

SCIENTIFIC PROGRAMME

Monday, September 11, 2017

10.00 – 2.00 Registration at Evangelische Akademie Tutzing

SET UP POSTERS

12.30 LUNCH

2.00 THOMAS C. G. BOSCH, THOMAS W. HOLSTEIN, ULI TECHNAU

Welcome to “The diversification of early emerging metazoans: a window into bilaterian origins?”

Cell type evolution

(CHAIR: Celina Juliano, UC Davis)

2.15 D Arendt (Heidelberg): The cell-type complement in sponges – elucidating metazoan cell type interrelationships

2.35 M Gibson (Kansas): Epithelial origins: a cellular perspective on animal evolution

2.55 T Holstein (Heidelberg): The hydra cadherin 2.0 – cell type evolution highlighted by a cell adhesion molecule

3.15 T Domazet-Loso (Zagreb): The evolution of multicellular complexity-lessons from biofilms

3.30 COFFEE

4.00 U Technau (Vienna): Insights into the evolution of muscles through the transcriptomes of two cnidarian muscle cell types

4.20 H Marlow (Paris): The genomic basis of cell type diversity in *Nematostella*

4.35 C Nishimiya-Fujisawa (Tsukuba): Regeneration and cloning of germ stem cells in *Hydra*

4.50 E Pukhlyakova (Vienna): beta-catenin dependent mechanotransduction dates back to the common ancestor of Cnidaria and Bilateria

5.05 Y Moran (Jerusalem): Transcriptomic and functional analyses of sea anemone cnidocytes reveal novel and ancient aspects of their biology

5.20 S Rolfes (Hannover): Evolution of the Myc/Max transcription factor network: insights from *Trichoplax*

5.35 RELAX AND ENJOY THE PARK

6.30 DINNER

EVENING SESSION I

Stem cells

(Monika Hassel, Marburg)

8.00 R Revilla (Vienna): The evolutionary origin of stem cells- characterizing sponge stem cells

8.15 C Juliano (Davis): Somatic piwi-piRNA pathway function in hydra regeneration

8.30 B Hobmayer (Innsbruck): A beta catenin-myc link and interstitial stem cell dynamics in hydra

8.45 U Frank (Galway): Slow cycling PIWI+ cells re-enter the cell cycle in response to injury in *Hydractinia*

9.00 T Dubuc (Galway): Understanding the molecular program of sexual development in *Hydractinia*

9.30 KNOW ABOUT EACH OTHER IN THE BAR

Tuesday, September 12, 2017

Genomes

(CHAIR: Toshi Fujisawa, Japan)

- 8.30 R DeSalle (New York): The Trichoplax sp. genome
- 8.45 M Eitel (Munich): Taxogenomics: More than Trichoplax
- 9.00 R Copley (Villefranche): The genome of Clytia
- 9:15 R Steele (Irvine): A genomic view of the genus Hydra

Phylogenomics and Genome Regulation

(CHAIR: Oleg Simokov, Vienna)

- 9.30 COFFEE
- 10.00 G Wörheide (Munich): On model adequacy in phylogenomics
- 10.15 D Miller (Townsville): Coral genomes and methylomes – towards next generation coral biology
- 10.30 S Galande (Pune): Gene regulatory networks and epigenetic events during head organizer formation in hydra
- 10.45 S Gomik (Galway): Abundant 6mA methylation during early embryogenesis in Hydractinia
- 11.00 I Cooke (Townsville): Using proteogenomics to discover short proteins in animal genomes
- 11.15 J Wiedenmann (Southampton): Color polymorphism in reef corals: multi-copy genes and balancing selection as drivers of diversification?
- 11.30 RELAX AND ENJOY THE PARK
- 12.30 LUNCH

Pattern formation and signaling I

(CHAIR: Masha Broun, Toronto)

- 2.00 M Adamska (Canberra): Body plan patterning in sponges – Wnts, TGF betas and beyond
- 2.20 N Funayama (Kyoto): Mechanisms that produce phenotypic developmental plasticity in sponges
- 2.35 A Böttger (Munich): Notch signalling and the hydra head organizer
- 2.50 G Genikovich (Vienna): A novel modulator of BMP signalling in a sea anemone
- 3.05 D Holz (Marburg): Regulation of actomyosin complexes by FGFR signaling during bud detachment in hydra
- 3.20 K Keren (Haifa): Actomyosin force generation directs Hydra regeneration
- 3.35 COFFEE

Regeneration and signaling II

(CHAIR: Yulia Kraus, Moscow)

- 4.00 E Röttinger (Nice): Regeneration is a partial redeployment of the embryonic regulatory network
- 4.15 S Gufler (Innsbruck): beta-catenin acts in a position-independent regeneration response in Hydra
- 4.30 R Suizuki (Kyoto): Symmetry breaking of regenerating hydra tissue
- 4.45 S Peron (Villefranche): Organ regeneration in Clytia
- 5.00 M Lommel (Heidelberg): The Cnidarian Wnt code: Deciphering early Wnt ligand-receptor interactions
- 5.15 P Steinmetz (Bergen): Insights into the molecular basis of nutrient homeostasis in the sea anemone *Nematostella vectensis*

5.30 P Cartwright (Kansas): Non-clonal colonality: a unique form of colony development in the hydrozoan Ectopleura

5.45 RELAX AND ENJOY THE PARK

6.30 DINNER

EVENING SESSION II

INVITED LECTURE

(CHAIR: THOMAS C.G. BOSCH, Kiel)

8.00 Alejandro Sanchez Alvarado (Kansas) "The reproductive and developmental plasticity of planarians"

9.00 KNOW ABOUT EACH OTHER IN THE BAR

Wednesday, September 13, 2017

Nervous system evolution and function

(CHAIR: Paola Pierobon, Naples)

8.30 C Grimmelikhuijzen (Copenhagen): Cnidarian nervous systems

8.45 H Watanabe (Okinawa): Semi-centralized nervous system of the sea anemone Nematostella

9.00 M Layden (Lehigh): Investigating development and regeneration of Nv LWamide-like neurons in Nematostella

9.15 F Rentzsch (Bergen): Neurogenesis in Nematostella involves different types of neural progenitor cell populations

9.30 COFFEE

Nervous system evolution and function II

(CHAIR: Charles David, Munich)

10.00 D Fasshauer (Lausanne): Evolution of the neuronal secretion apparatus

10.20 H Shimizu (KAUST): Peduncle and head nervous system of hydra share common ancestral origin with central nervous systems of bilaterians

10.40 A Klimovich (Kiel): Tracing the ancestral pacemaker cell

11.00 E Houliston (Villefranche): Neural control of oocyte maturation and spawning in Clytia

11.20 M Hatta (Ochanomizu U): Unique gravitactic behaviour in the swimming of planulae of the coral Acropora

11.35 S Dam Nielsen (Copenhagen): Learning in the box jellyfish Tripedalia

11.50 RELAX AND ENJOY THE PARK

12.30 LUNCH

The Cnidarian Holobiont

(CHAIR: Mathew Nicotra, Pittsburgh)

- 2.00 T Bosch (Kiel): The emerging concept of the holobiont
- 2.20 S Fraune (Kiel): Impact of microbes on Hydra development
- 2.35 T Lachnit (Kiel): The Hydra Virome
- 2.50 P Deines (Kiel): Competing forces maintain the Hydra metaorganism
- 3.05 S Vargas (Munich): Pre-Cambrian origin of the sponge holobiont

3.20 COFFEE

4.45 – 8.00 **BOAT EXCURSION AND BAVARIAN BUFFET
ON STARNBERGER SEE**

8.00 – 10.00 **POSTER PRESENTATIONS**
(WITH WINE AND BEER)

Thursday, September 14, 2017

Symbiosis, stress and allorecognition

(CHAIR: Suat Özbek, Heidelberg)

- 8.30 A Guse (Heidelberg): Resolving the molecular mechanisms of intracellular coral-algal symbiosis using Aiptasia as a model
- 8.50 M Hamada (Okayama): Interactions and coevolution of symbiosis: comparative genome analysis of green hydra and the symbiotic Chlorella
- 9.10 O Levy (Bar-Ilan): Symbiotic algae enslave the cnidarian biological clock to their own rhythm

9.30 COFFEE

- 10.00 A Moya (Townsville): Tissue-specific transcriptome profiling to gain insights into symbiosis and calcification in scleractinian corals
- 10.15 R Dnyansagar (Vienna) Cross-Atlantic Relationship of a parasitic Cnidarian
- 10.30 S Sanders (Pittsburgh): Investigating the in vivo function of Hydractinia allorecognition using CRISPR/CAS9 genome editing
- 10.45 A Huene (Pittsburgh): The Hydractinia allorecognition complex is gene rich

11.00 POSTER PRIZE AWARDS sponsored by Elsevier (ZOOLOGY) & Wiley (BIOESSAYS)
GENERAL DISCUSSION AND CONCLUDING REMARKS

Take down posters!

12.30 LUNCH

DEPARTURE