

SIMION STOILOW INSTITUTE OF MATHEMATICS OF THE ROMANIAN ACADEMY

**Monthly conference:**

# *Distance geometry and total positivity*

## **Mihai Putinar**

(University of California at Santa Barbara, USA)

**Wednesday, September 28, 2022, 13:00h**

**IMAR, *Miron Nicolescu* amphitheater**

**Abstract:** When the concept of metric space was born, the intrinsic characterization of euclidean distance was the source and motivation of foundational discoveries in harmonic analysis and function theory. We will follow the path of discovery, with emphasis on distance transforms which allow a metric space to isometrically embed into Hilbert space. Later on in this framework, totally positive kernels turned out to play a major and often, unexpected role. We will focus on a single element of this highly dynamic area of current research: the theory of Hirschman-Widder distributions. Natural connections to probability theory, group representations and matrix analysis will enter into discussion. Based on joint work with A. Belton, D. Guillot and A. Khare.