

Heike Helmholtz

Personal Information

Date of Birth 23 May 1972
Place of Birth: Gardelegen
Marital status: single, one daughter

Professional career

- Since 01/2016 Scientist Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research
Institute of Materials Research/Metallic Biomaterials
Department: Biological Characterization
- 04/2004-12/2015 Scientist Helmholtz-Zentrum Geesthacht Centre for Materials and Coastal Research (until
2010 GKSS Research Centre
Institute for Coastal Research
Department: Marine Bioanalytical Chemistry
- 10/1998-03/2004 scientific assistant GKSS Research Centre, Geesthacht
Institute for Coastal Research
Department: Selective Separation Technologies
- 06/1998-09/1998 scholarship: Landesgraduierstipendium des Landes Mecklenburg-Vorpommern
- 09/1995-05/1998 scientific assistant Ernst Moritz Arndt University Greifswald
Institute for Pharmacy/ Pharmaceutical Biology

Education

- 1999 Institute for Pharmacy/Pharmaceutical Biology at the Ernst Moritz Arndt University,
Greifswald
Dissertation Thesis: Investigation of immunomodulatoric active compounds of marine fungi
with special focus on the marine basidiomycete *Nia vibrissa* (Moore &
Meyers)
Certificate: cum laude
- 1995 Institute for Pharmacology and Toxicology at the Ernst Moritz Arndt University, Greifswald
Diploma thesis: Thesis: Influences of Histamin, H₂-Receptor- and H⁺/K⁺ ATPase
antagonists on the oxidative and conjugative drug metabolism
Certificate: excellent
- 09/1990-08/1995 Undergraduate study in Biopharmacology at the Ernst Moritz Arndt-University, Greifswald
Specialisation: Pharmacology/Toxicology
Natural bioactive compounds; Immunology

1990 High school graduation
Certificate: excellent

Languages

English (fluent in spoken and written) and Russian (school knowledge)

Research visit

08-09/2002 Imperial College London, Department of Chemistry, Liquid Crystal Research

Teaching

2008-2012 Helmut-Schmidt-University/University of Federal Armed Forces Hamburg
Lecture: „Preparation of biotechnological compounds“

1999-2002 Helmut-Schmidt-University/University of Federal Armed Forces Hamburg
Parts of the interdisciplinary studies „EGTWA“
Lecture: „Technical processes in environment protection“
Practicum: „Environmental analysis“

Societal activities

Since July 2008 Member of the supervisory board at the GKSS Research Centre

Additional skills

Personnel management

- Training in communication and rhetoric
- Project management
- Employment law

Miscellaneous

- 2003/2008 Seminar BG Chemie: Laboratory safety - Seminar for laboratory leader and natural scientist
- 2008 in house seminar: Safety in biological laboratories
- 2002-2005 Commissary for biological safety of the GKSS
- GDCh-Seminar: Microbiological and molecularbiological methods for the detection of microorganism in water
- Basics in business administration
- Support of internet pages of the department Marine Bioanalytical Chemistry

Driving licence B and M

Scientific interests and experiences

Research subjects

- Cellular and molecular assays for bioactivity and toxicity assessment
- Analysis of effects of magnesium – based, biodegradable implants
- Identification of molecular indicators for environmental and chemical stress
- Isolation and structural characterization of toxic proteins and peptides of marine origin
- Biospecific, molecular interaction analysis

Administrative activities

- Deputy head of the department (Head of department: 07/03-12/03)
- Writing of proposals and Research and development programs
- Guidance and support of doctoral and diploma thesis and student research projects
- Documentation and presentation of results in reports and publications
- Planning and installation of biological and analytical laboratories
- Preparation of safety instructions and register for hazardous chemicals

Spectrum of methods

- Cultivation of eukaryotic cells (L929, CHO, FL, HepG2, primary Hepatocytes, Neuro2a, RTgill W1, Saos-2, mesenchymal stem cells)
- Cultivation of microorganisms and fungi
- in vitro assays
- Proteinanalysis/ Mass spectrometry
- Surface Plasmon Resonance Spectroscopy (Biacore®)
- Laser Microdissection and Pressure Catapulting (LMPC)
- Electrophoresis and Isoelectric Focussing
- Functionalization of chip and particle surfaces
- Structure specific affinity separation
- Chromatographic methods (preparative and analytical)