

IRTG 1273

Strategies of human pathogens to establish acute and chronic infections

■ Speaker: Prof. Dr. Sebastian Suerbaum

Profile

The International Research Training Group 1273 "Strategies of human pathogens to establish acute and chronic infections" of the Hannover Medical School and the Karolinska Institute, Stockholm, in collaboration with the Helmholtz Centre for Infection Research and the Swedish Institute for Infectious Disease Control started in September 2006.

The central aim of the programme is to give young researchers from Germany and Sweden the opportunity to perform their Ph.D. thesis in this rapidly moving field of the infection biology of human microbial pathogens in a highly stimulating, competitive, international environment. The core element of the programme is a joint research programme centering on the question how human microbial pathogens achieve acute or persistent infection and how the host organism reacts to persistent infection. Rather than focussing on one selected aspect of infection biology, multiple thematic foci have been selected with the goal of exposing the graduate students to the wide spectrum of modern infectious disease research, and taking advantage of the full breadth of faculty competence available at the three institutions involved in this IRTG proposal. Joint research goals in the fields of bacterial, viral and parasitic infections will be pursued in a total of 25 thesis projects (14 based in Germany and 11 in Sweden). In addition, a highly interdisciplinary joint study programme is set up which will profit from the established infrastructure for graduate training available at both Hannover Medical School (Hannover Biomedical Research School, Center for Infection Biology) and Karolinska Institute (MTC Postgraduate Programme in Infection Biology). It is an essential part of the program that the graduate students spend part of their time in the laboratories of the Swedish partners at the Karolinska Institute.

Further information: <http://www.mh-hannover.de/4587.html>

Current status

The IRTG 1273 has been financed by the DFG since September 2006. The total funding for the period 2006 – 2010 is 2.2 million EUR. Financing includes the stipends, a part-time coordinator and resources for consumables, marketing, travel, invitations of guest scientists etc.

Following advertisements in Nature and other journals, the IRTG 1273 received 190 applications for the 14 stipends. Graduates were selected in a two-step procedure.

At the moment there are 14 students in the program (11 female and 3 men, 1 from abroad and 13 Germans) in Germany. Furthermore, two Ambassador Stipends for graduate students at the Karolinska Institute in Stockholm are financed by the Hannover Medical School and the Helmholtz Centre for Infection Research. In addition, 9 Swedish graduate student members of IRTG 1273 are financed by KI funds.

In October 2006, the Kick-off Week for the program was organized with all graduated students and the faculty.

Graduate students and their principal supervisors

* f=female, m=male, M. Sc. = Master of Life Science, M. L.Sc.= Master of Life Science, M. Mol. L. Sc. = Master of Molecular Life Science, M. Mol. Biotechnol. = Master of Molecular Biotechnology

Somedutta Barat (f, M. Sc, India): Molecular mechanisms of persistent Salmonella infection (Prof. Dr. Förster/Dr. Bumann).

Susann Cordes (f, M. Mol. L. Sc. , Germany): Role of the LANA-1 protein of Kaposi's sarcoma herpesvirus/human herpesvirus 8 (KSHV/HHV8) in latent persistency by controlling the turnover of associated nuclear proteins (Prof. Dr. Schulz).

Sabrina Dähne (f, Dipl.-Biol., Germany): Exploitation of intact immune functions for Salmonella infections and dissemination (Prof. Dr. Förster/Dr. Pabst).

Sarah Horst (f, Dipl.-Biotechnol., Germany): Role of fumarate reductase and polynucleotide phosphorylase in persistence of Mycobacterium tuberculosis (Prof. Dr. Bange).

Katrin Janik (f, Dipl.-Biol., Germany): Effector-protein dependent signaling pathways and host responses in chlamydial persistence (Prof. Dr. Klos).

Andreas Jeron (m, Dipl.-Biotechnol., Germany): Functional characterization of pathogen-in-

duced regulatory T cells in chronic inflammation (Prof. Dr. Buer).

Sebastian König (m, Dipl.-Biotechnol., Germany): Analysis of signal transduction events induced by pathogenic bacteria upon interaction with host cells: Comparative phosphoproteome analyses of the infected host cell (Prof. Wehland/Dr. Jänsch).

Meike Küting (f, M. L. Sc., Germany): Establishment of a new mouse model for Streptococcus pneumoniae infection by humanizing mice for the Polymeric Immunoglobulin Receptor (PIGR) gene (Prof. Dr. Balling/Dr. Lengeling).

Stefanie Kuhn (f, Dipl.-Biol., Germany): Genetic adaption of H. pylori to the host individual (Prof. Dr. Suerbaum).

Nina Lotzing (f, Dipl.-Biol., Germany): Immunomodulatory effects of Helicobacter infection and gastrointestinal colonization by other bacteria: the role of TRAF6 and ubiquitylation (PD Dr. Josenhans).

Mathias Müsken (m, Dipl.-Biotechnol., Germany): Intercellular communication in Pseudomonas aeruginosa (Prof. Dr. Wehland/Dr. Häussler).

Peggy Riese (f, Dipl.-Biol., Germany): Characterization of immune cells from HCV infected

patients to improve vaccine design (Prof. Dr. Guzmán).

Sabine Stegemann (f, Dipl.-Biol., Germany):
Analysis of the mechanisms underlying the lethal synergism between viral and bacterial infections - role of Toll like receptors (TLR), especially TLR7 (Prof. Dr. Wehland/Dr. Gunzer).

Kerstin Stegmann (f, M. Mol. Biotechnol., Germany): The role of TRAIL in interferon alpha-mediated clearance of HCV in patients with acute and chronic hepatitis C (Prof. Dr. Manns/PD Dr. Wedemeyer).