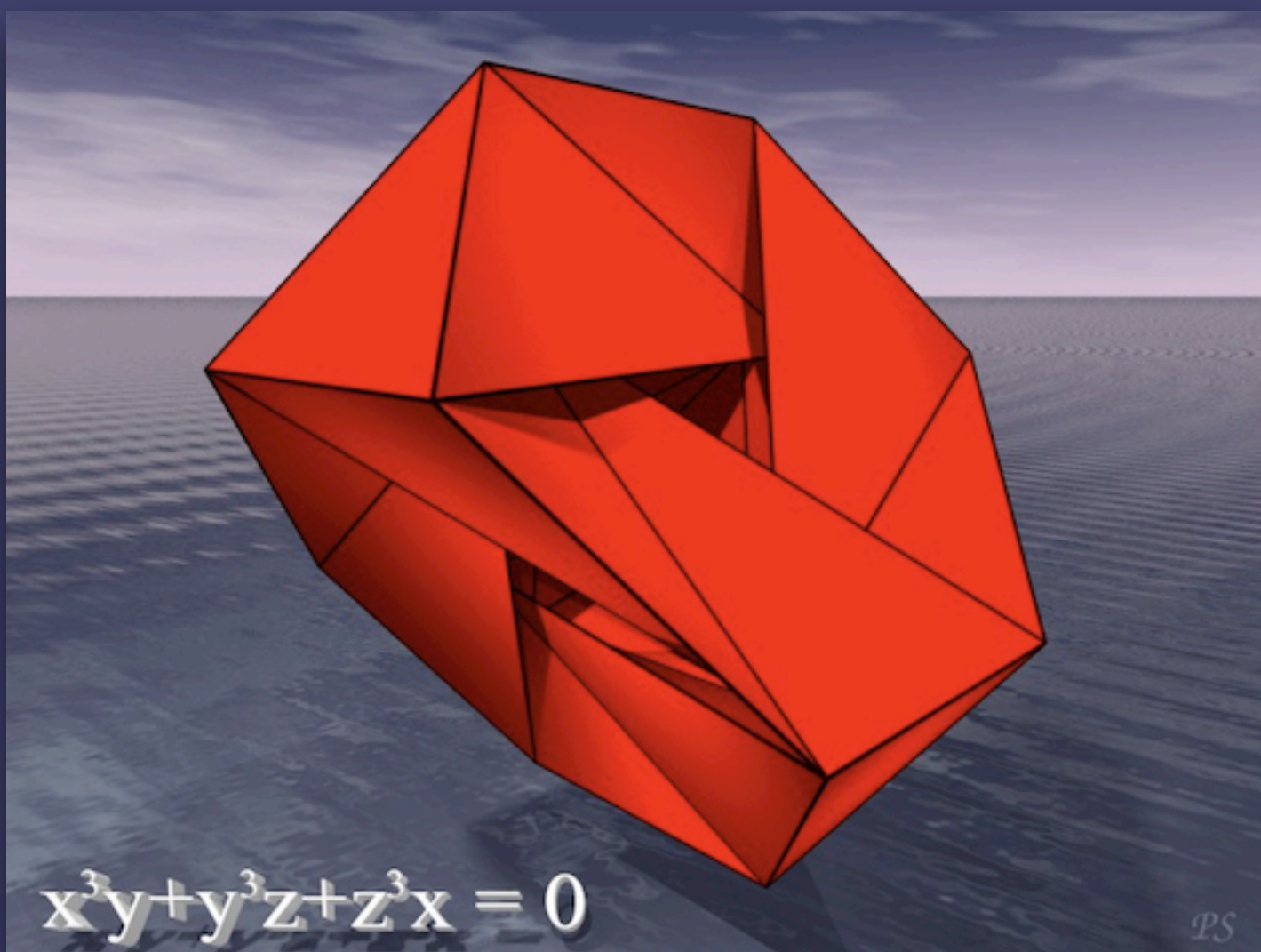


# Rostock Open International Math Seminar

in an open online video form

on topics of Algebra, Geometry, Discrete Math and Optimization



Idea by Jörg M. Wills; Image by Peter Scholl

## June 17th 2020

6am (Berkeley, UTC-7) / 3pm (Berlin, UTC+2) / 9pm (Beijing, UTC+8)

# 3264 Conics in a Second

## Bernd Sturmfels

Director, Max-Planck Institute for Mathematics in the Sciences, Leipzig, Germany  
Professor of Mathematics, Statistics, and Computer Science, University of California at Berkeley

June 17th 2020

3pm (Berlin, UTC+2)

# Rostock Open

international online seminar

## 3264 Conics in a Second

Bernd Sturmfels

Enumerative algebraic geometry counts the solutions to certain geometric constraints. Numerical algebraic geometry determines these solutions for any given instance. This lecture illustrates how these two fields complement each other, especially in the light of emerging new applications. We start with a gem from 19th century geometry, namely the 3264 conics that are tangent to five given conics in the plane. This topic was featured in the January 2020 issue of the Notices of the American Mathematical Society. We conclude with an application in statistics, namely maximum likelihood estimation for linear Gaussian covariance models.

### Free Registration at

<https://us02web.zoom.us/meeting/register/RostockOpen>



**Dr. Bernd Sturmfels** received doctoral degrees in 1987 from the University of Washington and the Technical University Darmstadt, and an honorary doctorate in 2015 from the Goethe University Frankfurt. After postdoctoral years in Minneapolis and Linz, he taught at Cornell University, before joining UC Berkeley in 1995, where he is Professor of Mathematics, Statistics and Computer Science. Since 2017 he is a director at the Max-Planck Institute for Mathematics in the Sciences, Leipzig. In 2018 he became Honorary Professor at Technical University Berlin and University of Leipzig. His awards include a David and Lucile Packard Fellowship, a Clay Senior Scholarship, the SIAM von Neumann Lecturership, the Sarlo Distinguished Mentoring Award, and the George David Birkhoff Prize in Applied Mathematics. He is a fellow of the AMS and SIAM, and a member of the Berlin-Brandenburg Academy of Sciences. Sturmfels mentored 50 doctoral students and numerous postdocs, and he authored ten books and 250 research articles, in combinatorics, commutative algebra, algebraic geometry, and their applications to fields like statistics, optimization, and computational biology.