

CAS AMSS-PolyU Joint Laboratory of Applied Mathematics

Distinguished Lecture



Professor Yurii Nesterov

CORE/INMA, Université Catholique de Louvain, Belgium

Optimization, the Philosophical Background of Artificial Intelligence

Abstract

We discuss new challenges in the modern Science, created by Artificial Intelligence (AI). Indeed, AI requires development of a system of new sciences, mainly based on computational models. This process has already started by the recent progress in Computational Mathematics. In this new reality, Optimization plays an important role, helping the other fields in finding tractable models and efficient methods, and significantly increasing their predictive power. We support our conclusions by several examples of efficient optimization schemes related to human activity.

About the speaker

Professor Yurii Nesterov is a professor at Center for Operations Research and Econometrics (CORE) in Catholic University of Louvain (UCL), Belgium. He received Ph.D. degree (Applied Mathematics) in 1984 at Institute of Control Sciences, Moscow. Starting from 1993 he works at CORE.

His research interests are related to complexity issues and efficient methods for solving various optimization problems. The main results are obtained in Convex Optimization (optimal methods for smooth problems, polynomial-time interior-point methods, smoothing technique for structural optimization, complexity theory for second-order methods, optimization methods for huge-scale problems). He is an author of 6 monographs and more than 150 refereed papers in the leading optimization journals. He got several international prizes and recognitions, among them there are:

- Dantzig Prize from SIAM and Mathematical Programming society (2000),
- von Neumann Theory Prize from INFORMS (2009),
- SIAM Outstanding paper award (2014)
- Euro Gold Medal from Association of European Operations Research Societies (2016).
- Member of Academia Europaea (2021) and National Academy of Sciences (USA, 2022).
- Lanchester prize from INFROMS (2022)

In 2023, he received the World Laureates Association Prize Laureate in Computer Sciences or Mathematics.

Date:	27 November 2023 (Monday)
Time:	4pm – 5pm (tea reception at 5pm)
Mode of delivery:	Hybrid mode
Venue:	Y306, Block Y, Lee Shau Kei Building, PolyU
Zoom link:	https://polyu.hk/qkynJ
Meeting ID:	950 9600 3015
Passcode:	1127

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All are welcome