

Doctoral Programme Industrial Biotechnology:

12 open fellowships.



The CLIB-Graduate Cluster Industrial Biotechnology offers 12 PhD scholarships starting in the spring 2011 semester. This is a structured doctoral programme of Bielefeld University, the TU Dortmund University and the Heinrich-Heine-University of Düsseldorf. All three universities are located in NRW, the most populous state of Germany with an excellent research and industrial infrastructure.

Doctoral candidates will join top research labs working both on applied and basic research, take part in key qualification courses and yearly retreats, and have the opportunity to join a company for a 3-month industrial internship. They will receive a stipend of 1500 EUR per month for a duration of 36 months.

Research projects span the range of industrial biotechnology and are available in the following areas:

- polyomics (systems biology, -omics technologies, bioinformatics)
- expression (novel and established organisms, secretion systems)
- biocatalysis (whole-cell and single-molecule biocatalysis, enzyme optimisation)
- downstream processing (product purification, innovative processes)

We invite excellent graduates with a M.Sc./M.A. or Diploma in bioinformatics, biology, chemistry, biochemistry, biotechnology, biochemical or chemical engineering (or related disciplines) to apply. Students who will graduate before 01 March 2011 are also encouraged to apply. The application deadline is 12 November 2010. Projects start 01 April 2011.

Please see our website www.graduatecluster.net for further details and application instructions.

The following projects are available in this call.

Spatially resolved simulation of packed bed chromatography

Prof. Wolfgang Wiechert / Dr. Eric von Lieres, Institute of Biotechnology 2, Forschungszentrum Jülich
Requirements: computer science, engineering

Development of a chemoenzymatic-metal catalytic amidation-coupling-cycloisomerization (ACCI) sequence in a one-pot fashion

Prof. Thomas J. J. Müller, Institute of Organic and Macromolecular Chemistry, University of Düsseldorf
Requirements: chemistry

Biocatalytic synthesis of fine and speciality chemicals

Prof. Jörg Pietruszka, Institute of Bioorganic Chemistry, University of Duesseldorf at campus FZ Jülich
Requirements: chemistry, biochemistry, biotechnology

Laccases in organic chemistry

Prof. Jörg Pietruszka, Institute of Bioorganic Chemistry, University of Duesseldorf at campus FZ Jülich
Requirements: chemistry, biochemistry

Production and evaluation of novel bacterial laccases

Prof. Vlada B. Urlacher, Institute of Biochemistry, University of Duesseldorf
Requirements: biochemistry, chemistry, biotechnology

CLIB-Graduate Cluster Industrial Biotechnology: current application call. Deadline 12 Nov 2010.

Molecular function annotation of proteins based on interaction fields

Prof. Holger Gohlke, Institute for Pharmaceutical and Medical Chemistry, University of Duesseldorf

Requirements: bioinformatics, biochemistry, chemistry

New modules for the synthetic biology from metagenomes

Dr. Susanne Wilhelm, Institute of Molecular Enzyme Technology, University of Duesseldorf at campus FZ Jülich

Applying a novel protein expression system in *Ustilago maydis*

Prof. Michael Feldbrügge, Institute for Microbiology, University of Duesseldorf

Requirements: biochemistry, biotechnology, microbiology

Molecular mechanism of nisin resistance

Dr. Sander Smits, Institute for Biochemistry, University of Duesseldorf

Requirements: chemistry, biochemistry, biotechnology

D-enantiomeric peptides for therapy of Alzheimer's disease

Susanne Aileen Funke, Dieter Willbold, Institute of Physical Biology, University of Duesseldorf at campus FZ Jülich

Requirements: biochemistry, biotechnology, biology, chemistry

Alternative carbon sources for biotechnological applications with *Corynebacterium glutamicum*

Dr. Tino Polen, Institute for Biotechnology 1, Forschungszentrum Jülich

Requirements: chemistry, biochemistry, biotechnology

Omics-based characterization of *Bacillus methanolicus*

Prof. Dr. Volker F. Wendisch, Chair of Genetics of Prokaryotes & CeBiTec-IGS, Bielefeld University

Requirements: biotechnology, biology or biochemistry

Bioinformatics tools for mutation analysis in high-throughput sequencing data

Dr. Alexander Goesmann, Dr. Jörn Kalinowski, CeBiTec, Bielefeld University

Requirements: bioinformatics

Systematic optimization of microalgae cultivation for applications in (bio)-industry

Prof. Dr. Olaf Kruse, Algae Biotechnology and Bioenergy, CeBiTec, Bielefeld University

Requirements: microbiology, molecular biology, biochemistry or biotechnology

Methane production from algae at high pH (~10)

Prof. Dr. Marc Strous, Microbiology of sustainable energy production and Prof. Dr. Olaf Kruse, Algae Biotechnology and Bioenergy, CeBiTec, Bielefeld University

Requirements: biotechnology, engineering

Modular biocatalytic synthesis: combining the autodisplay of ADH with surface display NADH oxidase for co-factor regeneration

Prof. Joachim Jose, Pharmaceutical and Medicinal Chemistry/Bioanalytics, University of Duesseldorf

Requirements: biology, chemistry, biochemistry, biotechnology

Identification, isolation and functional characterisation of biosynthetic genes of the Cannabinoid pathway of *Radula marginata* and related endophytes

Prof. Dr. Oliver Kayser, Department of Biochemical and Chemical Engineering, Laboratory of Technical Biochemistry, TU Dortmund University

Requirements: molecular biology, biochemistry

Metabolic and metabolomic profiling of *Xanthophyllomyces dendrorhous* as biosynthetic platform organism for isoprenoid drugs

Prof. Dr. Oliver Kayser, Department of Biochemical and Chemical Engineering, Laboratory of Technical Biochemistry, TU Dortmund University

Requirements: molecular biology, biochemistry

