



Press Release

Research on Mitochondria and B Cells

Cluster of Excellence BIOSS awards Barbara Hobom Prize to two Freiburg doctoral candidates

Angelika Harbauer and **Dunja Schneider** have been selected to receive the Barbara Hobom Prize 2012. This distinction is awarded each year by the Cluster of Excellence BIOSS Centre for Biological Signalling Studies of the University of Freiburg for research projects in synthetic biology, signaling, and bioengineering. The purpose of the prize, which is worth a total of 10,000 euros, is to promote young female scientists.

Angelika Harbauer is a doctoral candidate under Prof. Dr. **Chris Meisinger** at the Institute of Biochemistry and Molecular Biology of the University of Freiburg. She and her dissertation supervisor are studying how mitochondria are embedded in the signaling paths of the cell. Proteins contained in the mitochondria must be transported there by protein complexes, so-called TIM and TOM complexes, in order to serve their function. The TOM complex is the interface between the mitochondrion and the inside of the cell. Harbauer demonstrated that signaling paths of the cell at this interface can alter the protein import by causing phosphate groups to be attached to the proteins of the TOM complex. Among other things, this enables the cell to react to an increased supply of glucose. This finding was published in the journal *Cell*. The laureate is currently studying the influence of the cell cycle on the proteins of the TOM complex.

Dunja Schneider is a doctoral candidate supervised by Prof. Dr. **Hassan Jumaa** at the Max Planck Institute of Immunobiology and Epigenetics

University of Freiburg

Rectorate

Public Relations

Fahnenbergplatz
D -79085 Freiburg

Phone: +49 (0)761 / 203 - 4302

Fax: +49 (0)761 / 203 - 4278

info@pr.uni-freiburg.de
www.pr.uni-freiburg.de

Contact:
Rudolf-Werner Dreier (Leiter)
Nicolas Scherger
Annette Kollefrath-Persch
Rimma Gerenstein
Melanie Hübner
Katrin Albaum

Freiburg, 13.02.2013

Freiburg. Her dissertation project focuses on the B cells, a subclass of white blood cells, and the signaling paths that control the propagation and specialization of these cells. The signals of the B-cell receptor (BCR) are important for the development and survival of the B cells. However, mutations of the BCR can lead to leukemia or lymphoma, a tumor of the lymphoid tissue. Schneider and her colleagues isolated the receptors of patients suffering from chronic lymphatic leukemia. She discovered that these receptors are constantly active and form an autonomous signal, because they bind structures from neighboring receptors on the same cell. This finding was published in the journal *Nature*. The Freiburg doctoral candidate is currently studying the receptors of cells in patients of follicular lymphoma, a type of cancer of the lymph node, which have special sugar structures on their BCR.

The laureates will receive the prize from Dr. **Barbara Hobom** in person within the context of a guest lecture by Dr. **Roberta Pelanda** from the Department of Immunology at the University of Colorado, USA

on Friday, 22 February 2013, at 12:30 p.m.

in the lecture hall of the Max Planck Institute of Immunobiology and Epigenetics Freiburg, Stübeweg 51.

Harbauer and Schneider will give brief presentations of their research projects.

Hobom was a biologist at the University of Freiburg and a science journalist. She was one of the first people to use the term “synthetic biology,” in a 1979 article in the *Frankfurter Allgemeine Zeitung*. She is a firm believer in supporting and promoting women in research: “The prize sends out a signal to women that their efforts pay off. They are encouraged to carry on with their research.”

The University of Freiburg achieves top positions in all university rankings. Its research, teaching, and continuing education have received prestigious awards in nationwide competitions. Over 22,000 students from 100 nations are enrolled in 186 degree programs. Around 5,000 teachers and administrative employees put in their effort every day – and experience that family friendliness, equal opportunity, and environmental protection are more than just empty phrases here.

Contact:

Angelika Harbauer

Institute of Biochemistry and Molecular Biology

University of Freiburg

Phone: +49 (0)761 / 203-5254

E-Mail: angelika.harbauer@biochemie.uni-freiburg.de

Dunja Schneider

Max Planck Institute of Immunobiology and Epigenetics Freiburg

Phone: +49 (0)761 / 5108-431

E-Mail: schneiderd@ie-freiburg.mpg.de

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