



# 2ND SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS



## DAY 1 AUGUST 23

**15:00 -  
16:20**

Matthias Heinig,  
Helmholtz Zentrum  
München  
(Lecture)

Using machine learning to identify and understand non-coding disease associated genetic variants

**16:30 -  
17:50**

Matthias Heinig,  
Helmholtz Zentrum  
München  
(Seminar)

Using machine learning to identify and understand non-coding disease associated genetic variants

**18:00 -  
19:20**

Asa Ben-Hur,  
Colorado State  
University  
(Lecture)

Graph neural networks for protein 3d structures: from prediction of interactions to assessment of structure and docking solutions.

**19:30 -  
21:00**

Asa Ben-Hur,  
Colorado State  
University  
(Seminar)

Graph neural networks for protein 3d structures: from prediction of interactions to assessment of structure and docking solutions.

# 2ND SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS



## DAY 2 AUGUST 24

**11:00 -  
12:20**

Wesley De Neve,  
Ghent University  
(Lecture)

Deep Learning for Splice Site Detection

**12:30 -  
14:00**

Espoir Kabanga,  
Ghent University  
(Seminar)

Deep Learning for Splice Site Detection

**14:00 -  
15:00**

Lunch break

**15:00 -  
16:20**

Daisuke Kihara,  
Purdue University  
(Lecture)

Machine Learning in Protein Structural  
Bioinformatics: Structure modeling for  
Cryo-EM and protein docking

**16:30 -  
18:00**

Charles W  
Christoffer,  
Purdue University  
(Lecture)

Machine Learning in Protein Structural  
Bioinformatics: Structure modeling for  
Cryo-EM and protein docking

**18:00 -  
18:30**

Allan Campopiano,  
DeepNote  
(Workshop)

How to work in DeepNote?



# 2ND SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS



## DAY 3 AUGUST 25

**11:00 -  
12:20**

Yaron Orenstein,  
Ben-Gurion  
University of the  
Negev  
(Lecture)

Interpretability of deep neural  
networks in genomics

**12:30 -  
14:00**

Yaron Orenstein,  
Ben-Gurion  
University of the  
Negev  
(Seminar)

Interpretability of deep neural  
networks in genomics

**14:00 -  
15:00**

Lunch break

**15:00 -  
16:20**

Evgeny Burnaev,  
Skoltech (Lecture)

Manifold Learning for Predictive  
Modeling in Bioinformatics Applications

**16:30 -  
18:00**

Evgeny Burnaev,  
Skoltech (Seminar)

Manifold Learning for Predictive  
Modeling in Bioinformatics Applications

**18:00 -  
19:00**

Social/Networking  
event

# 2ND SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS



## DAY 4 AUGUST 26

**11:00 -  
12:20**

Vsevolod Makeev,  
MIPT (Lecture)

Bayesian checkpoint segmentation  
and genome annotation

**12:30 -  
14:00**

Vsevolod Makeev,  
Sergei Abramov,  
Alexander Boytsov,  
MIPT (Lecture)

Bayesian checkpoint segmentation  
and genome annotation

**14:00 -  
15:00**

Lunch break

**15:00 -  
16:20**

José Miguel  
Hernández Lobato,  
University of  
Cambridge  
(Lecture)

Machine Learning for Molecule Data

**16:30 -  
18:00**

José Miguel  
Hernández Lobato,  
University of  
Cambridge  
(Seminar)

Machine Learning for Molecule Data

**18:00 -  
19:20**

Shankai Yan,  
National Institutes of  
Health (Lecture)

Biomedical text mining and its  
application

**19:30 -  
21:00**

Shankai Yan,  
National Institutes of  
Health (Seminar)

Biomedical text mining and its  
application

# 2ND SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS



## DAY 5 AUGUST 27

**11:00 -  
12:20**

Sebastian  
Lapuschkin,  
Heinrich Hertz  
Institute (Lecture)

XAI beyond Explaining: Using  
Explainability for Improving Deep  
Machine Learning Models

**12:30 -  
14:00**

Maria Poptsova,  
Nazar Beknazarov  
HSE University  
(Lecture)

Deep learning for predictions of DNA  
secondary structures

**14:00 -  
15:00**

Lunch break

**15:00 -  
16:30**

Alexander Misharin,  
Northwestern  
University (Lecture)

Introduction to single-cell genomics  
and related machine learning  
methods

**17:00 -  
18:00**

Ramana Davuluri,  
Stony Brook  
University  
(Lecture)

DNABERT: pre-trained Bidirectional  
Encoder Representations from  
Transformers model for DNA-language  
in genome By

**18:00 -  
18:30**

Yanrong Ji and  
Zhihan Zhou, Stony  
Brook University  
(Seminar)

DNABERT: pre-trained Bidirectional  
Encoder Representations from  
Transformers model for DNA-language  
in genome By