

UNIVERSITÀ DEGLI STUDI DI NAPOLI FEDERICO II

**DOTTORATO DI RICERCA / PhD PROGRAM IN
INFORMATION TECHNOLOGY AND ELECTRICAL ENGINEERING**

Seminar announcement

Tuesday 14 February 2023, Time: 12:30 - 13:30

Room “Sala Riunioni DIETI”, Building 3, Floor 4, DIETI

Via Claudio, 21 - NAPOLI



Prof. Vishal Monga

Pennsylvania State University, USA

EECS Faculty

Algorithm Unrolling: Efficient, Interpretable Deep Learning for Signal and Image Processing

Abstract: The talk will introduce algorithm unrolling, a rigorous and methodical framework for designing efficient, explainable neural networks by leveraging iterative optimization approaches that have long provided the analytical foundations of computational imaging and vision. Two applications will be demonstrated in: 1.) blind image deconvolution, and 2.) in radar waveform design.

Lecturer short bio: Prof. Vishal Monga has been on the EECS faculty at Penn State since Fall 2009. From Oct 2005 July 2009 he was an imaging scientist with Xerox Research Labs. He has also been a visiting researcher at Microsoft Research in Redmond, WA and a visiting faculty at the University of Rochester. He received his PhD from the department of Electrical and Computer Engineering at the University of Texas, Austin. Prof. Monga's research has been recognized via the US National Science Foundation CAREER award. He is also a recipient of the 2019 Penn State Engineering Alumni Society (PSEAS) Outstanding Research Award and the 2022 PSEAS Premier Research Award. For his educational efforts, Dr. Monga received the 2016 Joel and Ruth Spira Teaching Excellence award. He currently serves on the IEEE SAM, Computational Imaging and the Bio-Imaging and Signal Processing Technical Committees (TCs). He was a Technical Directions chair of the IEEE Image Video and Multi-dimensional Signal Processing TC from 2017-19. He has served on many Journal editorial boards in signal and image processing and vision including IEEE TIP, JSTSP, TCSVT, SPL etc. He is a founding editorial member of the open access Frontiers in Signal Processing. In 2022, Dr. Monga was inducted into the National Academy of Inventors; he holds 45 US patents. He is the Editor of the Springer book: Handbook of Convex Optimization Methods in Imaging Science.

For information: Prof. Antonio De Maio (DIETI, UniNA) – antonio.demaio@unina.it (organizer)