DIS STUDY ABROAD IN SCANDINAVIA

Updated May 2024
For Spring 2024, Summer 2024, Fall 2024

Biomedical Engineering in Stockholm

Overview

DIS -Study Abroad in Scandinavia offers Biomedical Engineering in Stockholm during both the semester (spring and fall) and summer. The course approaches the academic content from a Scandinavian lens and is integrated with experiential learning concepts. During the spring or fall, students enroll in one core course (with course-integrated study tours within Sweden, Denmark, and Norway) and three or four electives. Students in the summer enroll in one class at a time and can stay for one or up to three classes in either Copenhagen or Stockholm or a mix of both.

Why Study Biomedical Engineering in Stockholm?

With top-quality academic institutions and research facilities, strategic funding for the development of biomedical technological solutions, and medtech and biotech innovation hubs, Sweden is renowned for using engineering principles to solve medical problems.

The most prestigious award for intellectual achievement - the Nobel Prize - was established in 1895 by Swedish engineer and inventor Alfred Nobel. Nobel prizes in chemistry, physics, physiology or medicine, and literature are awarded in Stockholm each fall, as well at the prize in economic sciences in memory of Alfred Nobel.

All engineering courses include Field Studies outside the classroom, providing opportunities to meet with experts in industry, academia, and the public sector, and to witness the latest developments within the field.

Biomedical Engineering Core Course

Students enroll in the “Biomedical Engineering in Scandinavia” Core Course. The Core Course includes two faculty-led Tours in Scandinavia.

Biomedical Engineering in Scandinavia

- Week-Long Study Tour: Denmark-Norway
- Short Study Tour: Sweden

Elective Courses

Students choose three to four electives to complete their schedules. Students are free to combine electives from across a large number of disciplines, including engineering elective courses.

- Engineering Biomaterials
- Medical Diagnostics
- Data Visualization
- Design Thinking
- Energy Cloud: Engineering Localized, Digitized, Sustainable Networks
- Smart and Sustainable Cities
- Research Assistant: Biochemistry-Biophysics of Ion Channels
- Research Assistant: Visualizing Protein Distribution in the Brain
- Statistics

Summer 2024 Engineering Courses

Session 1 (May 21-June12, 2024)

- Medical Diagnostics (Stockholm)
  Prerequisites: One year of chemistry and one year of either biology or bioengineering, all at university level.
- Statistics (Stockholm)
  Prerequisites: Two courses in mathematics, at university level.

Session 2 (June 16-July 5, 2024)

- Engineering Sustainable Environments in Scandinavia
  Prerequisites: Two courses in math, four courses in basic science (biology, chemistry, physics), and one engineering course, at university level.

Labs, Research, & Practicums Session (May 21-July 5, 2024)

- Biomedical Lab
  Prerequisites: One year of biology, one year of chemistry, and one course with a lab component, all at university level.

Program Director

Natalia Landázuri Sáenz

Ph.D., Department of Biomedical Engineering, Georgia Institute of Technology, Atlanta, GA, USA (2005).

- Postdoctoral fellow, Emory University, Atlanta, GA, USA.
- Associate Professor Biomedicine, Karolinska Institutet, Stockholm, Sweden.
- Fulbright scholar (1999-2001).

Research in genetic engineering, cell and gene delivery vehicles, mathematical modeling, bioengineering approaches for cardiovascular disease, and cancer. Has created, designed, implemented and evaluated courses at university level. Acted as Pedagogical Advisor, Development and Regeneration Doctoral Program, Karolinska Institutet. Has participated in national and international committees to evaluate and promote scientific and academic advancements. With DIS since 2017.

Engineering Faculty

Adam Darwich

Ph.D. in Pharmaceutical Sciences, University of Manchester, United Kingdom (2014).

- Assistant Professor in Health Systems Engineering, Department of Biomedical Engineering and Health Systems, KTH (Royal Institute of Technology), Stockholm, Sweden.

Research focus on modelling and simulation of systems and processes related to healthcare, health services, pharmaceutical development, and precision dosing. With DIS since 2021.

Jonathan Geib

Ph.D., Department of Architecture and Civil Engineering, Chalmers University of Technology, Gothenburg, Sweden (2020).

Research work on complexities of engagement with urban participatory processes involving public sector institutions and art and design practitioners. MSc, KU Leuven, Belgium (2013) in Urbanism and Strategic Planning. MSc, KU Leuven, in Human Settlements (2010). BSc in Architecture, University of Texas at Austin, USA (2002). Research Fellow at the International Youth Think Tank, Gothenburg, Sweden (2020–present). Motivated by pluralistic approaches to research and design practice, criticality, and creativity. With DIS since 2021.

Christopher Grigsby

Ph.D. Biomedical Engineering, Duke University, USA (2014).

Postdoctoral Fellow and Researcher, Division of Medical Systems Bioengineering, Karolinska Institutet (2016-present). Postdoctoral Fellow, Columbia University, New York, USA (2015-

2016). Staff Research Associate, University California San Francisco, San Francisco, USA (2005-2007). B.S. Bioengineering, UC Berkeley, USA (2005). With DIS since 2021.

Asterios Papageorgiou

Ph.D. student, Department of Sustainable Development, Environmental Sciences and Engineering (SEED), KTH (Royal Institute of Technology), Stockholm, Sweden (2018-present).

- Licentiate, Industrial Ecology, KTH (2021). MSc, Sustainable Technology, KTH (2018). MSc, Sustainable Waste Management, School of Civil Engineering, Leeds University, UK (2006).
- BSc, Physics, Aristotle University of Thessaloniki, Greece (2005).

Environmental researcher, Aristotle University of Thessaloniki (2008-2009). Physics tutor, Epikentro tuition centre (2008-2012). Physics Tutor and co-owner, Aristeia tuition centre (2012-2016). With DIS since 2021.

María de la Paz Celorio

Ph.D., University of California, Davis, USA (2008).

- Postdoctoral researcher at Max Planck Institute of Chemical Ecology, Jena, Germany (2008-2010), and at Stockholm University, Sweden.
- Researcher and Research Analyst at Stockholm University.

Has contributed to the understanding of gene-expression plasticity in butterflies and genetic differentiation of populations of wild fish using genome-wide data. Has taught courses and led practical laboratories on statistics, biotechnology, and population genetics for American and Swedish students. With DIS since 2021.

Georgios Sotiriou

Ph.D., Particle Technology Laboratory, ETH Zurich, Switzerland (2011).

- Associate Professor in Biomaterial Science, Karolinska Institutet, Stockholm, Sweden. Postdoctoral Researcher, Center for nanotechnology and nanotoxicology, Harvard University, USA (2013-2015).

Research focus on nanoscale functional materials and devices for biomedical applications. With DIS since 2022.

Chang Su

Ph.D. in Energy Technology, KTH (Royal Institute of Technology), Stockholm, Sweden (2019).

- Researcher at Research Institutes of Sweden (RISE). Previously researcher at KTH Research Initiative on Sustainable Industry and Society (IRIS) platform.

Specializes in energy sector subjects, including renewable energy, heating systems and data science in energy systems analysis. Has taught courses in energy management, heat transfer, and energy policy and market. With DIS since 2021.

Wen Zhong

Ph.D., Bioinformatics, Institute of Biophysics, Chinese Academy of Sciences, China (2018).

- Assistant Professor, Department of Biomedical and Clinical Sciences, Linköping University, Sweden (2022-present).

- Postdoctoral Researcher, ScilifeLab, KTH (Royal Institute of Technology), Stockholm, Sweden (2018-2021).
- BEng, Biomedical Engineering, College of Life Science and Technology, Huazhong University of Science and Technology, China (2013).

Research focuses on integration of multi-omics, interplay between genetics and phenotypes, and development of data-driven strategies/tools for precision medicine. With DIS since 2022.