to form ad-hoc groups working on specific projects, but also to discuss in more general terms the vision of constructing correct programs from proofs.

How to get there

The default arrival time is Sunday afternoon, and departure time Saturday after breakfast. There are frequent suburban trains (line S8) from airport and downtown Munich to Herrsching. From the train station in Herrsching it is an easy walk to the school site; see its website for directions.

Applications

Graduate or PhD students and young postdoctoral researches are invited to apply. Applications must be accompanied by a letter of recommendation, preferably from the thesis adviser, and should be sent to [Chuangjie Xu](mailto:xu@math.lmu.de) (xu@math.lmu.de). Deadline for applications: 31st May 2023. Applicants will be notified by 28th June 2023.

Financial support

The workshop is supported by the [Udo Keller Stiftung](#) (Hamburg), the CID (Computing with Infinite Data) programme of the European Commission and a JSPS core-to-core project. Successful applicants will be offered full-board accommodation for the days of the autumn school. There are no funds, however, to reimburse travel or further expenses, which successful applicants will have to cover otherwise.

[Klaus Mainzer](#)

[Peter Schuster](#)

[Helmut Schwichtenberg](#)