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## Undervisnings cv

Teaching Portfolio  
Mikkel Girke Jørgensen

### Content

1. Formal educational training
2. Administrative teaching tasks
3. Teaching, supervision and examinations
4. Methods, materials and tools
5. Teaching philosophy

#### 1. Formal educational training

2016-2017: Lecturer training programme (Adjunktpædagogikum) at SDU

-Course: Student response system

-Course: Public speaking and presentation skill training

-Course: MCQ – Multiple choice questions

-Development project: Student preparation for laboratory exercises

2017, 2019: PhD supervision, process, methods and tools

#### 2. Teaching Administrative tasks

2016 – on-going: Head of the iGEM team at SDU. iGEM (international Genetically engineered machine) is a worldwide systems biology competition with more than 350 universities enlisted. The SDU iGEM team is cross disciplinary with team members from the Faculty of Science, the Faculty of Health Sciences, the Faculty of Engineering, and the Faculty of Humanities. The work with iGEM has in addition to being educational also produced a couple of scientific papers. Currently, the iGEM team is in the process of being approved as a talent programme at the Faculty of Natural Sciences. Furthermore, I am developing the team to become a fully cross faculty talent programme – application deadline in early June 2019.

As head of the team my role is to oversee the entire process including day-to-day supervision of the team, both in the lab as well as organising meetings and managing the finances.

2016 – on-going: Responsible teacher BMB528 – Basic microbiology for pharmacy

#### 3. Teaching, supervision and examinations

Teaching experience:

Courses:

Year Course Comments

2004 - 2005 BM26 Lab supervisor on course Molecular Microbiology

2010 - 2012 BMB524 Lab supervisor 'Riboregulation i Bakterier- Struktur og Funktion af Regulatoriske RNA molekyler',

2012, 2015 – on-going NAT501/NAT507 Supervisor for first year projects at the Faculty of Science, SDU

2014, 2015 BMB507/528 Responsible Lab manager on the course Fundamental mikrobiologi/Mikrobiologi for farmaci, at the Faculty of Science, SDU

2016 – on-going BMB528 Course responsible Microbiology for Pharmacy

2017 – on-going BMB803 Lecturer in Molecular Microbiology

2017 – on-going BMB827 Lab course in Molecular Microbiology

2018 – on-going BMB510 Lecture, classroom in Biomedical Microbiology

Supervision of students:

Before my assistant professorship, I have been co-supervising student for many years at both bachelor and master level.

In total: 3 Master projects (60 ECTS each), 5 bachelor projects (15 ECTS each) and 4 individual projects (15 ECST each).

As main supervisor during my assistant professorship I have completed:

5 Master project students (60 ECTS)

9 Bachelor project students (15 ECTS)

7 Individual study activities (5-15 ECTS)

As main supervisor I have several on-going student projects:

5 Master project students (60 ECTS)

2 Bachelor project students (15 ECTS)

2 Individual study activity (15 ECTS)

1 PhD student as co-supervisor

Examinations:

BMB528, Microbiology for pharmacy, written exam, 2016 – on-going

NAT501/507, First year science project, oral exam, 2015 – on-going

BMB510, Biomedical Microbiology, oral exam, 2018 – on-going

BMB538, Cellular Identity, oral exam, 2019

External examinations.

Member of the Danish 'Censorkorps' since 2018.

1 PhD defence committee member, 2019

2 Master project exams, June 2019

4. Methods, materials and tools

Experience with teaching methods:

Lectures/ class room teaching

I have many years of experience in speaking in front of students since I both perform general class room teaching as well as give introductory lectures when we start a laboratory course. When preparing this type of teaching I usually make a power point presentation or use the class room blackboard to support and explain my teaching while I am talking. This is to support the students understanding and keep them engaged. When I am in this type of teaching session, I always use questions to keep the students alert and to monitor their level of experience/knowledge so I can structure and adapt my teaching accordingly.

Laboratory supervision in relation to scientific projects

As explained in my teaching philosophy, I am aware that in order to become a proper scientist working in a laboratory requires skills. Thus, my supervision in the lab is partly composed of discussions on project planning and progress and of peer/student mentoring, where I actively show and participate in skill training. This results in students quickly becoming comfortable and independent in a laboratory and they develop technical confidence.

Laboratory exercises in relation to course teaching

The way I teach students in laboratory courses is based on the same principles as explained above, but since my time is shared between many students, the level of engagement is naturally different. However, I always strive to participate actively and always be ready to answer questions and show/guide the students.

Experience with supervision methods:

Supervision meetings

In the supervision meetings I sit down with the student, and we openly discuss project plans, developments, and progress. During these meetings we usually agree on a plan for the period between the meeting and the next, so the student knows exactly how to proceed. During the time period between meetings I always check with the student how the plan is coming along and whether we need to adapt/change the plan before the next meeting.

Peer/student mentoring

Here I actively teach by showing the student how techniques and protocols are being performed in the laboratory.

Written communication

I use e-mail and SMS for communication with students in addition to the face-to-face methods described above. These written communication forms are used both quick, short answers (SMS) when the students face a sudden problem or for more detailed communication regarding projects and results (e-mail).

Experience with teaching materials:

Powerpoint

I have many years of experience in preparing powerpoint presentations for teaching purposes. When I prepare these presentations, I always ensure they are easy to understand and that they support my lessons rather than just repeat what I am saying.

Writing course manuals

For laboratory courses, experimental manuals are needed. I have immense expertise in writing, testing, correcting, developing, and outlining the type of experiments suitable for laboratory courses. I will test all protocols and correct them, if needed before the manuals are handed out to the students.

E-learn

I have experience with use of e-learn during the teaching process of the first year projects and in BMB507/528. The e-learn course room was in the first year project used for handing in the written reports and for general messages. In BMB507/528 the e-learn course room was used for general messages as well.

Classroom blackboard

When I give lectures in a classroom, I use powerpoint as described above. However, sometimes a powerpoint presentation does not suffice, and when explaining e.g. an experimental approach or a genetic construct it is sometimes more appropriate to use the blackboard, to draw and explain a given question for the students. With the type of experiments, we use in microbiology, with often very complex genetic set-ups and large screens I find this a very good way to explain and show students, what they need to know and understand. I find that the old-fashioned blackboard complements the powerpoint presentations very well.

Experience with exam forms:

Oral examination

I have experience with oral examination of first year project students. Here the students write a report, which I read (with an internal censor) and afterwards the students are being evaluated in an oral examination. The students then receive a combined grade for the report and the oral performance.

Oral exams at Master projects is one of my favorite things. Here, the exam (with an external censor) is more of a scientific discussion rather than a simple questioning of the students' knowledge.

Written examination

I have experience with written exams of BMB528 where I am responsible teacher. The course participants are ca. 90 students and the exam is a mixture of essays, multiple choice, calculation exercises and short answers. I find it important to include several different question forms and not just be restricted to one, for instance to only use MCQ. I find it much better to evaluate the students on a broad foundation of different question types.

5. Teaching philosophy

Learning is a process, which does not come over night. My teaching philosophy is based on learning by doing and learning from experience. It can easily be read in a text book how to perform a technique or how to perform an experiment, however, reading words and obtaining skills are two separate things. In order to obtain research skills, it is important to receive proper guidance as well as the teacher having trust in the students' capabilities to seek knowledge. This will make the learning process a combined effort between student and teacher/supervisor, which hopefully will result in the students becoming independent researchers. I enjoy teaching and believe that only an inspiring teacher can spark the drive to seek knowledge and interest in a student. This means that I believe to meet the students in the classroom as well as in the laboratory as prepared as possible.

I also believe in creating new ways to more effectively engage the students especially in classroom settings. Therefore, I will meet the students 'where they are'. This could for instance be done by including new types of teacher-student platforms such as podcasts as part of the teaching material to better prepare the students for the coming class. Additionally, I consider active learning as a very effective way to engage the students. Therefore, I make use of 'student response systems' for instance by using poll everywhere.

Teaching evaluation

Teaching is a big part of a university career at SDU and I always strive to become a better and a more inspirational teacher.

I was therefore honoured to receive the Teacher of the year 2017 award at the Faculty of Natural Sciences, SDU.