WEDNESDAY, 14 SEPTEMBER 2016

16:00    Registration and Distribution of Conference Material

19:00    Dinner

__________________________________________________________

20:30 - 21:30    Opening Address and Keynote

Chair:    Mike Fainzilber, Weizmann Institute of Science, Israel

WELCOME REMARKS

GENES INFLUENCING METABOLISM AND SIZE
Inês Barroso, Wellcome Trust Sanger Institute, UK

21:30    Opening Mixer

THURSDAY, 15 SEPTEMBER 2016

__________________________________________________________

08:30 - 10:40    Session I

__________________________________________________________

SIZE REGULATION WITHIN CELLS

Chair:    Jan M. Skotheim, Stanford University, USA

08:30    REGENERATION OF PROPORTIONAL STRUCTURES IN THE CILIATE STENTOR COERULEUS
Wallace F. Marshall, University of California San Francisco, USA

09:00    THE SIZE OF THE EB CAP DETERMINES INSTANTANEOUS MICROTUBULE STABILITY
Thomas Surrey, The Francis Crick Institute, UK

09:30    ON SPINDLE LENGTH AND SHAPE
Simone Reber, Humboldt-Universität zu Berlin, Germany
08:30 - 10:40  Session I (cont.)

09:50  GEOMETRIC ASYMMETRY INDUCES UPPER LIMIT OF MITOTIC SPINDLE SIZE
Hongyuan Jiang, University of Science and Technology of China, China

10:10  NUCLEAR SIZE CONTROL IN FISSION YEAST
Helena Cantwell, The Francis Crick Institute, UK

10:30  Flash Talks:

THE ROLE OF NUCLEAR TO CYTOPLASMIC RATIO IN CONTROL OF THE SPINDLE LENGTH
Martin Anger, Masaryk University and Central European Institute of Technology - Veterinary Research Institute, Czech Republic

ESTIMATION OF SINGLE-CELL PARAMETERS FROM A DISTRIBUTION OF BACTERIAL SIZE
Míriam R. García, CSIC, Spain

ASYMMETRIC CELL DIVISION ACTUATED BY ALTERED minCDE PATTERNING AT HIGH EXPRESSION LEVEL ENABLES CELL SIZE REGULATION IN E. COLI
Jie-Pan Shen, Academia Sinica, Taiwan

10:40  Coffee Break
CELL SIZE REGULATION IN BACTERIA

Chair: Petra A. Levin, Washington University, USA

11:10 CELL SIZE AND SHAPE CONTROL IN BACTERIA
Christine Jacobs-Wagner, Yale University, USA

11:40 SIMULTANEOUS REGULATION OF SIZE AND DNA REPLICATION IN BACTERIA: IS CELL SIZE DRIVER OR PASSENGER?
Ariel Amir, Harvard University, USA

12:10 STOCHASTICITY AND KEY STEPS OF CELL-CYCLE HOMEOSTASIS
Marco Cosentino Lagomarsino, Sorbonne Universités, Université Pierre and Marie Curie and CNRS, France

12:30 TRIGGERING REPLICATION AT A FIXED VOLUME IN E. COLI
Johan Elf, Uppsala University, Sweden

12:50 Flash Talks:

GLOBAL REGULATION BY CELL DIVISION: THE ORIGIN OF BALANCED GROWTH AND HOMEOSTASIS IN CELLS AND PROTOCELLS
Parth Pratim Pandey, University of Delhi, India

CROSS SPECIES COMPARISONS SINGLE SINGLE-CELL GROWTH TRAJECTORIES, AND PHYSIOLOGICAL TRADEOFFS
Christopher Kempes, Santa Fe Institute, USA

THE BIOCHEMISTRY OF INFORMATION AT THE G2/M TRANSITION
James Patterson, The Francis Crick Institute, UK

A FEEDBACK BETWEEN GROWTH AND POLARITY IN FISSION YEAST
Armin Haupt, Institut Jacques Monod, France

13:10 Lunch
CELL SIZE REGULATION IN YEAST

Chair: Sophie G. Martin, University of Lausanne, Switzerland

17:00 DETERMINANTS OF YEAST CELL SIZE IN INDIVIDUAL CELLS AND FOR A CELL POPULATION
Edda Klipp, Humboldt-Universität zu Berlin, Germany

17:30 ON THE BIOSYNTHETIC MECHANISM COUPLING CELL GROWTH TO DIVISION AT G1/S
Jan M. Skotheim, Stanford University, USA

18:00 CELL SIZE AND CELL GROWTH IN BUDDING YEAST
Naama Barkai, Weizmann Institute of Science, Israel

18:30 MODULATION OF CELL SIZE AT COMPLETION OF MITOSIS IN BUDDING YEAST
Douglas R. Kellogg, University of California, USA

18:50 A CONSERVED SIGNALING PATHWAY COORDINATELY CONTROLS CELL GROWTH AND SIZE
Rafael Lucena, University of California, USA

19:10 Dinner
THURSDAY, 15 SEPTEMBER 2016 (cont.)

20:30 - 22:10 Session IV

CELL SIZE REGULATION IN BACTERIA II

Chair: Christine Jacobs-Wagner, Yale University, USA

20:30 DECONSTRUCTING CELL SIZE CONTROL INTO PHYSIOLOGICAL MODULES IN BACTERIA
Suckjoon Jun, UC San Diego, USA

21:00 FAT MAKES BACTERIA FATTER: FLUX THROUGH LIPID SYNTHESIS LINKS BACTERIAL SIZE TO NUTRIENT AVAILABILITY
Petra A. Levin, Washington University, USA

21:30 RELATIVE RATES OF SURFACE AND VOLUME SYNTHESIS SET BACTERIAL CELL SIZE
Leigh Harris, Stanford University, USA

21:50 BACTERIAL GROWTH FACTORS: MYCOPLASMA PNEUMONIAE AS A MODEL ORGANISM
Carolina Gallo Lopez, Barcelona Institute of Science and Technology and Universitat Pompeu Fabra (UPF), Spain

22:10 Bar and poster viewing with informal discussions
08:30 - 10:15 Session V

CELL SIZE REGULATION IN HIGHER EUKARYOTES

Chair: Wallace F. Marshall, University of California San Francisco, USA

08:30 COORDINATION BETWEEN CELL SIZE, CELL CYCLE AND ORGAN PATTERNING IN PLANTS
Robert Sablowski, John Innes Centre, UK

09:00 MECHANICS OF VOLUME REGULATION IN EUKARYOTIC CELLS
Sean X. Sun, Johns Hopkins University, USA

09:20 COORDINATION OF CELL CYCLE PROGRESSION AND CELL GROWTH IN ANIMAL CELLS TO MAINTAIN SIZE HOMEOSTASIS
Clotilde Cadart, Institut Curie, France

09:40 ANIMAL CELLS MODULATE CELLULAR GROWTH RATES AND CELL CYCLE PROGRESSION TO MAINTAIN UNIFORMITY OF CELL SIZE
Miriam Ginzberg, The Hospital for Sick Children, Canada and Harvard Medical School, USA

10:00 Flash Talks:

A BIOINFORMATICS APPROACH TO FIND NOVEL CELL SIZE REGULATORS IN ARABIDOPSIS AND HUMAN
Zoltan Dul, King’s College London, UK and Fondazione Edmund Mach, Italy

CELLULAR ALLOMETRY OF MITOCHONDRIAL FUNCTIONALITY ESTABLISHES THE OPTIMAL CELL SIZE
Teemu Miettinen, UCL, London, UK and MIT, USA

ROLE OF A SCAFFOLD RhoGAP, BPGAP1, IN CONTROLLING CELL SIZE AND PROLIFERATION
Catherine Qiu Rong Pan, National University of Singapore, Singapore
FRIDAY, 16 SEPTEMBER 2016 (cont.)

10:15  Coffee Break

10:45 - 12:45  Session VI

SIGNALING FOR CELL SIZE REGULATION

Chair:  Thomas Surrey, The Francis Crick Institute, UK

10:45  mTOR SIGNALING IN GROWTH AND METABOLISM
Michael N. Hall, University of Basel, Switzerland

11:15  ACTING LOCALLY TO GROW GLOBALLY - LOCALIZED MECHANISMS IN CELL SIZE REGULATION
Mike Fainzilber, Weizmann Institute of Science, Israel

11:45  HOW DOES CELL POLARITY AFFECT CELL SIZE? A STORY INVOLVING THE CENTROSONAL PROTEIN TBCCD1
Helena Soares, Universidade de Lisboa, Portugal and Escola Superior de Tecnologia da Saúde de Lisboa, Portugal

12:05  MECHANISMS COORDINATING CELL SIZE WITH CELL CYCLE IN ANIMAL CELLS
Shixuan Liu, The Hospital for Sick Children and University of Toronto, Canada

12:25  Flash Talks:

RESPONSE TO NUTRIENTS VIA TOR REQUIRES COORDINATION OF GATA-DEPENDENT TRANSCRIPTION WITH INTACT VESICLE-MEDIATED TRANSPORT MACHINERY
Charalampos Rallis, University of East London, and University College London, UK

DECIPHERING THE ROLE OF A STRESS-DEPENDENT MAP KINASE IN THE CONTROL OF THE CELL SIZE
Clàudia Salat-Canela, Universitat Pompeu Fabra, Spain
NOVEL FUNCTIONS FOR NIK LINK REGULATION OF CELL SIZE, MITOCHONDRIAL DYNAMICS AND INVASION  
Raquel Sitcheran, Texas A&M Health Science Center, USA

12:45 Lunch

14:30 Poster Session II

CELL SIZE REGULATION IN YEAST II

Chair: Martin Howard, John Innes Centre, UK

17:00 REGULATION OF CELL DIVISION POSITION BY THE DYRK-FAMILY KINASE Pom1  
Sophie G. Martin, University of Lausanne, Switzerland

17:30 IMPACT OF GROWTH AND CELL SIZE ON FISSION YEAST GENE EXPRESSION IN SINGLE CELLS  
Samuel Marguerat, Imperial College London, UK
17:00 - 18:30  Session VII (cont.)

17:50  NODAL Cdr2 DENSITY ACTS AS A SENSOR OF MEMBRANE AREA FOR CELL SIZE CONTROL IN FISSION YEAST
       Giuseppe Facchetti, John Innes Centre, UK

18:10  CELL SIZE HOMEOSTASIS AND VARIABILITY IN THE FISSION YEAST SCHIZOSACCHAROMYCES POMBE
       Matthew Swaffer, The Francis Crick Institute, UK

18:30  Dinner

20:30 - 22:00  Round Table

DEBATE AND DISCUSSION SESSION: HOW TO DEFINE A CELL SIZE REGULATOR?

Introductions and moderation:  Jürg Bähler, University College London, UK
                              Ran Kafri, The Hospital for Sick Children, Canada

22:00  Bar and poster viewing with informal discussions
Saturdays, 17 September 2016

08:30 - 10:30 Session VIII

**CELL SIZE REGULATION IN HIGHER EUKARYOTES II**

Chair: Casper Hoogenraad, Utrecht University, Netherlands

08:30 ON GROWTH AND PROLIFERATION - MITOCHONDRIA AND ANIMAL CELL SIZE
Mikael Björklund, University of Dundee, UK

09:00 A MECHANISM OF CELL SIZE REGULATION AND ITS READOUT GOVERNED BY LARGEN
Kazuo Yamamoto, Nagasaki University School of Medicine, Japan

09:30 SIZER OR TIMER? - ON THE REGULATION OF CELL SIZE HOMEOSTASIS IN MAMMALIAN CELLS
Min Wu, National University of Singapore, Singapore

09:50 INDEPENDENT CONTROL OF TORC1 ACTIVITY AND INSULIN RECEPTOR FEEDBACK BY A NOVEL LIPID KINASE
Raghu Padinjat, National Centre for Biological Sciences, India

10:10 CELL SIZE-DEPENDENT REGULATION OF ZYGOTIC GENOME ACTIVATION
Matthew Good, University of Pennsylvania, USA

10:30 Coffee Break
11:00 - 13:10  Session IX

SIZE AND GROWTH CONTROL IN THE NERVOUS SYSTEM

Chair: Nic Tapon, Francis Crick Institute, UK

11:00  DIRECTING NEURONAL PI3K GROWTH SIGNALING TO WHERE IT IS NEEDED
Britta Eickholt, Charité - University Medicine Berlin, Germany

11:30  MECHANISMS OF AXON FORMATION: MICROTUBULE REMODELING AND MOTOR ACTIVITY
Casper Hoogenraad, Utrecht University, Netherlands

12:00  VISCERAL MOTOR NEURON DIVERSITY DELINEATES A CELLULAR BASIS FOR NIPPLE - AND PILO-ERECITION MUSCLE CONTROL
Patrik Ernfors, Karolinska Institutet, Sweden

12:30  MICROCEPHALY AND CELL SIZE
Angela M. Kaindl, Charité - University Medicine Berlin, Germany

12:50  UNDERSTANDING COORDINATION OF TISSUE GROWTH AND CELL CYCLE DYNAMICS IN THE ZEBRAFISH RETINAL NEUROEPITHELIUM
Marija Matejic, Max Planck Institute of Molecular Cell Biology and Genetics, Germany

13:10  Lunch
SATURDAY, 17 SEPTEMBER 2016 (cont.)

14:30 - 16:30 Session X

TISSUE AND ORGAN SIZE REGULATION

Chair: Patrik Ernfors, Karolinska Institutet, Sweden

14:30 TISSUE GROWTH CONTROL BY THE HIPPO SIGNALLING PATHWAY
Nic Tapon, Francis Crick Institute, UK

15:00 HIPPO PATHWAY IN CELL GROWTH, ORGAN SIZE, AND TUMORIGENESIS
Kun-Liang Guan, University of California San Diego, USA

15:30 THE ROLE OF HIPPO SIGNALING IN THE REGULATION OF ORGAN AND CELL SIZE
Doaa Megahed, Harvard Medical School, USA

15:50 COLLECTIVE GROWTH IN A SIMPLE MULTICELLULAR STRUCTURE
Jasmin Imran Alsous, Princeton University, USA

16:10 CELLULAR HYPERTROPHY IS A MAJOR CONTRIBUTOR TO POSTNATAL GROWTH OF PANCREAS AND LIVER IN RODENTS BUT NOT HUMANS
Miri Stolovich-Rain, The Hebrew University - Hadassah Medical School, Israel

16:30 Coffee break
SATURDAY, 17 SEPTEMBER 2016 (cont.)

17:00 - 19:00 Closing Session

KEYNOTE AND BUSINESS MEETING

Chair: Britta Eickholt, Charité - University Medicine Berlin, Germany

17:00 Keynote: SIZE AND SCALE IN PHOTOGRAPHY, PHILOSOPHY AND SCIENCE Andrew Fisher, Goldsmiths, University of London, UK

18:00 BUSINESS MEETING EMBO feedback forms, discussion, future meetings

20:00 Farewell Dinner

SUNDAY, 18 SEPTEMBER 2016

Departures

Optional tour of Berlin