

## Teaching Portfolio

### Formal Pedagogical Education

2018: Workshop for Mentorship for adjunkt pædagogikum, 1 day (University of Southern Denmark)  
2018: PhD supervision course (held in English), A one-week course arranged by CUU (University of Southern Denmark)  
2016: Course in MCQ formulation ¼ ECTS (University of Southern Denmark)  
2015: Workshop concerning different exam forms ¼ ECTS, (University of Southern Denmark)  
2014: Course in Project leading 6 ECTS, (University of Southern Denmark)  
2012: Workshop/course: Oral exam in practice ¼ Ects (University of Southern Denmark)  
2012: Interactive learning, ¼ ECTS (University of Southern Denmark)  
2009: E-learning course: ¼ ECTS (University of Southern Denmark)  
2007: Leadership education 5 days (Uppsala University)  
2006: Course in problem based learning 3 days full time (Uppsala University)  
2006: Obligatory education for PhD supervisors, 1 day (Uppsala University)  
2005: Pedagogisk grundkurs 4 Hp (Basic pedagogical course 4 weeks fulltime at Uppsala University)  
2004: Ledarskapskurs: LeKa-Ledarskap i en Kreativ akademisk miljö 5Hp (Lund University)  
2003: Problem based learning 2 Hp (Lund University)  
1993: Communication techniques 5 Hp (Lund University)

### Academic leadership and administrative appointments

A. 2007-2009: Director of studies ("studierektor") for biomedicine, Uppsala University, Sweden. The assignment was 25% of my full-time position.

It contained the following types of work: pedagogic development and coordination, information and contacts with students and teachers, contact and information about the program and individual courses, update of home page, planning of special days for students and teachers, evaluation of courses from other universities abroad, coordination of international studies for biomedical students. It also included advertisement of the education, evaluation and modernizing the education.

B. 2005-2007: Coordinating International studies for students at the biomedical program at Uppsala University. This assignment was incorporated into my position as a study director. Ten percent (10%) of my salary was paid for by the biomedical program in order for me to work as a coordinator for international studies.

My task was to help and inform students in the biomedical program on how to study abroad and where it was possible to go. I also helped them to write academic purpose essays, letters to the foreign university, emails and to call personnel at these foreign institutes. I also informed entire courses at special occasions, about biomedical education aboard and helped out with different things in the program.

C. 2011- present: Alternative admission of medical students (MMI), SDU, Denmark. The University of Southern Denmark, as the only university in Denmark, admits half of the medical students through an alternative method, referred to as "Quota 2" (Kvote 2 optagelse): a rigorous test schedule, where the student's ability for ethical thinking, collaborative ability, language skills and more are tested.

The admission begins with a large multiple-choice test that is adopted after a program used for admission at several Canadian universities. The applicants that receive the best scores are invited back for a full day of further testing, after which selection takes place.

I have been involved in the planning of these tests and have also been in charge of two of the test stations together with two other scientists during a number of years. I am now responsible for one station concerning reading English texts and answering questions about the texts. Here I have been in charge of selecting appropriate texts, writing questions and a plan for how the different students should be evaluated. For the ethical station that I was involved in 2011-2015, I did the same, but here I have worked with an expert in ethics. I have also held master classes for future evaluators so that they will learn how to evaluate the students in a uniform way. I have myself participated as an evaluator on a station concerned with cooperation.

This work has given an interesting insight into the qualities tested and used for admission. Numerous investigations have demonstrated that Kvote 2 students do as well in examinations in their medical education, but they are also more committed to their education than students admitted the traditional way, based on grades. Interestingly, more women are admitted on grades while more men are admitted through this other method, promoting the overall gender equality of the education.

D. 2009-present: SU802 Medical Neuroscience (SU802, 5 ECTS), course leader and developer

E. 2012-2014: Anatomy and Neurobiology for Pharmacists (SU514, 5 ECTS), course leader and developer

F. 2015-present: Physiology and Pharmacology for Pharmacists (SU516-SU519, 20 ECTS), course planner and developer. Course leader for Module 1 (interim) and Module 4.

G. 2010-2015: Swedish Higher Education authority: I have evaluated Biomedical Education at Swedish universities and colleges on both bachelor and master levels. Some of these Educations needed major revisions and were therefore re-evaluated during 2015.

This work was both educational, interesting and fun. It has given me a broad overview of the different biomedical programs and courses at all Swedish universities and an insight how to revitalize and modernize this type of educations. I have also learnt what standards that are used for evaluation in Sweden and can compare to the system I currently work in. I have worked with a highly skilled group of people to do this, with very different backgrounds. It has been very inspiring.

## Teaching qualifications

Teaching experience: I have taught at various levels at the universities of Lund and Uppsala in Sweden and at my present institution, the University of Southern Denmark. The number and extent of courses and my teaching involvement is shown in the tables below:

### A. Teaching at University of Southern Denmark

2009- present: Course leader (5 Ects) and course designer of Medical Neurobiology (SU802): Advanced Level (Master level):37 hours /year I hold 22 hours of lectures and 18 hours of E-learning parcticals. My work: Planning, executing, teaching and administration

2017-present: Course leader Physiology and Pharmacology Module 4, Neurobiology and Endocrinology (SU519): Course leader (5 Ects) and course designer: Bachelor Level: Lectures: 18 hours /year Practiacals 30 hours/year. Part of the course is case based. My work: Planning, case making, excusion and administration.

2016-2017: Designing Module 4 for 5 Ects course in Endocrinology and Neurobiology as part of Physiology and Pharmacology for Pharmacists: Bachelor level: 30 hours: My work: Active planning and meetings

2015- 2017: Designing 20 Ectcs course- Physiology and Pharmacology for Pharmacists: Bachelor level:70 hours:My work: Active planning and meetings

2015: Course leader Module 1, Physiology and pharmacy (SU516) :Bachelor level:37 hours in all where I 6 hours of lectures and 14 hours of practicals. My work: Planning teaching and administration

2012-2014: Course leader Anatomy and Neurobiology for Pharmacists (5 Ects): Bachelor level: 20 hours/year. My work: Planning and administration of the course, Teaching: Lectures: 18 hours/year and practicals 22 hours/year.

2009-present: Supervision of bachelor students: Intermediate level: Group work. lab practice, creative writing, supervision

2010-present: Supervision of 10-15 Ects (ISA) and 1 year master projects (Speciale): Advanced level: Group work. lab practice, creative writing, supervision

2009-2011: Medical Neurobiology (3 years): Advanced (Master level): 18 hour/ year: PBL, lecture, group work

2012: Neuroscience for Pharmacists: Bachelor level: 14 hours/year: Lectures

2012: Neuroanatomy: Advanced: 6 hours/year: Lectures

2009-2011: Neuroscience Module 9, Medical education: Basic: 8 hours: Lectures

Teaching at Uppsala University in Sweden

2005-2009: Medical Neurobiology in Biomedicine: 10 week course: Basic level (bachelor course) : My work: Lectures: 6 hours/year, Lab precticals: 10 hours/year

2005-2007: Identification, drug evaluation in neuroscience: Advanced level: My work: Lecture 2 hours/year

2006-2008: Medical Education, Physiology and Pharmacology: Basic level: My work: 18 hours/year problem based learning (PBL)

2007-2009: Director of studies in biomedicine 2007-2009: 25% FTE/year

Teaching at Lund University, Sweden

2003 : Homeostasis, Medical education 3rd semester 3: Basic level (bachelor course): My work: 40 hours PBL tutor

2004: Homeostasis, Medical education 3rd semester 3: Basic level (bachelor course): My work: 40 hours: PBL tutor

1991-1999: Lund University: My work: Teaching 10% during my PhD was mandatory. I held lectures and taught lab practicals

### **Experience of different forms of teaching (Methods, materials and tools):**

In my teaching, I regularly use a wide spectrum of teaching methods and I am actively striving to widen this palette that presently include:

- Lectures;
- Group discussions;
- Demonstrations;
- Lab practices;
- Study questions;
- Mock exams;
- Problem based learning
- Case based learning.
- Small films demonstrating essential points
- Flipped classroom

B. Forms of exams made and experienced:

Denmark:

Written and oral exams, grading using the very (for someone who is not familiar with it) complex Danish so called 7-scale with a seven-character steps ranging from -3 to 12.

Sweden:

Written exams, grading of exams: Using the system in Uppsala and Lund (G, VG, UG) and the EU-based ECTS 7-grade character system.

C. Supervision

After finishing my postdoc, I have supervised a large number of M.Sc. students and B.Sc. students in my lab. All my students get a detailed plan of work that we go through together at the start of the project. The plan can naturally change somewhat during the project depending on the outcome of the experiments. In such cases the student is involved in the changes. I have found that supervision works best when my door is open and I talk to the students on a daily basis, thus involving the students, making them feel involved in the research as well as in the group. Another key element in the supervision of students is the weekly lab meeting. We also have frequent seminars in the group, where both students and the supervisor participate; this gives the students the opportunity to give a talk and to see how others do the same thing. Before the students talk, I go through the presentations with the student, listen to their talk and help them with disposition, how to talk, what to think about. I make them understand we are a team and I want them to do well. They feel support and generally do well too. I also give feedback after the talk.

Frequent interaction and reciprocal trust allow me to identify potential problems early on, and my impression is that students are happy with this supervision style – even students who received less good character or experienced other problems have good relations with me afterwards.

### **Responsibilities regarding planning, development and the evaluation of courses**

At the University of Southern Denmark (SDU):

General comment: Feedback from students is a fundamental tool in developing teaching and the professional development of university teachers. At SDU until now (2018), teachers cannot influence the official evaluations of their own courses, which are performed once every four years. In my opinion, this is insufficient. I therefore make my own evaluations and has done so since 2010. In collaboration with the students, I have performed informal course evaluations after every course, and use the results to further develop the courses. The students that have been involved in the

evaluation get feedback to what will be different in the course from next year due to their input. I have found that giving the students feedback after the evaluation is important for them. They feel they contribute to the improvement of the course

#### 1. 2009-present:

SU802 Medical Neuroscience (5 ECTS), course leader: This M.Sc. level course is required for students majoring in biomedicine and biology. The course has 30 lecture hours, 20 hours for group activities. The course is managed by the Faculty of Science at SDU, but is a joint undertaking with the Faculty of Health Sciences, and is taught in English or Danish.

<http://natfak.sdu.dk/laeseplan/viskursusbesk.php?kursuskode=SU802&lang=en>

My participation: I took over the course from a retiring professor who had more or less copied the course from the medical education. The course therefore needed a major update, and I reconstructed it thoroughly, redesigning every lecture and lab, introducing new course literature (Neuroscience, by Purves et al. (eds.)). I have tried to make the lectures interactive using a.o. of films, group discussions and practices. The course material is accessible through Blackboard e-learn, where all presentations, study questions, film clips, extra reading materials, study handbook, schedule etc. is easily accessible from the start of the semester. The course works very well and gets excellent evaluations (evaluations will be shown if asked).

All preparations for the course, 22 lecture hours, 20 hours group activities. The exam is a 4-hour written test with essay question that I make. Grading follows the Danish system where all teachers involved in teaching and an external censor evaluate and grade the exams according to the 13-step, 7-grade point Danish character scale. For the last year we have had an internal censor.

#### 2. 2016-present:

SU516 Pharmacology and Physiology for Pharmacists Module 4: Neurobiology and Edocrinology (5 ECTS), This B.Sc. level course has been developed during the spring of 2016 and was offered for the first time in the fall semester of 2017. The course is similar to SU802 in content, but with the neuroscience component at a more basic level, since this course is at a bachelor level. The course does not need as much anatomy and a component of pharmacology has instead been added, since the audience are pharmacists. The course consists of 24 hours lectures (18 hours of neurobiology) and 24 hours E-hours.

<https://odinlister.sdu.dk/fagbesk/internkode/SU519/da>

My Participation: This course together with courses in pharmacology and physiology were separated out of the curriculum for biomedicine students to specialized courses for pharmacy students in 2015-2016. I was in the planning committee for the rather large change. The goal was to make the courses more specialized for the pharmacist education. This has taken time and been hard work. I was in the planning committee of all the 4 modules that were planned and teach a large part of the last module described above. I have both lectures and E-hours. In this course I use flipped classroom methodology for several lectures. I also use group discussions and study questions that are gone through during the lectures. Films are also used to better visualize complex processes as well as symptoms of disease. Case based learning is used, where relevant cases are given to groups of students that work with them through the course and make an oral presentation of the cases in front of their peers in the end of the course. Here the students practice solving a case, make presentations and perform oral presentations.

Examination: 4 written examination with essay questions as well as MCQ. I and my colleague make the exam, and grade it together.

#### 3. 2012-2014:

SU514 Anatomy and Neurobiology for Pharmacists (5 ECTS), course leader: This B.Sc. level course has been developed during the spring of 2012 and was offered for the first time in the fall semester of 2012. The course is similar to SU802 in content, but with the neuroscience component at a less advanced level, partly because this will be a course at bachelor level, partly because there is a need for anatomy (the biomedical students have a separate course in anatomy). The course consists of 30 hours lectures (18 hours of neurobiology) and 10 hours labs.

<http://natfak.sdu.dk/laeseplan/kursusbeskrivelse.php?kursuskode=SU514>

My participation: All preparations for the course except for the anatomy part, which has been planned and performed by my colleague Dr. Morten Meyer. Of the 18 hours of neurobiology lectures, I have taken 14. I have taken all group activities (e-hours) concerning Neurobiology. The last time the course ran it received very good evaluations from the students. The course was stopped in 2014, to be a part of Physiology and Pharmacology, where it will be the last module.

4. 2015-present:

Physiology and Pharmacology Modules 1-4, SU516-519 (20 ECTS). This course was made because the Pharmacists needed a different type of course than the ones they shared with the biomedical students. The Pharmacist students needed more Pharmacology and more integration between physiology and pharmacology. The course consists of 4 modules of 5 ECTS. The modules will build upon each other and start with a basis module called cells and molecules. In this module the aim is to teach the students about cells and receptors, electric transmission, basic pharmacology and pharmacokinetics. The modules 2 and 3 that follows are focused on their physiology and pharmacology of the human body. The last module that is currently planned will focus on endocrinology and the nervous system.

My Participation: I have been part of the planning committee that has decided what the modules should contain and how each module schematically should be planned. I have been part of planning and executing module 1 during the fall of 2015, where I have had lectures, practicals. I have taught problem-based learning (PBL) to the students, a theme that will be used in all modules. I have also designed cases, helped students with the solution of cases and listened. I am currently planning module 4 that will contain endocrinology, neurobiology and neuropharmacology. Parts of this course will be based on the previous course SU514, though parts will be entirely new. I will teach the neurobiology and neuropharmacology, while my colleague Dr. Jane Stubbe will contribute with the endocrinology.

## **Acquittal in the role of teacher (Educational development, research in pedagogics and pedagogic prizes)**

Pedagogical Prize:

2008: The Limbic Prize ("Limbiska priset") 2008, awarded by Uppsala University's biomedical students to the best teacher of the year.

### 4.2 Supervision or similar tasks

Supervision of PhDs and postdocs

2005-present: Supervisor for PhD students: I have been the main supervisor for 3 PhD students, Mikael Corell who defended his PhD in 2011. Solveig Beck Nielsen who defended her thesis in August 2017 and Simone Hjørnesen who started her PhD 1 sept 2016. I have been co-supervisor for 6 PhD students both during my times at Lund University, Uppsala University and at University of Southern Denmark.

2005-present: Supervisor of Postdocs: I have also supervised postdocs. During 2005-2009 I supervised 2 postdocs in my laboratory in Uppsala, Drs Grzegorz Wicher and Markus Sjöblom. I have also been the supervisor of postdoc Dr. Tore Bjærregaard (2016), in a collaboration between Institute of Molecular Medicine, Clinical Pharmacology – Department of Public Health and University of California. Tore Bjærregaard Stage is now an assistant professor at Clinical Pharmacology and Pharmacy at SDU.

External supervision:

2017-2018: External supervisor: Ms Olga Pastorino, a PhD student at the Department of Environmental, Biological, Pharmaceutical Science and Technology at Università degli Studi della Campania Luigi Vanvitelli. Ms. Pastorino came here to perform research in collaboration with my group as part of a larger collaboration between her supervisor Dr. Luca Colucci and me. Olga stayed a whole year and was therefore supervised mostly by me, and through Skype by me and Dr. Colucci. I was also an external evaluator of Ms. Pastorino's thesis in October 2018. The thesis defense is the 18th of December 2018.

2010-2015: External Supervisor: Duygu Dağlıkoca: PhD student at Bogazici University, Istanbul, Turkey. Mrs. Dağlıkoca, spent in all 6 months (3 months 2010 and 3 months 2011) in my lab to learn new techniques and to be supervised. Supervision is also provided via e-mail and Skype. During times this was particularly intense since her formal supervisor underwent cancer treatment and nobody else could supervise Ms. Dağlıkoca. Ms. Dağlıkoca got her PhD in 2015 and now works at a pharmaceutical company in Istanbul.

2010: External supervisor: Gabriela Bellavia: Former PhD student at the university of Roma Tre, Rome, Italy. Ms. Bellavia spent 6 months in my and a colleague's lab to learn methods and get advice in her Ph.D. project. I was also an external reviewer of her Ph.D. Ms. Bellavia now works in a biotech company in Rome, Italy.

Mentorship:

Adjunktpædagogikum:

Since 2015 I have been a mentor for assistant professors going through adjunktpædagogikum. This has been a very rewarding role, where I have learned a lot from my mentees in the form of new teaching and views of how teaching could be performed. I have of course also contributed with my knowledge in teaching and pedagogics. The course is very good and my mentees have overall been very enthusiastic and willingly taken in all the new things they have learned. It has been a pleasure to help and guide these fantastic young teachers and be part of this program.

Mentor Adjunktpædagogikum for:

oReza Khorrooshi (2015)

oMaria Blocksgaard (2017)

oMaiken Lumby Henriksen (2018-2019)

oMira Illeva (2018-2019)

## Teaching philosophy

A cornerstone of my teaching philosophy is that my institution should be a learning institution, rather than a teaching institution.

Teaching without learning is possible – I believe most people have experienced that – but this is undesirable and learning must be the goal of all teaching. Students that are taught to learn will keep learning for their entire lives, long after teaching has ended.

Teaching fulfills what I believe is a fundamental responsibility of all scientists: to efficiently communicate knowledge to students, fostering new scientists and professionals. Good teaching fosters a new generation of educated individuals that will take an active part in society and in future research.

Good teachers prompted me to start my career as a neuroscientist.

My approach to student education has shifted from an emphasis on my teaching, to a more central focus on student learning, and finally to a realization that the two are inseparable aspects of the same whole. By an active teaching style I wish to promote positive learning; to spark the students' enthusiasm for learning and to provide a strong foundation for lifelong learning.

Having worked in many different academic environments – four institutions in three countries – has provided me with insights into how some elements of teaching are general, whereas others are locally determined. In the following, I describe some experience-based principles that I believe are general, and that I actively use in my teaching:

### Student involvement

Students should be actively involved in their own learning process and I try to always find new methods to do this in a captivating and efficient way. For example, in addition to the common discussions during lecture hours I always start courses with a small exercise, where they students are asked to anonymously write down what they wish and expect to learn during the course. A list of the different wishes is then put on the course web page. I then make effort to address the wishes and expectations during the course. This exercise has the dual purpose of focusing the students' attention – they can gauge the progress of the teaching to their own expectations – as well as mapping the level of the students, allowing me to adjust my teaching to the extent that it is possible and/or desirable. The effect of this method – which is very easy to do – is quite amazing; noticeably better atmosphere, clearly more attentive students and – very important – better results at exams.

Another method to involve and engage students is to make frequent references to well-known everyday situations where neuroscience plays a role. For this reason I talk about diseases common in society, like depression or schizophrenia, as well as interesting syndromes that some people have, like synesthesia, where several types of senses connect.

### Feedback as a development tool

Feedback is an essential activity for helping students to reach their maximum potential at their particular stage of training.

It is important to be aware of the many factors that play a part in feedback – factors that can influence positively or negatively the effectiveness of any feedback given. Feedback should be undertaken within an atmosphere of trust and concern where both student and 'teacher' know and feel that they are working as allies with common goals – these being the best possible patient outcome and the development of the students. In class the common goal is to learn for a future job or short term to get a good grade or pass the exam. I make it clear to the students that this is a common goal for us. I want everyone to pass the exam and I want everyone to learn for the future. I make them understand that I know they could all make it if they just work and that I will do everything I can to help them. This enables a friendly and perhaps more frank atmosphere.

I use feedback at every lecture. The last 10 min I first recapitulate the talk and then I ask the students what was most difficult to understand from the lecture. We then go through the most difficult parts again. I also start every lecture with a few simple questions from the lecture from last time. The students clearly like this and come with additional questions about things they may have thought about and perhaps not understood.

At the end of a course, a standardized course evaluation is always performed (regardless of whether it is required or not), where the students anonymously are given the opportunity to give suggestions to how the course can be improved. During the last years we have also called the students back in a focus group a few months later, to discuss the results; how we mean to use the outcome of the evaluation to improve the next course. This exercise has been completely voluntary, but very popular.

#### Variation is the key to attention

When I teach in the normal lecture format, I try to use variation to help students stay focused. For example, I add short film clips in order to illustrate complicated structures or functions. I break up class in smaller groups for discussions in the class room ("beehives"). In addition to the course literature, I frequently use scientific papers for deeper learning. I also put out the Powerpoint presentations and films used during my lectures on the class web page (open to students, but not others).

#### Friendliness and respect

Finally, I believe that a relaxed atmosphere and good relations are important for good learning. I make a conscious effort to strike the right balance between making the students feel so secure with me that they are not afraid to approach me, but not letting these relations become so close that it erodes respect. The keyword is balance – both friendliness and respect can go too far – and this balance is often different in different classes.