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[\[Academics\] Academia Sinica Lecture Series Nobel Laureate Dr. Ada E. Yonath to Lecture in Taipei](#)[\[Academics\] Academia Sinica Lecture Series Nobel Laureate Dr. Ada E. Yonath to Lecture in Taipei \(Chinese Version\)](#)

Academia Sinica Newsletter (2012/03/02) Dr. Ada E. YONATH, one of the three 2009 Nobel Laureates in Chemistry, will deliver two keynote speeches at Academia Sinica and National Taiwan University on March 6 and 7, respectively. The lectures are entitled "Is there a Limit to Life Expectancy? Wishes, Predictions and Reality" and "From Basic Research to Advanced Antibiotics".

Dr. YONATH is currently the Kimmel Professor of Structural Biology at the Weizmann Institute of Science and the Director of the Kimmelman Center for Biomolecular Structure and Assembly in Israel. In 2009, she received the Nobel Prize in Chemistry along with Dr. Venkatraman RAMAKRISHNAN and Dr. Thomas A. STEITZ for her studies on the structure and function of the ribosome, becoming the first Israeli woman to win the Nobel Prize out of ten Israeli Nobel laureates, the first woman from the Middle East to win a Nobel prize in the sciences, and the first woman to win the Nobel Prize for Chemistry since 1964.

Prof. YONATH is an Israeli crystallographer best known for her pioneer work on the structure of the ribosome. She uses X-ray crystallography supported by molecular biology, mutagenesis and biophysical methods to investigate protein biosynthesis. Over the last three decades, Professor YONATH has focused her research on the ribosome, the cellular particle translating the genetic code into proteins. She has looked at the origin of the ribosome and its inhibition by antibiotics. Professor YONATH deciphered the structure and mechanism of action of ribosomes.

Dr. YONATH focuses on the mechanisms underlying protein biosynthesis using ribosomal crystallography, a research line she pioneered over twenty years ago despite considerable skepticism from the international scientific community. Ribosomes translate RNA into protein and because they have slightly different structures in microbes, when compared to eukaryotes, such as human cells, they are often a target for antibiotics. She determined the complete high-resolution structures of both ribosomal subunits and discovered within the otherwise asymmetric ribosome, the universal symmetrical region that provides the framework and navigates the process of polypeptide polymerization. Consequently she showed that the ribosome is a ribozyme that places its substrates in stereochemistry suitable for peptide bond formation and for substrate-mediated catalysis. Two decades ago she visualized the path taken by the nascent proteins, namely the ribosomal tunnel, and recently revealed the dynamics elements enabling its involvement in elongation arrest, gating, intra-cellular regulation and nascent chain trafficking into their folding space.

Her findings are crucial for developing advanced antibiotics. "These models are now used by scientists in order to develop new antibiotics, directly assisting the saving of lives and decreasing humanity's suffering," the Nobel Prize academy said.

The Academia Sinica Lecture series, launched in 2009, is organized by President Chi-Huey WONG and sponsored by the Foundation for the Advancement of Outstanding Scholarship in an effort to build on the spirit of research and free exchange of scholarly knowledge. Invitation to speak as an Academia Sinica Lecturer is extended to top scholars from around the world and represents the highest lecture in Academia Sinica. Dr. Roger Yonchien TSIEN and Dr. Roger D. KORNBERG, respectively the Nobel Laureates in Chemistry in 2008 and 2006, and Dr. James D. WATSON who received the Nobel Prize for Physiology or Medicine in 1962, have been previous Academia Sinica Lecturers.

Lecture Information:

Lecture A (Online registration: <http://iao.sinica.edu.tw/ASL/index.html>)

Title: Is There a Limit to Life Expectancy? Wishes, Predictions and Reality

Time: 15:00 – 16:30

Date: Tuesday, March 6, 2012

Venue: International Conference Hall, 3F, Humanities and Social Sciences Building, Academia Sinica, No.128, Sec.2, Academia Road, Nangang District, Taipei City

Speaker: Dr. Ada E. YONATH, the Kimmel Professor of Structural Biology at Weizmann Institute of Science and the Director of the Kimmelman Center for Biomolecular Structure and Assembly, Israel

Moderator: Dr. Chi-Huey Wong, President, Academia Sinica

Lecture B

Title: From Basic Research to Advanced Antibiotics

Time: 10:20 – 12:00

Date: Wednesday, March 7, 2012

Venue: Song-Pei Lecture Hall, Department of Chemistry, National Taiwan University, No.1, Sec.4, Roosevelt Road, Da'an District, Taipei City

Speaker: Dr. Ada E. YONATH, the Kimmel Professor of Structural Biology at the Weizmann Institute of Science and the Director of the Kimmelman Center for Biomolecular Structure and Assembly, Israel

Moderator: Dr. Dr. Si-Chen LEE, President, National Taiwan University

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Further Information:

[Academia Sinica Newsletter 2012/03/02](#)

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