Contribution ID: **47** Type: **Contributed Talk**

Sylvester forms for pose estimation

Friday, 27 February 2026 09:30 (20 minutes)

Real-time pose estimation is a fundamental challenge in computer vision. It involves finding a rotation and a translation that transforms one set of points into another. This problem is often posed as a non-linear least squares problem, which can be reduced to a homogeneous zero-dimensional polynomial system.
In this talk, we explain how to use resultant matrices to solve the problem in a closed-form, and we show how to exploit Sylvester forms to reduce its complexity.

Affiliation

Inria Centre at Université Côte d'Azur, Johannes Kepler University Linz

Author: VRÁBLÍKOVÁ, Jana (Inria Centre at Université Côte d'Azur, Johannes Kepler University Linz)

Co-authors: MALIS, Ezio (Inria Centre at Université Côte d'Azur); BUSÉ, Laurent (Inria Centre at Université Côte d'Azur)

Presenter: VRÁBLÍKOVÁ, Jana (Inria Centre at Université Côte d'Azur, Johannes Kepler University Linz)

Session Classification: Applied Algebra and Number Theory