USI/SUPSI
Istituto Dalle Molle di studi sull'intelligenza artificiale
IDSIA

IBSA FOUNDATION for scientific research

FORUM

How Artificial Intelligence can change the pharmaceutical landscape

WEDNESDAY, OCTOBER 9TH 2019
1.30 p.m. - 5.45 p.m.
LAC Lugano Arte e Cultura - Lugano, Switzerland

Artificial Intelligence (AI) is gaining more and more importance in the pharmaceutical sector, deeply **transforming the drug discovery process**. There are many potential benefits of applying AI techniques to improve the **development of new molecules and the identification of new targets**, cutting R&D costs and time.
In drug discovery, AI helps in **predicting the efficacy and safety of molecules**. It gives researchers a much broader chemical pallet for the selection of the best molecules for drug testing and delivery. In this context, **drug repurposing is another important area** where AI can have a substantial impact. With the extensive amount of clinical and pharmaceutical data available to date, AI algorithms find suitable drugs that can be repurposed for an alternative use in medicine. Moreover, with the help of AI, it becomes easier to run clinical tests, diagnose diseases and provide the **most effective treatment** for a particular disease. As it can interpret test results, AI can also look through various sources including publications to correctly diagnose critical ailments.
New approaches based on AI in the drug discovery process and in the repositioning of old molecules will be presented during this particular Forum. We hope to provide an overview of the sectors where AI might have an impact on the pharmaceutical pipeline and play a **crucial role in the pharmaceutical world** in the coming years.

Chairman: Andrea Danani
IDSIA, USI & SUPSI, Lugano, Switzerland

1.30 p.m. Welcome of IBSA Foundation, IDSIA and Città di Lugano

2.00 p.m. **JUERGEN SCHMIDHUBER**
NNAISENSE Lugano, Switzerland; Swiss AI Lab IDSIA, Manno, Switzerland; USI & SUPSI, Lugano, Switzerland
True Artificial Intelligence for learning robots

2.25 p.m. **ED GRIFFEN**
MedChemica Ltd., Biohub, Alderley Park, Macclesfield, Cheshire, United Kingdom
Emerging challenges for Artificial Intelligence in medicinal chemistry

3.00 p.m. **GIANNI DE FABRITIIS**
ICREA, Barcelona, Spain; Universitat Pompeu Fabra, Barcelona, Spain; Acellera, Barcelona, Spain
Can we machine learn chemistry and drug discovery?

3.25 p.m. Q&A

3.40 p.m. Coffee Break

4.00 p.m. **SEAN EKINS**
Collaborations Pharmaceuticals, Inc., Raleigh, United States of America; UNC Eshelman School of Pharmacy, University of North Carolina at Chapel Hill, Chapel Hill, United States of America
Machine learning for rare and neglected disease drug discovery

4.30 p.m. **ALEX ZHAVORONKOV**
Insilico Medicine, Hong Kong; Buck Institute for Research on Aging, Novato, United States of America; Biogerontology Research Foundation, London, United Kingdom
New small molecule design pipelines utilizing generative models and reinforcement learning accelerate drug discovery

5.05 p.m. **ALESSANDRO CURIONI**
IBM Research Lab, Zurich, Switzerland; Swiss Academy of Engineering Sciences, Zurich, Switzerland
Artificial Intelligence and the future of discovery

5.30 p.m. Q&A with closing remarks

Free registration:
ibsafoundation.org

In collaboration with
Farma Industria Ticino

With the extraordinary participation of
Martin O. DIE STIMME

Further information:
CG MKT info@cgmkt.it