



20 Years  
Institute for Theoretical Biology



# The Future of Theoretical Biology

July 13 -14, 2017

## Thursday, July 13th

- 9:00 **Welcome addresses**  
Representatives of Humboldt-Universität zu Berlin
- 9:15 **Introductory remarks**  
Peter Hammerstein, ITB
- 9:30 **Keynote: In search of phenomenological models**  
Stanislas Leibler, Rockefeller University, USA
- 10:30 Break
- 11:00 **Trigger waves in cellular regulation**  
James Ferrell Jun. III, Stanford University, USA
- 12:00 **Microeconomics exposes an unseen in eye design**  
Simon Laughlin, University of Cambridge, UK
- 13:00 Lunch
- 15:00 **Keynote: Males exist. Does it matter?**  
Hanna Kokko,  
University of Zurich, Switzerland
- 16:00 Break
- 16:30 **How low can you go: Vocal evolution in vertebrates**  
Tecumseh Fitch, University of Vienna, Austria
- 17:15 **How we learn to localize sound - an unsolved problem**  
Catherine Carr,  
University of Maryland, College Park, USA
- 18:00 **Controlling variability to drive learning**  
Adrienne Fairhall,  
University of Washington, Seattle, USA
- 19:00 **Evening program** (Location: ITB - new building)  
**Celebrating the ITB's 20th anniversary and the 60th birthday of Hanspeter Herzel**

### Organizing committee

Peter Hammerstein, Hanspeter Herzel,  
Richard Kempter, Susanne Schreiber

## Friday, July 14th

- 9:00 **Introductory remarks**  
Andreas Herz, LMU, Munich
- 9:15 **Keynote: Have we been barking up the wrong tree? Neural networks revamped**  
Christian Machens,  
Champalimaud Centre for the Unknown, Lisbon, Portugal
- 10:00 **Computational Neuroscience goes wild**  
Jan Benda, University of Tübingen
- 10:25 Break
- 10:55 **Too hot to stay cool: A neuronal mechanism of pathological synchronization**  
Susanne Schreiber, Humboldt University, Berlin
- 11:20 **Heart attacks can give you theoretical biology: Dynamics and geometry of cardiac arrhythmias**  
Christian Zemlin,  
Old Dominion University, Norfolk, VA, USA
- 11:45 **Epigenetics meets mathematics: Beyond memory**  
Leonie Ringrose, Humboldt University, Berlin
- 12:10 Lunch
- 14:15 **Can you see all the bees?**  
Katarzyna Bozek,  
Okinawa Institute of Science and Technology, Japan
- 14:40 **Are we ready for synthesizing life?**  
Ilka Axmann, University of Düsseldorf
- 15:05 **Why most women don't smoke (yet)**  
Ed Hagen, Washington State University, Vancouver, USA
- 15:30 Break
- 16:00 **A different kind of animal**  
Robert Boyd, Arizona State University, Tempe, USA
- 17:00 **Keynote: The origins of the pro-social ape**  
Joan Silk, Arizona State University, Tempe, USA
- 19:00 **Evening program** (Location: ITB - new building)  
**Summer Party on the occasion of Peter Hammerstein's formal but not mental retirement**

Foto: Karin Winkhöfer 2012

Symposium Location:  
Kaiserin-Friedrich-Stiftung  
Robert-Koch-Platz 7  
10115 Berlin-Mitte



For registration e-mail to Eric Reifstein before July 10th (eric.reifstein.1@hu-berlin.de). Participation is free but we need your registration. For details, please visit:  
<https://itb.biologie.hu-berlin.de/events/twentieth>  
Phone: 0049 30 2093-98401

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