

SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS

SCHEDULE, DAY 1 (24/08)

**10:45 -
11:00**

Opening words by Maria Poptsova (HSE University, Russia)

**11:00 -
12:30**

Lecture by Yaron Orenstein (Ben-Gurion University of the Negev, Israel) on Convolutional neural networks for protein-DNA/RNA binding

**12:45 -
14:15**

Seminar by Yaron Orenstein and Maor Asif (Ben-Gurion University of the Negev, Israel) on Convolutional neural networks for protein-DNA/RNA binding

**14:15 -
15:00**

Lunch break

**15:00 -
16:30**

Lecture by Maria Poptsova (HSE University, Russia) on Deep learning for DNA secondary structure prediction

**16:45 -
18:15**

Seminar by Maria Poptsova and Nazar Beknazarov (HSE University, Russia) on Deep learning for DNA secondary structure prediction

**18:15 -
19:00**

Virtual Tour - Moscow and HSE

SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS

SCHEDULE, DAY 2 (25/08)

**10:40 -
11:00**

Morning chat with tea/coffee

**11:00 -
12:30**

Lecture by Wesley De Neve (Ghent University, Belgium) on Deep learning for splice site prediction

**12:45 -
14:15**

Seminar by Espoir Kabanga and Wesley De Neve (Ghent University, Belgium) on Deep learning for splice site prediction

**14:15 -
15:00**

Lunch break

**15:00 -
16:30**

Lecture by Michael Bronstein (Imperial College London, UK) on Geometric deep learning: theory, method, and applications in biological sciences

**16:45 -
18:15**

Seminar by Aleksandra Galitsyna (Skoltech, Russia) on Learning about the genome in 3D: challenges and opportunities

**18:15 -
19:00**

Virtual Tour - Moscow and HSE

SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS

SCHEDULE, DAY 3 (26/08)

**10:40 -
11:00**

Morning chat with tea/coffee

**11:00 -
12:30**

Lecture by Evgeny Burnaev (Skoltech, Russia) on Deep generative models for knowledge transfer

**12:45 -
14:15**

Seminar by Anna Kuzina and Evgeny Egorov (Skoltech, Russia) on Deep generative models for knowledge transfer

**14:15 -
15:00**

Lunch break

**15:00 -
16:30**

Lecture by José Miguel Hernández Lobato (University of Cambridge, UK) on Advances in machine learning for molecules

**16:45 -
18:15**

Seminar by John Bradshaw (University of Cambridge, UK) on Advances in machine learning for molecules

**18:15 -
19:00**

Social event "How did I come to bioinformatics?"

SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS SCHEDULE, DAY 4 (27/08)

**10:40 -
11:00**

Morning chat with tea/coffee

**11:00 -
12:30**

Lecture by Ka-Chun Wong (City University of Hong Kong) on Disruptive AI technologies for molecular biology and medicine: DNA motifs, CRISPR-Cas9 Off-Targets, and cancer screening from blood

**12:45 -
14:15**

Seminar by Shixiong Zhang (City University of Hong Kong) on Practical Hands-on Experience for Disruptive AI Technologies: DNA Motifs, CRISPR-Cas9 Off-Targets, and Cancer Screening from Blood

**14:15 -
15:00**

Lunch break

**15:00 -
16:30**

Lecture by Vsevolod Makeev (MIPT, Russia) on Bayesian checkpoint segmentation and genome annotation

**16:45 -
18:15**

Seminar by Vsevolod Makeev, Sergei Abramov, Alexander Boytsov (MIPT, Russia) on Bayesian checkpoint segmentation and genome annotation

SUMMER SCHOOL ON MACHINE LEARNING IN BIOINFORMATICS

SCHEDULE, DAY 5 (28/08)

**10:40 -
11:00**

Morning chat with tea/coffee

**11:00 -
12:30**

Lecture by Matthias Heinig (Helmholtz Zentrum München, Germany) on Using machine learning to understand gene regulation and the consequences of disease associated genetic variants

**12:45 -
14:15**

Seminar by Matthias Heinig (Helmholtz Zentrum München, Germany) on Using machine learning to understand gene regulation and the consequences of disease associated genetic variants

**14:15 -
15:00**

Lunch break

**15:00 -
16:30**

Lecture by Wojciech Samek (Fraunhofer Heinrich Hertz Institute, Germany) on Interpretable and explainable deep learning

**16:45 -
17:15**

Closing words by Maria Poptsova (HSE University, Russia)