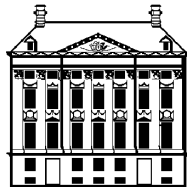


Announcement

Biological Dynamics; *from molecules to cells*

7 – 9 November 2005
Amsterdam, The Netherlands



Committee for Biochemistry and Biophysics
Royal Netherlands Academy of Arts and Sciences

Introduction

Under the auspices of the Committee for Biochemistry and Biophysics (CBB) of the Royal Netherlands Academy of Arts and Sciences (KNAW) an international conference has been organized on

Biological Dynamics; *from molecules to cells*

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There is a molecular basis for all the processes of life and due to our increasing knowledge we can now obtain a quantitative view of these processes. The topic of this meeting has been chosen because our ability to perform accurate experiments on a very small timescale and their connection with protein dynamics will provide in the near future a physical-chemical basis for our understanding of life. Our knowledge of the genome and of the structures of the molecules involved is increasing just as is our computational power and our ability to measure, often inside the cell. We can now obtain a quantitative view of how these molecules perform their function, how they interact, convert energy, form networks that convert signals into responses and react to a changing environment.

The processes of life occur over a time range of femtoseconds to minutes. On the smallest timescale small rearrangements of molecular groups are at the basis of the initial events within the living cell. On a longer timescale diffusive motion dominates the dynamics, e.g. diffusion of proteins in a cell and folding of a polypeptide chain. The living cell can only exist due to a complex pattern of such 'single' dynamic events. The stochastic nature of all the events involved requires new methods of measurement, based on single molecule/cell techniques, spectroscopy and new tools for analysis.

At the level of the organism, many of such cellular events are connected. The system of connected neurons is probably the best example of a system that is dynamic, that is plastic and shows a specific learning behaviour. Recording the activity as a function of position and time in combination with computer modelling will eventually reveal the intrinsic properties of such systems.

The aim of the CBB-conference is to bring together a representative international forum on how progress is made on the selected topic. The conference has five subthemes:

1. Elementary events in biology
2. Molecular dynamics
3. Dynamics of single biomolecules
4. Protein dynamics / folding
5. Dynamic processes in cells

Preliminary scientific programme

The following speakers have accepted the invitation to present a lecture.

Elementary events in biology

- G.R. Fleming - University of California, Berkeley, USA
- M. Groot – Free University, Amsterdam, The Netherlands
- J-L. Martin - Ecole Polytechnique, Palaiseau, France
- P.A. Anfinsen - National Institutes of Health, Bethesda MD, USA

Molecular dynamics

- M. Robb - Imperial College London, UK
- P. Carloni - International School for Advanced Studies, Trieste, Italy
- W. van Gunsteren - Swiss Federal Institute of Technology Zürich, Switzerland

Dynamics of single biomolecules

- T.J. Aartsma - Leiden University, The Netherlands
- J. Howard – Max Planck Institute of Molecular Cell Biology and Genetics, Dresden, Germany
- Ph. Bastiaens - EMBL Heidelberg, Germany
- C. Dekker – Delft University of Technology, The Netherlands
- A.J.M. Driessen, PhD - University of Groningen, The Netherlands

Protein dynamics / folding

- S. Sukharev - University of Maryland, College Park MD, USA
- C.M. Dobson - Cambridge University, UK
- G. Haran - Weizmann Institute of Science, Rehovot, Israel

Dynamic processes in cells

- H. Petty - University of Michigan Medical School, Ann Arbor, USA
- M. Dogterom - Institute for Atomic and Molecular Physics, Amsterdam, The Netherlands
- J. Knoblich - Research Institute of Molecular Pathology, Vienna, Austria
- T. Bonhoeffer – Max Planck Institute of Neurobiology, Munich, Germany
- A. Grinvald - Weizmann Institute of Science, Rehovot, Israel

Keynote lecture: W. Webb, Cornell University, Ithaca, NY, USA (**invited**)

Conference details

In all three areas internationally well-recognized speakers are invited. The conference will be open to poster contributions by young researchers from The Netherlands and elsewhere. The title and abstract of the poster should be submitted before **1 October 2005**.

The total number of participants is estimated to be around 125.

Programme committee

Prof. R. van Grondelle (Free University, The Netherlands), chairman

Prof. A. Mark (University of Groningen, The Netherlands)

Prof. R. Boelens (Utrecht University, The Netherlands)

Prof. C.F. Schmidt (Free University, The Netherlands)

Prof. M. Joëls (University of Amsterdam, The Netherlands)

Prof. C. Figdor (Academic Medical Centre St Radboud, Nijmegen, The Netherlands)

Prof. K.J. Hellingwerf (University of Amsterdam, The Netherlands)

R. des Bouvrie, MSc. (CBB-KNAW)

L.H.W. Noor, MSc. (CBB-KNAW)

Participation

The registration fee for this conference is (including coffee, tea, lunches, reception and book of abstracts) € 200,-. For (PhD-) students the reduced rate is € 150,-. For industrial participants the fee is € 250,-. Returns should be made before **1 November 2005** on the form included.

The registration fee should be remitted to: ABN-AMRO bank, Amsterdam; bank account: 53.14.93.989 (for Dutch participants) or NL07ABNA 0531493989, BIC code: ABNANL2A (for participants from other countries) of KNAW, Amsterdam, The Netherlands with reference to kpl 4042 and the name of the participant.

Venue

The Trippenhuis

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Further information

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