



# Oberwolfach Seminar

## New Techniques in Resolution of Singularities

Organizers: Dan Abramovich, Providence  
Anne Frühbis-Krüger, Oldenburg  
Michael Temkin, Jerusalem  
Jaroslaw Włodarczyk, West Lafayette  
Date (ID): 24 – 30 October 2021 (2143b)  
Deadline: 8 August 2021

Resolution of singularities is notorious as a difficult topic within algebraic geometry, and people who master it have a “superhuman” aura. Recent work, aiming at resolution of families and semistable reduction infused the subject with logarithmic geometry and algebraic stacks, two techniques essential for the current theory of moduli spaces. As a byproduct a short, simple and efficient functorial resolution procedure in characteristic 0 using just algebraic stacks was produced.

The goals of the Seminar are to

- introduce participants to algebraic stacks;
- introduce participants to logarithmic geometry;
- impart explicit techniques of resolution, with access to computer implementation; and
- introduce participants to resolution in families and semistable reduction methods.

Evening study sessions will focus on exercises, computation of examples, and study groups of sources and papers, possibly leading to publications. The organizers aim for detailed outlines to be available ahead of the workshop.

The seminar takes place at the Mathematisches Forschungsinstitut Oberwolfach. The Institute covers board and lodging. By the support of the Carl Friedrich von Siemens Foundation travel expenses can be reimbursed up to 150 EUR in average per person (against copies of travel receipts). The number of participants is restricted to 25.

### Applications including

- full name and address, incl. e-mail address
- short CV and publication list
- present position, university
- name of supervisor of Ph.D. thesis
- a short summary of previous work and interest
- title, ID and date of the intended seminar

should be sent preferably by e-mail (with attachments in pdf format) via [seminars@mfo.de](mailto:seminars@mfo.de) until 8 August 2021 to:

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