Teaching portfolio

1. Teaching CV: A list of teaching and supervision tasks, including specification of academic fields, scope, level (bachelor, master, continuing education, PhD). Please state the teaching method used (e.g. lecture, class teaching, exercises, supervision, examination, coexamination, distance teaching, internet-based teaching and evaluation of teaching). Please also indicate the language of instruction.

Courses: PhD and master courses: • Materials Chemistry, Aalborg University, Aalborg, 2023-, ca. 30 students, in English, role: 2 lectures + exam. •Physical Chemistry of Materials, Aalborg University, Aalborg, 2023-, ca. 30 students, in English, role: 12 lectures + exam. •Biosensor section in Instrumental Chemical Analysis (Course ID 26317), Technical University of Denmark, Lyngby, 2021, 5 ECTS, ca. 20 students, in English, role: 1 lecture + wrap-up. Note: I develop the teaching materials by myself based on my research in electrochemical biosensors, conveying the research frontier in glucose biosensor to the students. •Presentation and Discussion of Research and Literature within Inorganic Chemistry and Materials Science (Course ID 26970), Technical University of Denmark, Lyngby, 2021, 5 ECTS, ca. 10 students, in English, role: 1 lecture. Note: I present a lecture on enzymatic bioelectrochemistry by converting my research into presentation materials. •Master special course: Evaluation of the anti-biofouling effect of the nanoporous gold, Technical University of Denmark, Lyngby, 2021, 10 ECTS, 1 student, in English, role: supervising in the lab. •Master special course: Electrochemical detection of dopamine on nanoporous gold, Technical University of Denmark, Lyngby, 2021, 5 ECTS, 1 student, in English, role: supervising in the lab. •Chemistry at the Nanoscale (Course ID 26290), Technical University of Denmark, Lyngby, 2018-2022, 5 ECTS, ca. 10 students, in English, role: 1 lecture for teaching week 10; lab demonstrator for the electrochemistry of cytochrome c and atomic force microscope. Bachelor courses: •Physical Chemistry 3 (CH4004), University of Limerick, Limerick, 2014-2018, ca. 20 students, in English, role: lab demonstrator for 5 lab exercises. •Physical Chemistry 4 (CH4005), University of Limerick, Limerick, 2014-2018, ca. 20 students, in English, role: lab demonstrator for 6 lab exercises. •Physical Chemistry (CH4054), University of Limerick, Limerick, 2014-2018, ca. 20 students, in English, role: lab demonstrator for 6 lab exercises. •General Chemistry 1 (CH4701 / CH4721), University of Limerick, Limerick, 2014-2018, ca. 50 students, in English, role: lab demonstrator for 4 lab exercises. Student supervision: Problem based learning (PBL) student groups, Aalborg University, since 2023: •8th semester: An electrochemical sensor for uric acid, based on electropolymerized poly(3,4-ethylenedioxythiophene) (PEDOT). Master students: •1 as main-supervisor (Pia Tønnes Jakobsen, February 2021-August 2021, Thesis title: Aptamer-based electrochemical thrombin measurement), Technical University of Denmark, Lyngby •1 as co-supervisor (Zhengyang Shan, September 2022-January 2023, Thesis title: The effect of number of layers of nanoporous gold films on their electrochemical behaviors), Technical University of Denmark, Lyngby PhD students: •Three as co-supervisor (2018-2022) at Technical University of Denmark, Lyngby 1. Wei Huang, September 2017-December 2020, Thesis title: Transition metal–based composites for oxygen evolution electrocatalysis and lithium ion storage. 2. Xiaomei Yan, September 2018-December 2021, Thesis title: Electrochemical studies of redox active molecular and enzyme monolayers on nanostructured electrode surfaces. 3. Fangyuan Diao, September 2018-March 2022, Thesis title: Prussian Blue Analogues and Their Derivatives for Water Splitting Reactions. Examinator/censor: •Pre-examiner of 2 PhD theses, School of Chemical Engineering, Aalto University, Finland (March 2023, September 2022) •Chairperson of the PhD defense of 3 students, Technical University of Denmark, Lyngby (2021-2022) Dissemination/outreach: •Gave a lecture at Coloplast A/S, entitled Electrochemical biosensor: a well-known but rapidly evolving technique, on Apr. 20, 2023. •Together with a journalist, we wrote a newspaper article entitled How to power all your devices – using your own body, published on Jun 13, 2019, in The Irish Times. •I wrote a newspaper article entitled These snowy branches are actually gold? published on Dec. 14, 2015, in The Science of Christmas Supplement, Irish Independent.

2. Study/programme administration and management: Experience in programme management and coordination. A list of study administration tasks, e.g. study board membership, chair of study board, semester or course coordinator, accreditation tasks, etc. Experience in planning teaching activities. Experience in programme development. Participating in committees and commissions etc. on education issues.

•Coordinator of the 9-10th Semester for chemical engineering and chemistry students, Aalborg University, Aalborg, 2023-

3. Formal pedagogical training: A list of completed courses in university pedagogy, PBL courses, workshops, academic development projects, collegial guidance and supervision, etc. Written assessment from the course in university pedagogy for assistant professors. Participation in conferences on pedagogy and didactics. Please enclose any documentation of the above, such as course certificates, references, etc

•In 2022, I have participated University Teacher Training Programme such as Course 1 - Teaching Lab, Supervision of large Projects, at Technical University of Denmark, Lyngby. •Since October 2022, I am attending University Pedagogical Programme for assistant professors at Aalborg University, Aalborg. This is supposed to be accomplished in a year.

4. Other qualifications: Conference contributions and attendance, contributions to debates, scientific articles on pedagogical issues etc. Peer supervision, editorials, mentoring experience or other types of competence development activities.

Type your answer here...

5. Pedagogical development and research: Development of new courses, teaching materials, teaching methods, examination types or other types of pedagogical development. Didactic and pedagogical research. Cooperation with external collaboration partners.

Type your answer here...

6. References on your teaching skills from superiors or colleagues. Teaching evaluations and any teaching awards received.

Type your answer here...

7. Personal reflections and initiatives: Here you may state any personal deliberations as regards teaching and supervision, any wishes and plans for further pedagogical development, plans for following up on student feedback/evaluations, etc. Personal reflections on your own pedagogical practice, including objectives, methods and implementation. This should include an analysis and a reasoned description of your pedagogical activities in relation to your pedagogical understanding and student learning. Thoughts on the teaching method at Aalborg University (which is largely based on group-organised project work and problem-based learning)

Type your answer here...

8. Any other information or comments.

Type your answer here...