

Swiss TPH



Swiss Tropical and Public Health Institute
Schweizerisches Tropen- und Public Health-Institut
Institut Tropical et de Santé Publique Suisse

Associated Institute of the University of Basel

International PhD Programme

Infection Biology

Programme Begins August 15, 2014
Basel, Switzerland



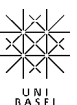
BIOZENTRUM

Universität Basel
The Center for
Molecular Life Sciences



ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich



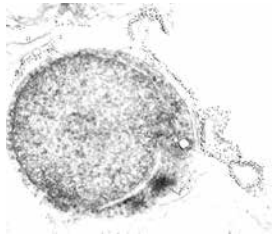
International PhD Programme

Infection Biology

Programme Begins August 15, 2014

Aim and Scope

The International PhD Programme in Infection Biology (IPPIB) focuses on molecular infectious disease research on pathogens of global health importance. The IPPIB includes lectures and practical training in the following areas: Molecular biology and molecular epidemiology of pathogens, molecular modelling, systems biology, functional and comparative genomics of pathogens, host-pathogen interactions, human immunology, biochemistry and microbiology. Molecular biology techniques, imaging technologies and bioinformatics are also covered.



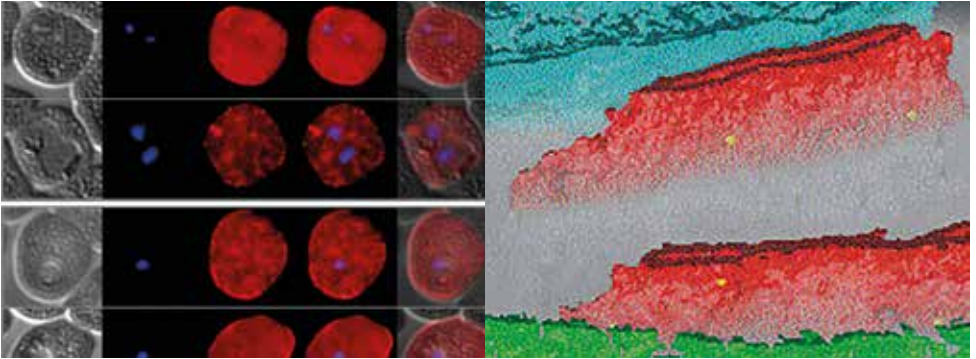
Research of infectious diseases thrives on collaboration among scientists from all fields of modern biology. Individual research groups are usually well linked in scientific networks, but often PhD students do not fully benefit from this collective expertise. In this programme, staff from all participating institutions are active in teaching and training. Thus, shared projects benefit from shared supervision. Our teaching and training network includes experts in molecular biology, cell biology, modern imaging technologies, bioinformatics and molecular modelling. These synergistic competencies foster an integrated approach to infection biology research. Our conceptual approach targets disease systems, thereby integrating ‘-omics’ studies on infectious diseases with field level molecular epidemiology. Applied research relevant to global health is also embedded in the curriculum.

Partners

The Swiss Tropical and Public Health Institute (Swiss TPH), Centre of Cellular Imaging and Nano Analysis (C-CINA), Institute of Molecular Systems Biology at ETH Zurich (IMSB), Swiss Institute of Bioinformatics and Biozentrum of the University of Basel jointly organise the IPPIB.

The IPPIB combines the competences of several institutions, offering students a wide range of research areas in modern infection biology.

- Swiss TPH has more than 50 years of infectious disease research experience and works on some of the most important human parasites as well as on major bacterial and viral diseases. With its world-wide research network and established access to field study sites in disease-endemic countries, Swiss TPH bridges innovation and application.
- IMSB provides a systems view of host-pathogen interactions at the individual and population level. Pathogens, such as *Plasmodium spp.*, *Trypanosoma spp* or *Mycobacterium spp.*, and host responses can be studied with systems biological approaches, including forward and reverse genetics, transcriptomics, proteomics and lipidomics, comparative population-based studies and comparative genomics.
- C-CINA facilitates phenotypic studies on pathogens. With outstanding facilities and state-of-the-art imaging technologies, they offer world-class training in high content imaging.
- The Bioinformatics group’s modelling techniques complement wet-lab approaches and allow for the analysis of data-intensive experiments. This is particularly relevant to capacity building in Southern regions, as computational technologies are portable and applicable at relatively low cost.



Participants

The IPPIB is open to students from national and international universities. Women and students from developing countries are especially encouraged to apply. Efforts are made to maintain a gender balance and diversity by encouraging international students to participate.

The Programme invites broad-minded young scientists dedicated to capacity building and interested in addressing questions in infection biology using cutting edge technologies and in an interdisciplinary and collaborative way.

By training students in basic research, advanced methods and transferable skills, the IPPIB enables students to become qualified researchers, capable of carrying out independent and innovative research while considering ethical standards in science and scientific conduct.

Close interaction among students and teaching faculty from all institutions are fostered through student exchanges and joint PhD supervision. Training in the most modern technologies, allows students to pursue their own research interests, stimulated by public health problems in their home countries. The programme also offers capacity building opportunities for students from developing countries.

Structure

The IPPIB is governed by the Regulations for PhD Studies of the Philosophy and Natural Sciences Faculty of the University of Basel (Ordnung für Doktoratsstudien an der Philosophisch-Naturwissenschaftlichen Fakultät der Universität Basel) and follows the Bologna Reform Guidelines (Richtlinien der Bologna-Reform).

The curriculum is taught in English, thus a good command of the English language is a precondition for enrolment.

Students must select their dissertation committee. Professors from participating institutes serve as faculty representatives, while PhDs and professors serve as formal dissertation supervisors and co-supervisors and as experts on PhD committees. A co-referee must be selected from outside the programme. Within the first year of the research project leading to a PhD, two dissertation committee meetings must be scheduled and at least once a year thereafter. Students are responsible for organising these meetings. The dissertation committee members follow the research progress and academic development of the student. After each meeting, committee members will jointly decide on continuation or termination of PhD studies.

Duration

The PhD should be completed in approximately three years. Students have the opportunity to visit each institute for at least two days (or more, if required) at the beginning of their studies, to familiarise themselves with research at IPPIB partner institutions.

Joint Annual Meetings

Participation in the annual seminar week (taking place shortly after a new intake) is compulsory for all students in the programme. The seminar takes place outside the partner institutions and provides a platform for scientific exchange between students, alumni and scientists from various disciplines.

Prerequisites

Applicants should hold a Masters Degree, Diplôme d'Études Approfondies, or equivalent scientific degree recognised by the University of Basel. A degree or proven in-depth experience in one of the following subjects is also required: Molecular Biology, Cell Biology, Immunology, Biochemistry or Molecular Microbiology.

Curriculum

Students enrolled in the IPPIB must obtain 18 European Credit Transfer and Accumulation System (ECTS) credits, of which 10 should be obtained in agreement with the supervisor (from a selection of lectures, seminars, and workshops). Four ECTS credits can be chosen from any scientific topic and four must be obtained through lectures or courses that convey transferable skills.

Application deadline: April 1, 2014

**For more information visit:
www.ippib.ch**

Contacts

Course Secretariat
Andrea Hofer, a.hofer@unibas.ch
T: + 41 61 284 83 60, F: + 41 61 284 81 06

Academic Organiser
Prof. Dr. Hans-Peter Beck
hans-peter.beck@unibas.ch

Swiss Tropical and Public Health Institute
Socinstrasse 57, P.O. Box
4002 Basel, Switzerland
www.swisstph.ch