



The Abdus Salam  
**International Centre  
for Theoretical Physics**



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

## DESCRIPTION:

The seventh edition of “Youth in high dimensions” will give to young researchers the opportunity to gather and present recent results on high-dimensional 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.

## MORE INFORMATION:

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:

S. D. Buchanan  
UC Berkeley, USA  
J. Cohen  
Flatiron, USA  
R. Cosson  
NYU, USA  
Y. Dandi  
EPFL, Switzerland  
C. Domine  
ISTA, Austria  
A. Favero  
Cambridge University, UK  
J. Gaitonde  
Duke University, USA  
A. Koloskova  
Zurich University, Switzerland  
G. Kur  
ETH, Switzerland

C. Lauditi  
Harvard University, USA  
S. Li  
Yale University, USA  
A. Lotfi  
Apple, Switzerland  
P. Marion  
INRIA Paris, France  
E. Nichani  
Princeton University, USA  
L. Noci  
ETH, Switzerland  
R. Skerk  
ICTP, Italy  
N. Tsilivis  
NYU, USA

The students are invited to follow the ceremony for the AI prize, that will be hosted at ICTP on July 23rd



**20 - 23 July 2026**



**Trieste, Italy**



## Applications and Deadlines:

For applicants requesting financial and/or visa support  
**30 April 2026**

For all other applicants  
**9 May 2026**

## DIRECTORS:

E. Cornacchia, Bocconi University, Italy  
S. Goldt, SISSA, Italy  
M. Mondelli, Institute of Science and Technology, Austria

## LOCAL ORGANISER:

J. Barbier, ICTP, Italy

## FURTHER INFORMATION:

E-mail: [smr4227@ictp.it](mailto:smr4227@ictp.it)

Web: <https://indico.ictp.it/event/11153/>

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.



Sponsor

