University of Basel

BIOZENTRUM
The Center for Molecular Life Sciences

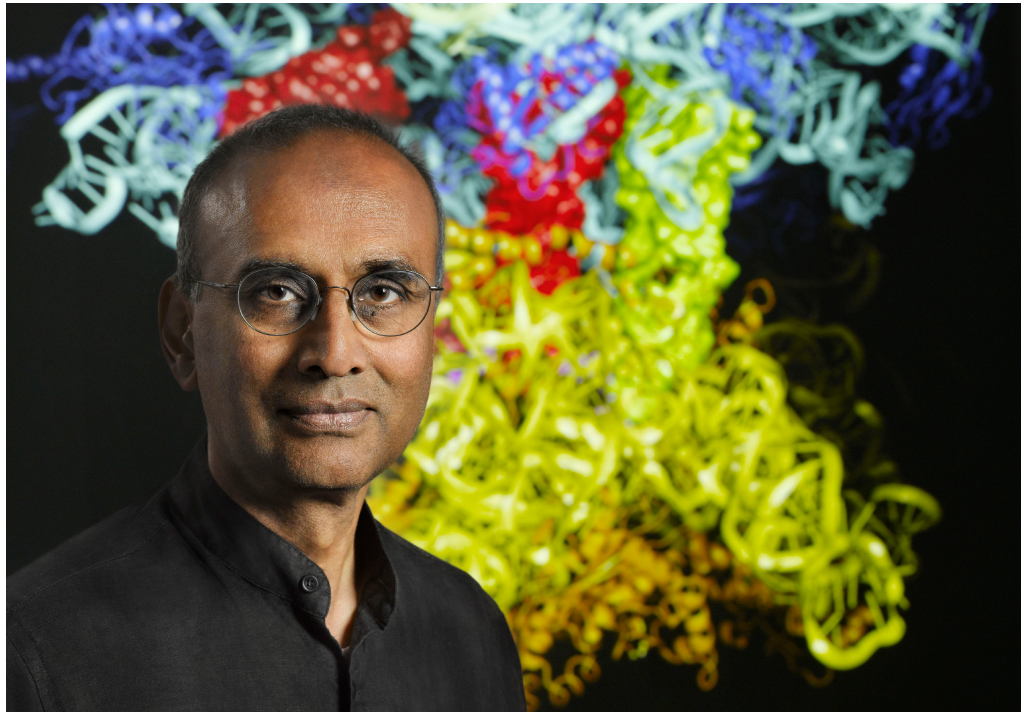
Biozentrum Lectures

The Ribosome – How stop codons are recognized during translation

Venki Ramakrishnan

Nobel Prize Laureate
Professor, MRC Laboratory of Molecular Biology
Cambridge, UK

**Tuesday,
13 October 2015,
6.15 pm**



Venki Ramakrishnan is a group leader and Deputy Director at the MRC Laboratory of Molecular Biology in Cambridge, UK. He obtained a PhD in physics from Ohio State University in 1976 before moving into biology. As a Postdoc at Yale University he began to work on ribosomes, his lifelong interest. In 1995, he became Professor in Biochemistry at Utah University. Four years later, he moved to his current position at the MRC. Venki Ramakrishnan studies ribosomes by combining biochemical analysis with structure determination. He revealed the first structure of a small ribosomal subunit and key principles of ribosome function. For his outstanding scientific achievements he was awarded numerous prizes, including the Louis Jeantet Prize for Medicine, 2007, the Sir Hans Krebs Medal, 2012,and the Nobel Prize in Chemistry, 2009.

Venki Ramakrishnan: The Ribosome – How stop codons are recognized during translation

Ribosomes are the large molecular machines that translate genetic information into functional proteins. Since the elucidation of the atomic structures of the ribosomal subunits over 15 years ago, a goal of the community has been to visualize the ribosome trapped in various stages of translation. An important aspect of this is termination, in which one of three stop codons enters the A site of the ribosome and is recognized by release factors. We began our studies on termination almost 10 years ago with bacterial ribosomes.

However, eukaryotic termination is different, with a single evolutionarily unrelated release factor able to recognize all three stop codons. We have used recent advances in electron microscopy to determine the structure of a eukaryotic release factor in the act of recognizing all three stop codons to elucidate the differences between eukaryotic and bacterial translational termination.

13 October 2015, 6.15 pm,
Hörsaal 1, Pharmazentrum,
Klingelbergstrasse 50/70, Basel

Biozentrum Lectures series: last five speakers

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 Bioengeneering and Therapeutic Sciences
Professor, University of California, San Francisco

James E. Rothman

Chairman, Department of Cell Biology
Professor, Department of Chemistry, Yale University

For more information
www.biozentrum.unibas.ch/biozentrum-lectures/