

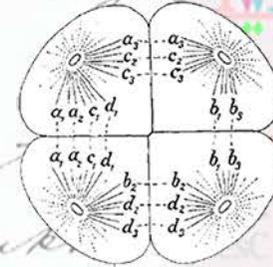
FROM BOVERI TO DAVIDSON

Embryological approaches to genomic function



Anton, Juni 1902

Das klassische Objekt der experimentellen Zell-
forschung ist die dicke zu Vertheilung der
Constitutionen. Bedeutend ist die
Experimente an den Punkten
bestanden bisher ausschließ-
lich man aus einer ganz den ganz
und die Folgen eines Feh-
ein ähnliches Verhalten
Tier zur Erforschung
den Kopf bruchide. Es wurde
zellen herzustellen, deren nur einzel-
malen Kerns fehlen, genauer:
Kernelemente, die
kernistisch hervortreten. Dies



Meeting Organizers

Maria Ina Arnone

Stazione Zoologica Anton Dohrn

Silvia Caianiello

Istituto per la storia del pensiero filosofico e scientifico moderno

Andrew Cameron

California Institute of Technology

Ute Deichmann

Jacques Loeb Center for History and Philosophy of Science

Ellen Rothenberg

California Institute of Technology

Exhibit Organizers

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Stazione Zoologica Anton Dohrn
Villa Comunale 80121, Naples - Italy

27-28 February, 2017



During the meeting, an Exhibit will be displayed in the Fresco Room:
Theodor Boveri at the Naples Zoological Station

AGENDA

Monday, February 27th, 2017

SESSION 1 – NAPLES, BOVERI AND THE SEA URCHIN EMBRYO

- 2.30 PM **“... the marvelous freedom to research what one finds interesting”**: Theodor Boveri at the Naples Zoological Station
Christiane Groeben, formerly Stazione Zoologica Anton Dohrn
- 3.00 PM **Microscope slides recount Boveri's successes and failures**
Ulrich Scheer, University of Würzburg
- 3.30 PM **A Neapolitan sea urchin tale: from dispermic embryos to gene regulatory networks**
Maria Ina Arnone, Stazione Zoologica Anton Dohrn
- 4.00 PM Coffee break - Foyer

SESSION 2 - GENE REGULATION IN DEVELOPMENT AND EVOLUTION

- 4.30 PM **Dynamic patterning by the Drosophila pair-rule network: Reconciling long-germ and short-germ segmentation**
Michael Akam, University of Cambridge
- 5.00 PM **Transcriptional and posttranscriptional gene regulation in the sea anemone Nematostella vectensis**
Ulrich Technau, Vienna University
- 5.30 PM **Visualization and evolution of developmental enhancers**
Michael Levine, Princeton University
- 6.00 PM **'In-cis' and 'In-trans' constraints during development and evolution**
Denis Duboule, Université de Genève

EXHIBIT - THEODOR BOVERI AT THE NAPLES ZOOLOGICAL STATION

- 7.00 PM Exhibit opening - Fresco Room
- 7.30 PM Dinner buffet – Fresco Room

Tuesday, February 28th, 2017

SESSION 3 – FROM BOVERI TO DAVIDSON: 100 YEARS OF MECHANISTIC RESEARCH

- 9.00 AM **Passion, critique, and mechanistic biology. Jacques Loeb and Eric Davidson**
Ute Deichmann, Jacques Loeb Center for History and Philosophy of Science

- 9.30 AM **Homologies in Boveri's and Davidson's experimental-mechanistic philosophy**
Silvia Caianiello, Institute for the History of Philosophy and Science in Modern Age (CNR)
- 10.00 AM **From embryology to genes and genomes: some difficulties met between 1930 and 1980**
Michel Morange, Ecole Normale Supérieure
- 10.30 AM Coffee break – Fresco Room

SESSION 4 - FROM THE REGULATORY GENOME TO GENE REGULATORY NETWORKS

- 11.00 AM **The Boverian and Davidsonian roots of Developmental Evolution**
Manfred Laubichler, Arizona State University
- 11.30 AM **Genomics through the eyes of Eric Davidson**
Andrew Cameron, California Institute of Technology
- 12.00 AM **Emergence of a morphogen gradient: the evolution of dorsoventral axis formation in insects**
Siegfried Roth, University of Cologne
- 12.30 PM Lunch buffet – Fresco Room
- 2.30 PM **Gene regulatory networks: principles for embryonic specification vs. stem-cell based specification of lymphocytes**
Ellen Rothenberg, California Institute of Technology
- 3.00 PM **Gene regulatory networks describing blood and cardiovascular development**
Roger Patient, University of Oxford
- 3.30 PM Coffee break - Fresco Room

SESSION 5 - EVOLUTIONARY NOVELTIES: A MOVING FRAMEWORK

- 4.00 PM **The interplay of genetics and plasticity in the origin of a novel cell type identity**
Gunter P. Wagner, Yale University
- 4.30 PM **The topology of developmental novelties and the construction of phenotypic space**
Douglas Erwin, Smithsonian National Museum of Natural History

MEMORIES, STORIES, TESTIMONIES

- 5.00 PM Open Mic
- 6.00 PM Closing remarks
- 8.00 PM Dinner - Restaurant Umberto