



ACIB – the Austrian Centre of Industrial Biotechnology – is one of the leading research centres in the field of industrial biotechnology. ACIB is dedicated to joint research at the industrial-academic interface. Seven Austrian Universities and more than 50 leading industry partners are working together within the ACIB research program.



**CODOBIO** – Continuous Downstream Processing of Biologics – is a recently granted Marie Skłodowska Curie European Training Network. CODOBIO is implemented by a European Consortium of universities, research institutions and companies in the field of bioprocess engineering. Main objectives of CODOBIO are (i) **process control and modelling** of continuous downstream processes, (ii) **miniaturization, scale-up and -down** of continuous downstream processes and (iii) **process design** and development of **integrated continuous downstream processes**. Find out more on [www.codobio.eu](http://www.codobio.eu).

acib GmbH offers in Vienna, Austria, a

## PhD position in Power input in miniaturized systems for continuous operation Starting date May 1, 2019

### Project description

#### Objectives:

- Establishment of methods to determine the crucial parameter for mixing on microscale such as specific power input, maximum power input and related dimensionless number  $Re'$ ,  $Ne'$ ;
- Development of an experimental set up for temperature measurement applicable for diverse shaker types and reactors to determine specific power consumption;
- Establishment of model particle systems to determine maximum power consumption;
- Visualization of hydrodynamic flow in microtiter plates;
- CFD of hydrodynamic flow in microtiter plates as orthogonal method to established measurements;
- Mathematical model for prediction of mixing from shaken microtiter plates to stirred tank reactors;
- Comparison to lab and pilot scale reactors;

#### Expected Results:

- Fundamental understanding of mixing on microscale for prediction of large scale processes;
- Methods for determination / visualization of power input and energy dissipation in miniaturized systems

### Your benefits

- Be part of a highly interacting interdisciplinary project team – **structured secondments** to other project partners are planned
- Start to build up your **scientific network** - meet and exchange regularly with 15 other PhD students working in the same project
- Join an embedded and customized **education program**– gain scientific/technical skills as well as transferable skills to complement your qualification

### Your profile

- **Specific Eligibility Criteria** valid at time of recruitment on the H2020 Marie Skłodowska Curie programme:
  - The applicant has to be within the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree.
  - Mobility rule: The applicants may not have resided or carried out main activity (studies, work, etc.) in Austria for more than 12 months in the 3 years prior to the recruitment date.
- **Excellent skills** in spoken and written **English**
- **Master's degree** or equivalent in biotechnology, bioprocess engineering, (bio)chemical engineering
- Interpersonal skills conducive to **team work** and group research efforts
- **Travel** abroad for training purposes is part of the training programme

Please submit the application via our application portal [application.acib.at](http://application.acib.at) (ref. 12\_2018).

**Application deadline: February, 28 2019**

Further information may be obtained from [astrid.duerauer@boku.ac.at](mailto:astrid.duerauer@boku.ac.at).