

# DANEMO Symposium

## DYNAMICS AND MODELLING OF BIOLOGICAL SYSTEMS

25.-26. January 2024, University of Copenhagen, Denmark

### Programme DAY 1 - Thursday 25 January 2024

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11:00 – 12:00 Registration with coffee, lunch and poster hang up

12:00 – 12:20 **WELCOME & INTRODUCING EMBL, EMBO AND DANEMO**

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*Chair: Kaare Teilum, DANEMO, University of Copenhagen*

Vice dean of research Lise Arleth, Uni. of Copenhagen

Kaare Teilum, DANEMO

12:20 – 13:45 **SESSION 1: CELLULAR DYNAMICS AND DEVELOPMENT I**

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*Chair: Mogens Høgh Jensen, University of Copenhagen*

12:20 – 12:55 Metabolic entrainment of developmental timing

**Alexander Aulehla, Developmental Biology Unit, EMBL Heidelberg**

12:55 – 13:20 Dynamics and droplets in DNA damage response

**Mathias Spliid Heltberg, Niels Bohr Institute, Uni. of Copenhagen**

13:20 – 13:45 Computational tools to improve our understanding of the biological basis of complex traits

**Doug Speed, Center for Quantitative Genetics and Genomics, Aarhus Uni.**

13:45 – 14:45 Coffee and poster session

14:45 – 16:50 **SESSION 2: CELLULAR DYNAMICS AND DEVELOPMENT II**

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*Chair: Mogens Høgh Jensen, University of Copenhagen*

14:45 – 15:20 Break to build: exploring the role of fracture in morphogenesis

**Alejandro Torres-Sanchez, Tissue Biol. and Disease Model., EMBL Barcelona**

15:20 – 15:55 Cellular polarity and regulation of biological shapes

**Kim Sneppen, Niels Bohr Institute, University of Copenhagen**

15:55 – 16:30 A single-cell view of rising temperature during embryogenesis

**Michael Dorrity, Structural and Computational Biol., EMBL Heidelberg**

16:30 – 16:45 Break

16:45 – 17:55 **SESSION 3: METABOLOMICS**

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*Chair: Jakob Knudsen, University of Copenhagen*

16:45 – 17:20 Identification of novel signaling metabolites in humans by metabolic profiling

**Nils Færgeman, Dep. of Biochem. and Mol. Biol., Uni. of Southern Denmark**

17:20 – 17:55 Spatial single-cell metabolomics reveals metabolic cell states

**Theodore Alexandrov, Struct. and Comput. Biol., EMBL Heidelberg**

19:00 – 21:00 Dinner at Sebastopol, Sankt Hans Torv 32, Copenhagen



# DANEMO Symposium

## DYNAMICS AND MODELLING OF BIOLOGICAL SYSTEM

### Programme DAY 2 - Friday 26 January 2024

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#### 09:00 – 10:30 SESSION 4: ECOLOGY AND ECOSYSTEM MODELLING

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*Chair: Michael Kuhl, University of Copenhagen*

9:00 – 9:30

Cellular hotspots of variation

**Detlev Arendt, EMBL Heidelberg, TREC**

9:30 - 10:00

Tentative: A macrogenomic perspective of mammalian biodiversity, ecology and evolutionary history

**Juraj Bergman, University of Aarhus**

10:00 – 10:30

Refining model realism of biological systems under climate change by integrating multiple scales of observations

**Jing Tang, Department of Biol., Uni. of Copenhagen**

10:30 – 10:45

**Break**

10:45 – 12:35

#### SESSION 5: EMBO FELLOWS

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*Chair: Gerd Seibold, Danish Technical University*

10:45 – 11:10

Selective cell targeting through logic-gated protein trans-splicing

**Christian Kofoed, Princeton Uni., EMBO fellow**

11:10 – 11:35

Measuring mouse behavior: Dissection of circuits for motor control

**Jared Cregg, Dept Neurosci., Uni. Of Copenhagen, EMBO fellow**

11:35 – 12:35

**Lunch and posters**

12:35 – 14:45

#### SESSION 6: MICROBIOLOGY I

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*Chair: Xu Peng, University of Copenhagen*

12:35 – 13:10

Investigating composition, spatial organisation and function of microbial communities associated with colorectal cancer

**Georg Zeller, Structural and Comput. Biol., EMBL Heidelberg**

13:10 – 13:45

Changes to the major RNA pools of *E. coli* during adaptation to nutrient starvation

**Sine Lo Svenningsen, Department of Biol., Uni. of Copenhagen**

13:45 – 14:15

Spatiotemporal dynamics of bacteria-phage interactions

**Namiko Mitarai, Niels Bohr Institute, Uni. of Copenhagen**

14:15 – 14:30

**Break**

14:30 – 16:15

#### SESSION 7: MICROBIOLOGY II

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*Chair: Michael Toft Overgaard, DANEMO, Aalborg University*

14:30 – 15:05

Electron cross-feeding between bacteria and archaea

**Amelia-Elena Rotaru, Uni. of Southern Denmark**

15:05 – 15:40

Microflora Danica: Uncovering biogeography and functional potential of methanotrophs across Denmark

**Kalinka Sand Knudsen, Uni. of Aalborg**

15:40 – 16:15

Data science for illuminating microbial dark matter

**Katja Hose, TU/Wien**

16:15 – 16:30

#### POSTER PRIZE AND CLOSING REMARKS

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