



University  
of Basel

**BIOZENTRUM**

The Center for  
Molecular Life Sciences

# Biozentrum Lectures

Navigating the cellular landscape with new  
imaging approaches

## Jennifer Lippincott-Schwartz

Eugene Kennedy Shriver National Institute of Child Health and  
Human Development, National Institutes of Health,  
Bethesda, Maryland, USA

Monday,  
23 November 2015,  
4.15 pm



**Jennifer Lippincott-Schwartz** is Distinguished NIH Investigator and Chief of the Section on Organelle Biology in the Cell Biology and Metabolism Branch of the NICHD. She studied Biology at Stanford University and obtained her PhD in Biochemistry at Johns Hopkins University in 1986. After four years post-doctoral training at the National Institutes of Health (NIH) in Bethesda, Maryland, she established her own lab at the NIH. Using live cell imaging approaches, Jennifer Lippincott-Schwartz studies the spatio-temporal behavior and dynamic interactions of molecules in cells. In 2008 she was elected to the National Academy of Sciences and in 2010, she was awarded the Pearse Prize of the Royal Microscopy Society.

## Jennifer Lippincott-Schwartz: Navigating the cellular landscape with new imaging approaches

Emerging visualization technologies are playing an increasingly important role in the study of numerous aspects of cell biology, capturing processes at the level of whole organisms down to single molecules. While developments in probes and microscopes are dramatically expanding the areas of productive imaging, there are still significant roadblocks. Primary challenges include fluorophore bleed-through, which limits the number of fluorophores that can be simultaneously imaged, as well as imaging speeds that are too slow, and finally labeling densities that are too low for deciphering fine subcellular architecture. New imaging methods can overcome these roadblocks and help clarify subcellular organelle dynamics.

We combine cutting edge microscopy techniques to visualize several organelles such as the endoplasmic reticulum (ER), the lysosome or the mitochondria simultaneously within cells. This allows us to track these organelles through time and analyze their inter-organelle contacts. Furthermore, we employ different imaging technologies to visualize organelle dynamics at very high temporal-spatial resolution. Examining the ER, we could observe that the peripheral ER sheets represent a complex meshwork of tightly cross-linked ER tubules.

In the Biozentrum Lecture Jennifer Lippincott-Schwartz will focus on new imaging approaches and on possible roles of the complex ER structural organization for diverse cellular functions.

23 November 2015, 4.15 pm,  
Hörsaal 1, Pharmazentrum,  
Klingelbergstrasse 50/70, Basel

# Biozentrum Lectures series: last five speakers

## **Venki Ramakrishnan**

Nobel Prize Laureate  
MRC Laboratory of Molecular Biology, Cambridge

## **Jürgen A. Knoblich**

Senior Scientist and Deputy Scientific Director, Institute of Molecular  
Biotechnology, Austrian Academy of Sciences, Vienna

## **F. Ulrich Hartl**

Director of the Department of Cellular Biochemistry  
Professor, Max Planck Institute of Biochemistry, Martinsried

## **Elizabeth Blackburn**

Nobel Prize Laureate  
Professor, University of California, San Francisco

## **Andrej Sali**

Vice Chair, Department of Bioengineering and Therapeutic Sciences  
Professor, University of California, San Francisco

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