The Abdus Salam
International Centre for Theoretical Physics

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60 ICTP
1964–2024

Youth in High Dimensions: Recent Progress in Machine Learning, High-Dimensional Statistics and Inference

Description:

The fifth edition of "Youth in high dimensions" will give to young researchers the opportunity to gather and present recent results on statistical problems, in areas ranging from machine learning and inference to neuroscience or statistical physics.

Typical problems in high-dimensions include estimating noisy signals (compressed sensing, PCA and tensor decomposition), analysing (deep) neural-networks, detecting communities in large networks, or modelling disordered spin systems. These seemingly unrelated problems share many similarities in their phenomenology and in the tools used to analyse them. The core of the field is made of a very active, diverse and quickly expanding community of physicists, computer scientists, mathematicians, information theorists and engineers, with the common desire to tackle increasingly challenging problems at the forefront of data science.

This conference aims at reinforcing the links among this interdisciplinary community, and in particular of its youngest theory-oriented members, and to bring forward the latest development happening in the high-dimensional world.

TOPICS:
- High-dimensional statistics
- Statistical physics
- Machine learning
- Computational neuroscience
- Complex systems
- Machine learning for science
- Statistical inference

SPEAKERS:
A. BODIN, EPFL, Switzerland
N. BOFFI, New York University, USA
S. CHEWI, Institute for Advanced Study, USA
D. CLARK, Columbia University, USA
H. CUI, EPFL, Switzerland
H. DANESHMAND, MIT, USA
F. GUTH, New York University, USA
Z. KADKHODAIE, NYU, USA
Y. LI, Harvard University, USA
O. MONTASSER, UC Berkeley, USA
C. PAQUETTE, McGill University, Canada
H. PINSON, Eindhoven University of Technology, The Netherlands
I. SEROUSSI, Tel-Aviv University, Israel
A. SHEVCHENKO, ISTA, Austria
L. STEPHAN, EPFL, Switzerland
D. TIEPLOVA, ICTP, Italy
F. VARGAS, University of Cambridge, UK
D. WU, New York University, USA
Y. WU, University of Pennsylvania, USA

20 -24 May 2024

Trieste, Italy

Deadlines:
3 March 2024
For applicants requesting financial and/or visa support
31 March 2024
For all other applicants

DIRECTORS:
M. T. GABRIE, École Polytechnique, France
M. MONDELLI, IST, Austria
S. GOLDT, SISSA, Italy

LOCAL ORGANISER:
J. BARBIER, ICTP, Italy

FURTHER INFORMATION:
E-mail: smr3940@ictp.it
Web: http://indico.ictp.it/event/10478/
Female scientists are encouraged to apply.

GRANTS:
A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries.
There is no registration fee.