Mathematisches
Forschungsinstitut
Oberwolfach

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Association

# Oberwolfach Seminar
## Metric Algebraic Geometry

Organizers:   Paul Breiding, Leipzig/Osnabrück
              Kathlen Kohn, Stockholm
              Bernd Sturmfels, Leipzig
Date (ID):    28 May – 3 June 2023 (2322a)
Deadline:     24 March 2023

How can we compute the distance from a point in 3-space to a given curve or surface? This question arises for many geometric shapes and in many contexts, notably in optimization and data science. Metric algebraic geometry studies real algebraic varieties, with focus on metric properties – distances, volumes, angles, and curvature. The aim is to compute these from defining equations. This seminar offers a hands-on introduction to this field.

Please see the website of the seminar for detailed information:

**www.mfo.de/occasion/2322b**

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 title, ID and date** of the intended seminar, together with **one pdf-file attached** containing

- 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 statement of interest and motivation (ca. half a page)

should be **sent by e-mail** via **seminars@mfo.de** until 24 March 2023 to:

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