



**LIFENET Internal Senior Fellow Peter Jonas accepts Founding Director position at New Vienna Institute for Science and Technology**



After months of negotiations with Vienna as well as Freiburg, Peter Jonas finally accepted the offer to become one of the founding directors of the newly established Institute of Science and Technology (IST) at Vienna. Peter Jonas will leave Freiburg by November 2010 after

15 years of what he calls a very successful time at the Physiology Department at the Freiburg University Medical Center.

Peter Jonas studied medicine in Giessen where he obtained his Medical Doctorate in 1987, already knowing at that time that his future would lie with research rather than being a physician. Accordingly he continued in science as a post-doc with Professor Werner Vogel in Giessen to work on electrophysiological properties of ion channels. Back in the 1980's one major difficulty lay in the accessibility of axons since most of the axons in the brain are surrounded by insulating myelin sheets. Jonas found a way to enzymatically digest these sheets, giving rise to "naked" axons that could be investigated by the patch-clamp technique - a technique brought to perfection by Erwin Neher and Bert Sakmann and rewarded with the Nobel Prize in 1991. Jonas' publication of this method in PNAS in 1989 did not go unnoticed and resulted in his move to Sakmann's lab at the MPI for Medical Research in Heidelberg in 1990.

From 1995 on he pursued the goal of "getting the full picture of neuronal mechanisms" in Freiburg by combining his experimental work with computational aspects to depict quantita-

tive aspects. While this proved to be a very successful concept – 2006 even rewarded with the Leibniz Prize, the highest German research prize consisting of a research grant of 1.5 million euro, Jonas also pursued new directions. During the last years he began to complement his cellular and computational work with more molecular and in vivo studies, an endeavour which turned out to be relatively difficult in Freiburg. While the computational and cellular facets of the neuroscience field are strongly represented, it became clear that the molecular and in vivo sides are not as well represented in Freiburg. Amongst other reasons this is one of the strongest for Jonas' decision to move to Vienna. At the IST he will be in charge of building up a neuroscience cluster of approximately ten professor positions, thereby having the unique chance of accumulating all the expertise necessary to achieve his objective. Furthermore, the scientific environment at Vienna as well as nearby Hungary is a very stimulating one in the neuroscience field, which most likely will result in some neighbouring collaborations.

Jonas already realized back in the 1980's that there is an important threshold between an idea and its implementation. He always sought for solutions to surpass these thresholds by developing new methods and techniques, work which required absolute precision and accuracy. He states that being a FRIAS fellow and thereby exempted from teaching and administrative duties helped greatly. He was free to concentrate fully on his ambitious research, which resulted in the recent top ranking publications in PNAS, Science and Nature Neuroscience (all 2010). Peter Jonas hopes to continue this line of research at the IST, an institute which is characterized by a similar research-oriented atmosphere as found at FRIAS.

Hopefully he will also be able to pursue his recreational hobbies hiking, mountain-biking and cross-country skiing to compensate for the upcoming demands intrinsic to the prospective position.

(full interview available at [www.frias.uni-freiburg.de/Jonas](http://www.frias.uni-freiburg.de/Jonas))

**Working as a Post-Doc with an External Senior Fellow at FRIAS**

One of the aims of FRIAS is to increase the level of internationalization at the University of Freiburg by attracting foreign scientists who stay affiliated with FRIAS for a period between one and twelve months. These so-called External Senior Fellows (ESFs) participate in the school programs and interconnect with the research community in Freiburg. In the natural sciences schools, the bonds between these ESFs and Freiburg are strengthened by supporting the projects with post-docs, who continue the projects even when the Fellows return to their homelabs.

In the school of Soft Matter Research one of these research constellations is built around the group of Joseph Klafter (ESF, Tel Aviv University (TAU), Israel), Sebastian Weber (post-doc at FRIAS) and Alexander Blumen (Physics Department, Freiburg). Sebastian Weber describes the project as follows:

"Taking part in the FRIAS School of Soft Matter Research is already special on its own, but being post-doc with an ESF is difficult to explain when asked about my position here in Freiburg. While I am working with Prof. Joseph Klafter at FRIAS in Freiburg, he is simultaneously carrying out his duties as professor at the TAU. During the last year I visited Prof. Klafter in Tel Aviv twice for a period of three weeks each and he came to FRIAS for a total of around three months during the semester breaks at the TAU. In the spirit of FRIAS to integrate with the University of Freiburg, the projects are in close collaboration with Prof. Alexander Blumen's group at the Physics Department.

The advantages for me as a post-doc are manifold. I am virtually a member of two research groups at the same time as well as being a member of FRIAS. This provides me with many possibilities for collaboration which are essential at the beginning of a scientist's career. Furthermore, getting to know the Israeli way of carrying out science at the TAU is certainly a great experience, professionally and personally.

The working atmosphere at the TAU is rather different from our accustomed one here. The

words "vivid", "loud", and "spontaneous" may capture in essence the working environment at the TAU. Each group has essentially one or two rooms which accommodate all group members. This facilitates black-board discussions to be started whenever necessary and enriches the working conditions considerably. The open office design and the mentality combine to result in a louder and noisier setting which one has to adjust to.

My postdoctoral time with Prof. Klafter at FRIAS has been to date exceedingly positive, however, with his appointment as president of TAU on October 21, 2009 it has become increasingly difficult for him to spend some time in Freiburg and to supervise the project directly. The positive side of this means that I am compelled to work more independently.



Sebastian Weber

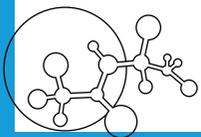
Furthermore, during the past year at FRIAS quite a few new projects have been initiated. Some of them are in collaboration with other FRIAS members within the framework of the institute. I enjoy the challenge of my work at FRIAS and am looking forward to some exciting results."

**NEW EXTERNAL SENIOR FELLOW**

Dr. Sauro Succi, Research Director at the Institute of Computing Applications of the National Research Council (IAC-CNR), Rome, and Research Associate at the Harvard University Physics Department joined the FRIAS School of Soft Matter Research as External Senior Fellow on December 1, 2009 for a period of two years.

Dr. Succi holds a degree in Nuclear Engineering from the University of Bologna, Italy (1979), and a PhD in plasma physics from the Swiss Polytechnic Institute in Lausanne, Switzerland (1987). From 1986 until 1995 he had a position as industry sector coordinator at the IBM European Center for Scientific and Engineer-

>> continued on reverse



ing Computing, Rome, before accepting a permanent position at the IAC-CNR in 1995.



Dr. Succi's research deals with the mathematical and computational modeling of complex system dynamics, with special focus on classical and quantum flows across scales.

Dr. Succi has held visiting appointments at numerous universities, amongst others Paris, London and

Yale. Dr. Succi is an elected Fellow of the American Physical Society, recipient of the Alexander von Humboldt Award in Physics (2002) and the Killam Award of the University of Calgary (2005).

At FRIAS he will develop innovative multiscale techniques for the numerical simulation of a broad class of problems involving the dynamics of complex flows across many scales of motion. Amongst others, he shall focus his attention on the simulation of biopolymer translocation across biological membranes, gas flows across carbon nanotubes and the rheology of micro-emulsions.

### APPOINTMENTS

**Dr. Svetlana Santer**, Junior Fellow at the School of Soft Matter Research, has accepted the appointment to the W2 professorship 'Experimental Physics' at the University of Potsdam, Institute for Physics and Astronomy as of April 1, 2009. Her FRIAS fellowship expired in December 2009.

Soft Matter Junior Fellow **PD Dr. Michael Thorwart** has accepted the appointment to a professorship for 'Theoretical Physics' with focus on solid state physics at the Institute for Theoretical Physics, Faculty of Mathematics, Informatics and Natural Sciences, University

of Hamburg, where he will start on April 1, 2010. He will remain FRIAS Junior Fellow until the end of the year.

### TO COME

#### May 11, 2010

FRIAS will host the Faculty of Chemistry, Pharmacy, and Earth Sciences, Albertstr.19, Freiburg

#### June 2-5, 2010

3<sup>rd</sup> Black Forest Focus on Soft Matter "Frontiers in Dynamics - from Random to Quantum Walks", Hotel am Münster, Breisach.

#### June 11, 2010

FMF/FRIAS Energy Symposium during FMF - 20 years Celebrations, Concert Hall, Freiburg

#### July 20-23, 2010

4<sup>th</sup> Black Forest Focus on Soft Matter "Soft Matter Micro- and Nanofabrication", Hotel Saigerh h, Titisee, Black Forest.

### SEMINARS TO COME

#### 01.03.2010 at 11:15 a.m.

Dr. Ralf Hanselmann, FMF, University of Freiburg: *The new FRIAS Maldi of Mass Spectrometer Autoflex III. Enhanced possibilities for the analysis of polymer materials*

#### 15.03.2010 at 10:00 a.m.

Dr. John S. Fossey, School of Chemistry, University of Birmingham: *Exploiting Boron's Affinity for Saccharides in New Hydrogel Domains*

#### 15.03.2010 at 11:15 a.m.

Prof. Katarina Edwards, Dept. of Physical and Analytical Chemistry, Uppsala University: *Nanodisks and Nuclisomes – from model membranes to targeted drug delivery*

#### 29.03.2010 at 11:15 a.m.

Prof. Hans Gardeniers, MESA + Institute for Nanotechnology Enschede, the Netherlands: *Microfluidic Systems for Chemical Analysis*

[www.frias.uni-freiburg.de/softmatter-events](http://www.frias.uni-freiburg.de/softmatter-events)

### NEW EXTERNAL SENIOR FELLOW

In November 2009 Professor Dr. Bente Finsen from the Institute of Molecular Medicine, formerly known as Medical Biotechnology Center (MBC) at the University of Southern Denmark (SDU) in Odense, joined FRIAS LIFENET as External Senior Fellow for a period of two years.



After graduating as a MD in 1988 Bente Finsen made a short excursion to industry at PharmaBiotec before then returning to academia. While working on her PhD in the field of Neurobiology at Aarhus University which she obtained in 1995 she accepted a position as associate professor at the Department of Anatomy and Cell Biology at Odense University in 1993. From 1998 until 1999 Bente Finsen was a visiting scientist at the Laboratory of Developmental Biology at McGill University in Montreal, Canada.

In 2000, Professor Finsen was appointed a professor in Experimental Neurobiology at the Institute of Medical Biology, SDU. Since 2004 she holds a professorship in Biomedicine at the MBC in Odense.

Professor Finsen's research focuses on basic aspects of the central nervous system and the immune system response to injury and illness, with the aim to develop new and better treatments for patients with neurological diseases.

Amongst others she received the Danish Alzheimer Society Research Foundation Award in 2006 and was a board member of the Danish Medical Research Council (2002-2008).

The research focus of her FRIAS project "Lesion-Directed Expression of Chemotactic Molecules in Cortical Neurons" will lie on innate microglial responses to acute brain injury, molecular and cellular mechanisms of remyelination and neuroinflammation in Alzheimer's and Alzheimer-like disease.

### APPOINTMENTS

**Dr. Katja Arndt** and **Dr. J rn Dengjel**, both Junior Fellows at the School of Life Sciences, have been offered W2 professorships. Katja Arndt has been offered the chair for 'Molecular Biotechnology' at the Institute for Biochemistry and Biology, Faculty of Mathematics and Natural Sciences, at the University of Potsdam. J rn Dengjel was successful in the application procedure for the professorship for 'Proteome Research' at the Medical Faculty, Heinrich Heine University D sseldorf.

### TO COME

#### June 3-5, 2010

3<sup>rd</sup> Conference on Systems Biology of Mammalian Cells (SBMC 2010), Concert Hall Freiburg

#### June 22, 2010, 5:15 p.m.

Hermann Staudinger Lecture - Nobel Laureate Aaron Ciechanover: "Intracellular proteolysis and the ubiquitin system: From the backyard of biological research to the forefront of the patient bed", Chemistry Lecture Hall, Freiburg

#### September 3-5, 2010

Plant Systems Biology Workshop, Hotel Saigerh h, Titisee, Black Forest

### SEMINARS TO COME

#### 08.03.2010 at 11:15 a.m.

Dr. Verena Becker, DFKZ – Systems Biology of Signal Transduction, Heidelberg: *Covering a Broad Dynamic Range - Information Processing at the Erythropoietin Receptor Level*

#### 12.03.2010 at 11:15 a.m.

Dr. Elias August, Department of Computer Science, ETH Zurich: *Closing the Cycle: From Experiment Design to Data and Model Analysis to Experiment Design*

#### 22.03.2010 at 11:15 a.m.

Dr. Verena Wolf, Computer Science Department, Saarland University: *Stochastic models of chemical reactions: What's with all the noise?*

