

MOSCOW STATE UNIVERSITY

INSTITUTE OF PROTEIN RESEARCH,
RUSSIAN ACADEMY OF SCIENCES



The ribosome as a molecular machine: structure and functions.

Conference
on the occasion of the 80th birthday
of Alexander Spirin

Moscow – Pushchino
2011



Alexander S. Spirin

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CONFERENCE PROGRAM

Saturday, September 3

Institute of Protein Research, Pushchino

12:00 Registration

Sunday, September 4

Biology Faculty of Moscow State University, Lecture hall M-1

9:00 Registration

9:45 **M. P. Kirpichnikov and L. P. Ovchinnikov**
Opening

Plenary Lecture

10:00- **M. M. Yusupov**

10:40 Crystal structure of bacterial and eukaryotic ribosomes

Session 1. Dynamics within the Ribosome

Chairs: K. Nierhaus, N. A. Kisselev

10:40- **J. Frank**

11:20 Dynamics of the ribosome explored by cryoelectron microscopy

11:20- **J. D. Puglisi**

12:00 Dynamics of translation

12:00 – 12:30 Coffee breake

12:30- **D. N. Ermolenko and H. F. Noller**

13:00 Brownian ratchet mechanism of ribosome translocation

13:00- **A. S. Mankin**

13:30 New stories about an old antibiotic:
the mechanism of action and the cell effect
of erythromycin

13:30- **A. A. Bogdanov**

14:00 Ribosomal RNA as a transmitter of functional
signals in the ribosome

14:00 – 15:00 Lunch

Session 2. Functional Aspects

Chairs: V. I. Agol, A. A. Bogdanov

15:00- **A. G. Ryazanov**

15:30 Ribosomes and cellular Mg^{2+} homeostasis

15:30- **K. H. Nierhaus**

16:00 70S scanning initiation, a new and frequent
mode of bacterial initiation

16:00- **I. N. Shatsky**

16:30 Proteomic studies on picornovirus IRES-
elements: an update

16:30- **M. Sprinzl**

17:00 Peptide bond formation on the ribosome

17:00 – 17:15 Closing remarks

17:15 Wine-and-cheese party

Monday, September, 5

Institute of Protein Research, Pushchino, Conference Hall

11:30 **A. A. Bogdanov**
Opening

Plenary Lecture

Chairs: L. P. Ovchinnikov, J. Frank

12:00 **A. S. Spirin**
From the idea of locking-unlocking ribosomal subunits to the concept of the translating ribosome as a Brownian conveying machine

14:00 Picnic

The Institute Inner Garden
(informal dress)

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