

Workshop Announcement

Information Theory meets Biology

16. + 17. 02. 2010

Institute of Telecommunications and Applied
Information Theory
Ulm University, Germany

Focus

The plan is to bring together researchers from biology and information theory in a series of workshops for discussions. The workshops should accompany the DFG priority program InKoMBio (SPP 1397). At each workshop well known international researchers from both fields will be invited speakers. Other participants are welcome to present their results as well.

Schedule

16.02.2010 Plenary talks / discussions
Invited scientists: **Frans Willems** and **Thomas Schneider**
17.02.2010 Presentations / Working groups

Registration

Please send an email to steffen.schober@uni-ulm.de until **24.01.2010**. If you intend to give a presentation on the workshop, please include the title and intended length in your registration email. Since the number of participants is limited please understand that we have to select on a first-come-first-serve basis.

Plenary Speakers

Prof. Dr. Franz Willems
Department of Electrical Engineering
Technische Universiteit Eindhoven

Dr. Thomas Schneider
Molecular Information Theory Group
National Cancer Institute, NIH USA

Biographies

Frans M. J. Willems was born in Stein, The Netherlands, on June 26, 1954. He received the M.Sc. degree in electrical engineering from Eindhoven University of Technology, Eindhoven, The Netherlands, and the Ph.D. degree from the Catholic University of Louvain, Louvain, Belgium, in 1979 and 1982 respectively. From 1979 to 1982 he was a research assistant at the Catholic University of Louvain. Since 1982, he is a staff member at the Electrical Engineering Department of Eindhoven University of Technology. His research contributions are in the areas of multi-user information theory and noiseless source coding. Dr. Willems received the Marconi Young Scientist Award in 1982. From 1988 to 1990, he

served as Associate Editor for Shannon Theory for the IEEE Transactions on Information Theory. He is co-recipient of the 1996 IEEE Information Theory Society Paper Award. From 1998 to 2000 he was a member of the Board of Governors of the IEEE Information Theory Society. Since 1999 he is connected to Philips Research Laboratories as an advisor. From 2001 to 2004 he served as an Associate Editor for Information Theory for the European Transactions on Telecommunications. Dr. Willems is a Fellow of the IEEE since 2005. He is Counselor of the IEEE Student Branch Eindhoven and Chairman of the IEEE Benelux Chapter on Information Theory.

Homepage <http://www.sps.ele.tue.nl/members/F.M.J.Willems/>.

Dr. Thomas Schneider is a Research Biologist in the Center for Cancer Research Nanobiology Program, National Cancer Institute, a part of the National Institutes of Health. Dr. Schneider received a B.S. in biology at MIT in 1978 and received his Ph.D. in 1984 from the University of Colorado, Department of Molecular, Cellular and Developmental Biology. His thesis was on applying Shannon's information theory to DNA and RNA binding sites (Schneider1986). He is continuing this work at NIH as a tenured research biologist. Using information theory, the commonly used consensus sequences can now be replaced with two kinds of graphic: sequence logos and sequence walkers. The walkers can be used to predict whether or not splice junction sequence changes are polymorphisms or mutations and in the latter case the severity of the resulting disease. By introducing the relationship between energy and information, Dr. Schneider is also applying the theory to many other molecular systems.

Homepage <http://www-lmbb.ncifcrf.gov/~toms/>.