



Wissenschaftskolleg zu Berlin
INSTITUTE FOR ADVANCED STUDY

Seminar

Evolution of Viruses and Hosts

Mittwoch, 10. Juni 2009, 9.00 bis 18.00 Uhr

Karin Moelling
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Wallotstr.19
D-14193 Berlin

Fragen:

From chemical to biological evolution
Virus-first or cell-first hypothesis
What next? Order of events?
Composition of genomes and how they change
Role of retroviral-like elements – „Junk“ DNA?
Why do bacteria have no introns, no endogenous retroviruses
Why do we have introns?
Hypothetical tree of viruses
Exotic viruses (Mimivirus as missing link)
Experiments suggested?

Sprecher:

Karin Moelling, Fellow am Wissenschaftskolleg, Universität Zürich, Max Planck-Institut für Molekulargenetik, karin.moelling@wiko-berlin.de

Kurze Einführung

(Viruses, origin of life and evolution)

Jens P. Fürste, Institut für Chemie und Biochemie, Freie Universität Berlin, fuerste@chemie.fu-berlin.de:

Dual roles of RNA during evolution

(Ribozymes, deoxyribozymes, introns, tRNA, rRNA, Ribosomes are ribozymes, regulatory RNA)

Robert L. Trivers : Fellow am Wissenschaftskolleg, Rutgers, the State University of New Jersey,

Robert.trivers@wiko-berlin.de

Genes in conflict

Gerhard Gottschalk, Georg-August-Universität Göttingen, ggottsc@gwdg.de
The world of Bacteria and Archeae starting from LUCA
(Wandering of genes and genomes, junk DNA in bacteria)

Mittagessen im Wissenschaftskolleg

Jörg Hacker, Präsident, Robert Koch Institut, Berlin, HackerJ@rki.de
Bacterial evolution, gene transfer
(under extreme conditions and disease, black holes, jumping genes, loss of genes, no endogenous retroviruses or introns?)

Reinhard Kurth, ehemaliger Präsident, Robert Koch Institut Berlin, kurthr@rki.de
Replication-competent endogenous retroviruses,
(Embryonic role, cancer, defense)

Jens Bohne, Leibniz Universität Hannover, bohne.jens@mh-hannover.de
Alu elements, satellite DNAs

Joachim Denner, Robert Koch Institut, Berlin, DennerJ@rki.de
Koala retrovirus – an example of ongoing endogenisation
(model for SIV and future of HIV?)

Tilman Spohn, Deutsches Zentrum für Luft- und Raumfahrt, Adlershof,
Tilman.Spohn@dlr.de
Extraterrestrial life?

Karin Moelling
Summary and Discussion

Abendessen in einem Restaurant in der Nähe des Wissenschaftskollegs