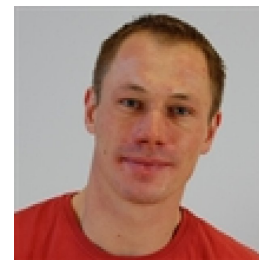


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Teaching Portfolio

Formal pedagogical training

2023 SDU Lecturer Training Program
2023 MCQ - Construction and quality control of multiple choice (MCQ) items
2023 Use Student Response Systems in Your Teaching (Poll Everywhere)
2023 Flipped Learning

Administrative tasks relating to education

Organizer of Ph.D. course "Introduction to flow cytometry and cell sorting," redesigned course that will be offered to students in the spring of 2024 as part of the new Center for Advanced Cell Analysis, a state-of-the-art flow cytometry resource at the Department of Molecular Medicine, the University of Southern Denmark.
Interim scientific director of the flow cytometry core facility at the Department of Molecular Medicine, the University of Southern Denmark. Responsible for implementing new flow cytometry equipment and training personnel in spectral flow cytometry, data analyses, and panel design.

Current supervision

2020 Ph.D. student Vahid K. Shahgoli (JBM as the main supervisor). Joint Ph.D. study with Tabriz University (Iran). Co-supervisors Professor Uffe Holmskov (SDU) and Professor Behzad Baradaran (Tabriz).
2020 Ph.D. student Magdalena Dubik (main supervisor). Local Ph.D. study.
2020 Ph.D. student Sofie Skallerup (JBM as the main supervisor). Local Ph.D. study. Co-supervisor Professor Uffe Holmskov (SDU).
2021 Ph.D. student Rasmus Duus (JBM as the main supervisor). Joint Ph.D. study with Odense University Hospital. Co-supervisors Assoc. Professor Mathias Rathe (OUH) and Professor Steffen Husby (OUH).
2023 Medical master's student Sally Adham (JBM as the main supervisor). Joint study with Odense University Hospital. Co-supervisor Professor Steffen Husby (OUH).

Planned supervision

2024/Jan Ph.D. student Kat Kiilerich (JBM as the main supervisor). Joint Ph.D. study with "Hospital Sønderjylland (SHS). Co-supervisor Professor Vibeke Andersen (SDU/SHS), Assoc. Professor Tue Bennike (Aalborg University) and Assoc. Professor Jakob Kjelstrup-Hansen (SDU).

Past supervision

Main supervisor of two former M.Sc. students and one former B.Sc. student.
Co-supervisor of three former Ph.D. students.
Former daily supervisor of 3 Ph.D., 3 M.Sc., 3 Pre-graduate medical students, and 2 B.Sc. students.

Current lectures (pre-graduate)

2023 Lecturer in Immunology for medical students. Title "Parasites and Allergy"
SDU course, Module B10 (10 ECTS), one lecture twice a year (fall/spring semester).
120-180 medical students. Evaluation: MCQs (graded scale)
2023 Lecturer in Immunology for medical students. Title "NK cells"
SDU course, Module B10 (10 ECTS), one lecture twice a year (fall/spring semester).
120-180 medical students. Evaluation: MCQs (graded scale)
2023 Lecturer in Immunology for medical students. Title "Cytotoxic T cells and antiviral responses"
SDU course, Module B10 (10 ECTS), one lecture twice a year (fall/spring semester).
120-180 medical students. Evaluation: MCQs (graded scale)
2022 Lecturer in Immunology for medical students. Title "Innate Immunity"
SDU course, Module B10 (10 ECTS), one lecture twice a year (fall/spring semester).
120-180 medical students. Evaluation: MCQs (graded scale)
2022 Lecturer in Immunology for medical students. Title "The Mucosal Surface"
SDU course, Module B10 (10 ECTS), one lecture twice a year (fall/spring semester).
120-180 medical students. Evaluation: MCQs (graded scale)
2021 Lecturer in Immunology for science students. Title "Cells and Tissues of the Immune System"
SDU course, BMB512 (5 ECTS), two lectures once a year (fall semester), 100-150 students.
Evaluation: MCQs and short essays (graded scale).
2020 Lecturer in Immunology for science students. Title "Innate Immunity and Inflammation"
SDU course, BMB512 (5 ECTS), two lectures once a year (fall semester), 100-150 students.
Evaluation: MCQs and short essays (graded scale).
Current classroom/other teachings (pre-graduate)

2023 classroom teaching for medical students. The title “Th responses in General.”

SDU course, Module B10 (10 ECTS), two classes (90 minutes) twice a year (fall/spring semester). 120-180 medical students. Evaluation: MCQs (graded scale).

2023 classroom teaching for medical students. The title “T Cell Activation and Function.”

SDU course, Module B10 (10 ECTS), two classes (90 minutes) twice a year (fall/spring semester). 120-180 medical students. Evaluation: MCQs (graded scale).

2023 Team-based learning session for medical students. The title “Innate and Adaptive Immunity.”

SDU course, Module B10 (10 ECTS), three sessions (135 minutes) twice a year (fall/spring semester). 120-180 medical students. Evaluation: MCQs (graded scale).

Previous teaching

2015-2019 Principal instructor of helminth infection models (Weill Cornell Medicine). Hands-on practical instruction in maintenance, life-cycle, and infection with the following helminth models: *Trichuris muris* acute and chronic models, *Nippostrongylus brasiliensis* models, *Heligmosomoides polygyrus* models, and *Trichinella spiralis* models. The models (and training) were available to all researchers at the Jill Roberts Institute for Research in Inflammatory Bowel Diseases - Weill Cornell Medicine, as well as collaborators.

2008-2015 Lecturer/instructor – Enzyme Kinetics 1, 2, and 3, classroom teaching - theoretical exercises. 5 repeated classes of 2x3 hours classroom teaching (30 students per class). Each double session included a 15-minute lecture followed by exercises solved in groups of three students under the guidance of two instructors.

2007-2008 Instructor – Nitrogen metabolism, classroom teaching - theoretical exercises (2 lectures, 30 students per class).

Teaching Philosophy

The following thoughts describe my teaching philosophies and beliefs, whether in lectures, smaller classroom settings, or while I mentor/guide/supervise students during their exciting pre-graduate, graduate, or post-graduate studies in Biomedical Sciences.

Fostering Active Engagement, Critical Thinking, and Inspiration. I believe in the transformative power of education, and my teaching philosophy centers around actively engaging students in their learning while promoting critical thinking, two-way communication, and inspiring a love for knowledge. I keep an open-door policy, strongly encouraging my students to reach out with thoughts, ideas, or questions while at the same time encouraging them to dare and test new ideas whenever feasible.

Student-Centered Learning. I am committed to shifting the focus from monologues and passive listening to interactive and participatory learning. I recognize that the actual value of education is not just in disseminating information but in fostering the skills to interpret, analyze, and discuss complex knowledge. Drawing from the revised versions of Bloom’s Taxonomy by Anderson (2001) and Armstrong (2010), I structure my teaching to ensure that students, whenever feasible, employ not only lower-order skills like remembering, understanding, and applying but also transition to use the higher order skills analyze, evaluate, and create.

Promoting Dialogue and Discussion. I employ strategies that encourage open-ended questions and meaningful discussions during class to achieve this. Through dialogue, students can gain a deeper understanding of the subject matter and develop their critical thinking abilities. It also allows me to gauge their comprehension and provide immediate feedback, crucial for effective learning.

Communication is Key. I value the importance of two-way communication. It’s not just about me teaching students; it’s also about listening to their questions, concerns, and ideas. In a dynamic educational/research setting, students should feel comfortable expressing their thoughts and engaging in productive conversations. By fostering a culture of open communication, I aim to create an environment where everyone’s voice is heard and respected.

Utilizing Technology for Engagement. In addition to traditional teaching methods, I embrace technology to enhance engagement. Platforms like “itslearning,” “PollEverywhere,” and other web-based systems have proven invaluable in promoting interaction and collaboration. These resources enable me to collect and analyze responses to questions and empower students to participate before, during, and after class actively. I acknowledge and address their diverse academic requirements by involving students in the learning process.

Fostering Collaborative Learning. I recognize the significance of peer interaction in the learning process. I encourage smaller group discussions and peer-instructions, where students are given the opportunity to collaborate, reflect on challenging questions, and share their insights with one another. This includes simple “think-pair-share” polls to larger Team-based Learning (TBL) activities, which enables students to learn not only from me but also from their peers, reinforcing their understanding of the subject matter.

Inspiration and Lifelong Learning. One of my fundamental goals as an educator is to inspire a love for learning. I want my students to not only gain knowledge but also to understand the value of lifelong learning. By providing engaging and thought-provoking experiences in the classroom or laboratories, I aim to inspire curiosity, critical thinking, and a passion for the continued pursuit of knowledge.

Continuous Development. As an educator, I am committed to continuous improvement. I realize that education and the tools to teach are ever-evolving, and I strive to stay current with the latest developments in pedagogy and technology. This ensures that my teaching methods remain relevant and effective in meeting the needs of today’s diverse student population.

In Summary. My teaching philosophy is deeply rooted in active student engagement, developing critical thinking skills, fostering two-way communication, and inspiring a lifelong love for science. I am dedicated to creating an inclusive and dynamic learning environment that values free discussions, collaboration, and technology as catalysts for enhanced learning. By empowering students to be active participants in their education, I aim to inspire them to become critical thinkers, effective communicators, and lifelong learners, well-prepared for the challenges of the modern world.

Teaching Development and University Pedagogical Research

Since most of my current teaching consists of single lectures as part of larger integrated modules, my development project (an integrated part of the lecture training program) focuses on improving student participation and learning in lectures where time is limited and the curriculum is extensive.

The conventional way to teach these lectures has been by reading textbook material as preparation, followed by 1-way communication during a 45-minute lecture. Based on my experience from these lectures, the students need help to keep engaged and focused in class, which is in line with current studies showing that the learning value of passive learning is meager. Moreover, the vast majority of the students fail to prepare for these lectures due to the curriculum's size, level, and difficulty, reducing their learning outcomes even more.

In my development project, I aim to explore methods to increase students' preparation (pre-class), students' active participation during the lecture (in-class), and the quality of the students' responses (post-class). Taking into consideration that the lectures are given in auditoriums, transmitted to adjacent classrooms, and attended by up to 180 students, I will explore whether (A) Changing student preparation to "flipped learning" substituting conventional textbook material with 4-5 short videos/narrated presentations and (B) the use of various interactive elements like Poll Everywhere in-class as well as post-class will improve students' participation and learning outcomes.

I plan to implement these changes in the fall semester of 2023 in my single lecture for medical students' module 10, "Innate Immunity," a lecture where experience suggests the students fail to prepare and perform poorly in class. While I do not have tests or hard numbers to compare the previous years' teaching, I plan to use post-class tests (multiple choice) to assess learning outcomes. Moreover, I plan to ask the students anonymously whether converting the traditional lecture to a flipped learning session with less textbook preparation (pre-class), and more focus on applying knowledge (in class) is preferable to the former.