

## Program

### *Sunday, 2 August 2015, Day of Arrival*

Krogerup Højskole is open from 15:00 (3 pm). Dinner from 18:00-19:00 (6-7 pm)

### *Monday, 3 August 2015*

Time	Speaker
9:00-9:25	G. V. Shivashankar "Geometric Control of Genome Programs"
9:25-9:50	Susanna Manrubia "Viral war games: When evolution defeats imagination"
9:50-10:15	Ricard Sole "Major synthetic transitions"
10:15-11:15	Coffee Break
11:15-11:40	Madan Babu TBA
11:40-12:05	Lone Simonsen: "From smallpox to Ebola: pandemics, epidemics and unanswered quantitative issues"
12:05-15:00	Lunch
15:00-15:25	Kenn Gerdes "Magic Spot, Stochasticity and Bacterial Multidrug Tolerance"
15:25-15:50	Stefan Klumpp: "On the evolution of bacterial persistence"
15:50-16:40	Coffee Break
16:40-17:05	Ken Dill "Simple models of cell mechanisms and a search for optimization principles."
17:05-17:30	Alexandra Walczak "Optimal immune repertoires"
17:30-20:00	Dinner
20:00-	Poster session (Posters will be on display all time)

*Tuesday, 4 August 2015*

9:00-9:25	Martin Howard "Self-organized equal spacing of intracellular cargo: the plasmid parABC system in <i>E. coli</i> "
9:25-9:50	Guido Tiana "Structure and function in chromatin domains"
9:50-10:15	Joel Stavans "A day in the life and development of a one-dimensional organism"
10:15-11:15	Coffee Break
11:15-11:40	Kunihiko Kaneko "Theory of Biological Robustness and Plasticity: Fluctuation and Response in Adaptation and Evolution"
11:40-12:05	Anne Grapin-Botton "Modelling differentiation decisions during mouse organogenesis"
12:05-15:00	Lunch
15:00-15:25	Sanjai Jain "Growth-division dynamics and global regulation in bacteria"
15:25-15:50	Marc Hutt "Network-enhanced interpretation of gene expression profiles"
15:50-16:40	Coffee Break
16:40-17:05	Jordi Garcia-Ojalvo "Spatiotemporal selforganization of bacterial populations"
17:05-17:30	Jeroen van Zon "Variability and robustness in <i>C. elegans</i> development"
17:30-20:00	Dinner
20:00- 20:50	Short talks (8 min+2 min question) <ol style="list-style-type: none"> <li>1. Parth Pandey "Bacterial cell size and growth rate"</li> <li>2. Cecilia Loevkist "Spatial Collaboration Between CpG Sites Can Provide Methylation Patterning and Epigenetic Memory"</li> <li>3. Hong-Yan Shih "Emergence of Rapid Evolution from Demographic Stochasticity"</li> <li>4. Takashi Shimada "A complexity-robustness relation of evolving open systems"</li> <li>5. Florian Uekermann "Cross immunization and ageing of old influenza strains"</li> </ol>

*Wednesday, 5 August 2015*

9:00-9:25	Nigel Goldenfeld "Models of Early Life"
9:25-9:50	Tamas Czaran "The RNA World and the wake of life on Earth"
9:50-10:15	Jan Haerter "The assembly rules and how stable food webs can evolve"
10:15-11:15	Coffee Break
11:15-11:40	Martin Ackermann "Microbial strategies in uncertain environments"
11:40-12:05	Ala Trusina "Asymmetric Damage Segregation: when stress and history matter"
12:05-15:00	Lunch
15:00-15:25	Stefan Bornholdt TBA
15:25-15:50	Sergei Maslov "Models of Growth in Collapsing Environments: Kill-the-Winner, Kill-the-Loser, and Kill-the-King"
15:50-16:40	Coffee Break
16:40-17:05	Leihan Tang "Sequential pattern formation as a front instability problem"
17:05-17:30	Mateo Marsili "The importance of being critical"
17:30-20:00	Dinner
20:00-20:50	Short talks (8min+2min questions) <ul style="list-style-type: none"> <li>1. Vaibhav Sinha "Optimal Strategies in Competing Bacterial Viruses"</li> <li>2. Tetsuhiro Hatakeyama "Reciprocity between robustness of period and plasticity of phase"</li> <li>3. Simon Van Vliet "The Influence of Cell-Cell Interactions on Cellular Decision Making in Bacteria"</li> <li>4. Masayo Inoue "Network design principles and response sensitivity of components"</li> <li>5. Victor Olariu "Nanog, Oct4 and Tet1 interplay in establishing pluripotency"</li> </ul>

*Thursday, 6 August 2015*

Time	Speaker
9:00-9:25	Ulrich Gerland "A physical analysis of nucleosome positioning"
9:25-9:50	Henrik Jönsson "Understanding Development: a Computational Morphodynamics approach"
9:50-10:15	Mario Nicodemi "The large scale features of chromosome organization in the cell nucleus"
10:15-11:15	Coffee Break
11:15-11:40	Joachim Mathiesen "Cyclic interaction and diversity in ecosystems"
11:40-12:05	Tatsuo Shibata "Scaling of the dorsal-ventral patterning in Xenopus embryo"
12:05-16:15	Extended break
16:15–16:40	Marco C. Lagomarsino "Cell-size fluctuations and cell cycle control in E. coli"
16:40-17:15	Joachim Krug "Adaptive walks and evolutionary accessibility"
17:05-17:30	Simone Pigolotti TBA
17:30-	Conference Dinner

Workshop & Summer School Models of Life, Krogerup Højskole, 2 – 8 August 2015

*Friday, 7 August 2015*

Time	Speaker
9:00-9:25	No talk
9:25-9:50	Erwin Frey TBA
9:50-10:15	Michael Laessig "Sex or simplicity: evolutionary limits to microbial complexity"
10:15-11:15	Coffee Break
11:15-11:40	Vincent Hakim "Progressive DNA methylation and Luria-Delbrück processes"
11:40-12:05	Erik Aurell "Against maxentropy"
12:05-15:00	Lunch
15:00-15:25	Steen Pedersen "A tale about Goldilocks and Gene expression in Bacteria (at least in <i>E. coli</i> )"
15:25-15:50	Kim Christensen "Simple Model for Atrial Fibrillation"
15:50-16:40	Coffee Break
16:40-17:05	Genevieve Thon "Establishment of chromatin domains"
17:05-17:30	Sandeep Krishna "Diversity in bacteria-virus ecosystems is facilitated by weak defences against viruses"
17:30-	Dinner / Bonfire with drinks?

*Saturday 8 August 2015, Day of Departure*

	Breakfast
	Departure latest at 11:00