

Two IRB post-docs awarded prestigious positions in Berlin

Jens Geginat and Elisabetta Traggiai have been awarded Junior Group Leader Positions funded by the German Research Council (DFG). The Junior Group Leader positions are intended to enable gifted young scientists to accelerate their research.

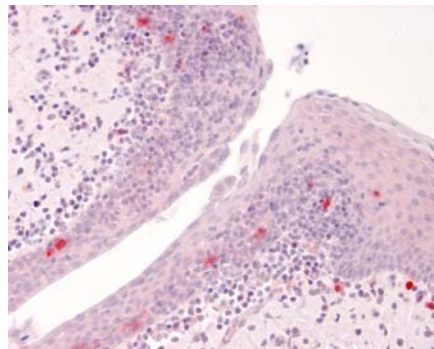
Both Jens and Elisabetta will take up their positions at Charite, the medical faculty of the Universities of Berlin, and their labs will be in the German Rheumatology Research Center (DRFZ), headed by Andreas Radbruch. Jens' team will be part of a research network on "Cellular approaches to suppress unwanted immune reactions (SFB 650)" and will work on the role of human regulatory T cell subsets in autoimmune and malignant diseases.

Berlin offers a very attractive scientific environment with outstanding Immunologists such as Andreas Radbruch, Alf Hamann, Martin Lipp, Fritz Melchers and Stefan Kaufmann working there. Several of them are also part of the network SFB 650.

"I was clearly very honoured to win such a prestigious award, and I was particularly happy that my friend and former colleague at IRB, Elisabetta Traggiai, also won a position in Berlin. In all there were three positions for three different networks (SFBs) available. I have had a fantastic time here in Bellinzona, both from a scientific and a personal point of view, and I will always feel grateful to my mentor Antonio Lanzavecchia, and to all of my colleagues, for this."

Elisabetta's group will be studying Protective and pathological consequences of antigen processing.

"It was fantastic and a bit surprising that two young researchers, both from the same institute, could be selected for such a competitive position. What made this possible was the scientific environment and enthusiasm that animate IRB. It is hard to believe that a young institute could be so influential, also for the career of young scientists."



Dr. Jeremy Luban, a leading researcher in the field of HIV, set to join the IRB



Prof. Luban is currently on sabbatical at the IRB from Columbia University, where he is a tenured professor in the Department of Microbiology and in the Department of Medicine and holds the Richard J. Stock Chair in Infectious Diseases. Dr. Luban has discovered cellular factors that are important for HIV-1 replication or which confer immunity to this deadly virus. In addition to lecturing at Columbia he has mentored many Ph.D. students and post-docs. He has published over 60 peer-reviewed publications, holds two patents and serves on the editorial board of three international journals. His achievements have been recognized by a number of scientific organizations. Dr. Luban will bring his expertise in molecular virology to IRB where he will interact with several of the extremely productive scientists who are currently

engaged in immunology research. He will collaborate with Markus Manz to develop methods for the efficient transduction of human blood cells with the purpose of studying the function of specific human gene products in immune cell development and function, both in vitro and in the extremely powerful in vivo model system that Dr. Manz developed in Bellinzona. The same methods will be used to study the effect of human factors on HIV-1 replication and host cell resistance. Dr. Luban will assist Antonio Lanzavecchia with his attempts to characterize the mechanism by which newly identified activities produced by memory B cells inhibit HIV-1 infectivity. Dr. Luban will also collaborate with Maurizio Molinari to understand the mechanism by which the immunosuppressive drug cyclosporine inhibits HIV-1 Env incorporation onto nascent virions.

It is hoped that the next year will see highly fruitful interactions between Dr. Luban and the members of the IRB that will lead to major discoveries of scientific importance and clinical utility.

International Projects

European Grants

Sens-it-iv

Novel Testing Strategies for In Vitro Assessment of Allergens

Allergies to sensitizing agents are steadily increasing. Risk assessment for potential skin- or lung- sensitizers depends completely on animal testing. The objective of Sens-it-iv is to produce in vitro alternatives for these assays, and develop them to the level of pre-validation. Besides reducing animal experimentation, an increase in the accuracy of predicting sensitizing potencies is expected.

DEC VAC

Development of a Dendritic Cell-targeted Vaccine against AIDS

A method has been developed for in vivo targeting approach to dendritic cells applicable to protein vaccines, DNA vaccines, and viral vector vaccines. Given the urgent need for an HIV vaccine, the potential of an in vivo dendritic cell targeting approach should be evaluated as quickly as possible. DEC VAC aims to 1) determine the efficacy of this approach in animal models, 2) to understand requirements for and mechanisms of protection and, 3) to evaluate safety and immunogenicity in phase I/II clinical trials.

Innochem

The objective of innochem is to develop innovative chemokine-based therapeutic strategies for autoimmunity and chronic inflammation. In addition to the academic group, therapy-oriented research will include three SMEs in the biotechnology sector as well as two large pharmaceutical companies. The ambition of this project is to re-establish European leadership in basic and applied chemokine research by integrating academic and industrial cutting edge groups to develop innovative therapeutic strategies.

In the next issue: Two grants from the Bill and Melinda Gates Foundation



FROM THE LABS

In this issue we focus on:



Maurizio Molinari PhD

Funding

- Foundation for Research on Neurodegenerative Diseases
- Swiss National Center of Competence in Research on Neural Plasticity and Repair
- Synapsis and Bangerter-Rhyner Foundation

Aging is a major risk factor for Alzheimer's disease (AD) and the number of AD patients is likely to increase sharply in the near future. For this reason, therapeutic treatments against this devastating disease are urgently sought for. The amyloid hypothesis holds that accumulation and deposition of the amyloid beta-peptide (Abeta) are the key events driving neurodegeneration in AD. Immunotherapy involving injection of synthetic Abeta aggregates to elicit neutralizing and aggregate-breaking antibodies and passive Abeta-immunization showed promising results in delaying cognitive decline caused by Abeta deposition, but also underscored the risk of side-effects. Other approaches aim at reducing Abeta-generation by inhibiting the secretase activities. In fact, it is the proteolytic cleavage of the beta-amyloid precursor protein (APP) by beta- and gamma-secretases that generates the toxic Abeta. The aim of our studies is

the development of novel approaches to control Abeta production in vivo.

Maurizio Molinari (cont.)

Funding

- Swiss National Science Foundation
- Telethon

Protein folding and quality control in the mammalian endoplasmic reticulum (ER) is fundamental for the survival of cells, tissues and organisms. Failure of protein folding and quality control is cause of more than 100 different debilitating human pathologies named conformational disease. Examples are the cystic fibrosis, hereditary lung emphysema, hereditary liver failure and several neurodegenerative diseases such as Alzheimer' s, Parkinson, Huntington diseases. Our research aims at a better understanding of the molecular mechanisms governing the processes of protein folding and quality control. We are elucidating the roles of, and functional cross-talk between, individual ER-resident proteins and the interactions between these and newly synthesized polypeptides. We believe that our studies will help in determining the etiology and potential cure of many disease states caused by protein misfolding and in setting up interventions to abrogate toxicity of human pathogens which exploit these processes. They will also allow for the rational intervention by the biotechnology industry to design better eukaryotic cell-based approaches for the efficient production of high value secretory proteins.

IRB expansion plans receive a boost from a generous donation



Palazzo Gallera, across the street from the IRB, has been donated to the institute. With the continued support of the city of Bellinzona, and donations from individuals, the building will be renovated for laboratory, office and educational facilities. For information on how you or your foundation can help in this project contact thomas.brooks@irb.unisi.ch

IRB names a new Director of Development and Communications



To promote the activities of the institute, and to help coordinate the ongoing development projects, the IRB has selected Thomas Brooks to become the Director of Development and Communications. He is responsible for internal and external communications and coordination of development projects.

