5th International Synthetic & Systems Biology Summer School – SSBSS 2018

Certosa di Pontignano - Siena, Tuscany, Italy

25–29 July 2018

Final Version

Arrival: Tue, July 24, 2018

	Wed, 25 July	Thu, 26 July	Fri, 27 July	Sat, 28 July	Sun, 29 July
08:00 – 09:00	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
09:00 – 09:50	**Ron Weiss**	**Pam Silver**	**Patrick Yizhi Cai**	**John Glass**	**Dagmar Iber**
09:50 – 10:40	**Jens Nielsen**	**Philipp Holliger**	**Barbara Di Ventura**	**Jonathan Karr**	**Dagmar Iber**
10:40 – 11:10	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
11:10 – 12:00	**Jens Nielsen**	**Pam Silver**	**Barbara Di Ventura**	**Harris Wang**	**Simonetta Lisi**
12:00 –12:50	**Ron Weiss**	**Philip Holliger**	**Patrick Yizhi Cai**	**John Glass**	Oral Session IV
12:50 – 14:30	Lunch	Lunch	Lunch	Lunch	Lunch
14:30 – 15:20	**Andrea Califano**	**Kelly V. Ruggles**	**Laura Riva**	**Jonathan Karr**	
15:20 – 16:10	**Andrea Califano**	**Matteo Barberis**	**Laura Riva**	**Harris Wang**	
16:10 – 16:40	Coffee break	Coffee break	Coffee break	Coffee break	
16:40 – 17:30	**Velia Siciliano**	**Kelly V. Ruggles**	**Rodrigo Ledesma-Amaro**	**Cristina Di Primio**	Social Tour & Dinner in Siena
17:30 – 18:20	**Emanuele Giordano**	**Laura Marchetti**	**Barbara Di Camillo**	**Simone Furini**	
18:20 – 19:40	Poster Session	Oral Session I	Oral Session II	Oral Session III	
19:40 – 21:30	Group Photo & Welcome Cocktail	Dinner	Dinner	Dinner	

Departure: Mon, July 30, 2018

REGISTRATION — Registration Desk
The registration desk will be located close to the Main Conference Room.
Upon registration at the desk, you will receive your badge, vouchers, and summer school materials. To facilitate the process please bring with you your registration confirmation. You are kindly requested to wear your name badge during all events of the conference.

SSBSS 2018 is a full-immersion course on cutting-edge advances in systems and synthetic biology. The school provides a stimulating environment for doctoral students, early career researches and industry leaders. The school will be lectured by world-renowned experts of synthetic and systems biology including:

WiFi Name: Silver (it is an open Wi-Fi); if you have login and password you can use Eduroam.

Oral Sessions I, II, III & IV

The SSBSS 2018 Talks are exactly 20 minutes long: approximately 15 minutes for the talk + 5 minutes for the questions.

July 26, 18:20 – 19:40, **Oral Session I**

18:20 – 18:40 ***Multi-input chemical control over cellular processes with computationally designed proteins***
Glenna Foight
University of Washington – Seattle, USA

18:40 – 19:00 ***Synthetic circuits to explore parameter space of network motifs in plant development***
Edith Pierre-Jerome, Philip N. Benfey
Duke University, Durham, NC 27708, USA;

19:00 – 19:20 ***Predicting gene expression levels from transcription factor binding events through machine learning***
Christoph Börlin, David Bergenholm, Petter Holland and Jens Nielsen
Chalmers University of Technology, Gothenburg, Sweden

19:20 – 19:40 ***Impact of microRNAs on cellular burden***
Federica Cella
University of Genoa
Italian Institute of Technology, Italy

July 27, 18:20 – 19:40, **Oral Session II**

18:20 – 18:40 ***Identification of novel variants of EAT1 and SNF8 for low ethyl acetate production by pooled segregant QTL analysis in absence of ATF1***
Sylvester Holt
VIB - KU Leuven, Belgium

18:40 – 19:00 ***Implementation of microtubule and ESCRT filaments for designing a minimal artificial cell***
Johannes Kattan
TU Delft, Netherlands

19:00 – 19:20 ***A metabolic engineering approach to improve ethanol production from dairy waste by optimized Escherichia coli***
Davide De Marchi
Università degli studi di Pavia, Italy

19:20 – 19:40 ***Capturing Spatiotemporal Patterns in Cell Differentiation by Local Cell-Cell Communication Modeling***
Irene Zorzan
Università degli Studi di Padova, Italia

July 28, 18:20 – 19:40, **Oral Session III**

18:20 – 18:40 Multi-scale dynamical modelling of early T-cell precursors commitment
Victor Olariu Annell[1], Mary Yui[2], Pawel Krupinski[1], Wen Zhou[2], Ellen Rothenberg[2], Carsten Peterson[1]
[1] *Computational Biology and Biological Physics, Lund University, Sweden*
[2] *Division of Biology and Biological Engineering, Caltech, USA*

18:40 – 19:00 ***Proteome-wide docking-based identification of biomolecular targets of small chemical molecules with multiple scoring functions and pathway analysis***
Jung-Hsin Lin
Research Center for Applied Sciences and Institute of Biomedical Sciences, Academia Sinica, Taiwan

19:00 – 19:20 ***Towards Cell-Free Expression of a Minimal Divisome in Liposomes***
Jonas Noguera Lopez
Delft University of Technology, Netherlands

19:20 – 19:40 ***Evolution of Methylobacterium extorquens strains for use as chassis strains of bio-production***
Sophia Belkhelfa
Commissariat à l'Energy Atomique, Genoscope, France

July 29, 12:00 – 12:50, **Oral Session IV**

12:00 – 12:20 ***Identification of novel therapeutic target tissues with antisense technologies***
Nina Haxgart, Lars Jønson and Mads Aaboe Jensen
Roche Innovation Center Copenhagen, Denmark

12:20 – 12:40 ***Modeling, Design and Engineering of Allosteric Regulatory Mechanisms Mediated by Molecular Chaperones in Signal Transduction Networks: An Integrative Platform of Computational Systems Biology, Network Science and Machine Learning Approaches***
Gennady Verkhivker1,2, Steve Agajanian1, Nathaniel Bischoff1, Lindy Astl1, Simrath Ratra1, Kristin Blacklock1,3
1 Department of Biomedical and Pharmaceutical Sciences, Schmid College of Science & Technology and School of Pharmacy, Chapman University, One University Drive, Orange CA 92866, USA
2 Department of Pharmacology, University of California San Diego, 9500 Gilman Drive, San Diego CA 92093, USA
3 Department of Chemistry and Chemical Biology, Center for Integrative Proteomics Research, Rutgers University, Piscataway NJ, USA

12:40 – 13:00 ***How to Improve Mycoplasma Growth: Study of Mycoplasma pneumoniae Metabolism through Genome-Scale Modeling***
Erika Gaspari
Wageningen University & Research, The Netherlands