



2017-03-28

**A PhD Course and a Workshop in:**  
**Fish Toxicology *in silico***  
- Biology, Ecotoxicology, Toxicology,  
Systems Biology, Mathematical Modeling

An International Research School for PhD students in  
e.g. marine biology, toxicology, bioinformatics and mathematics ...

**August 14-19, 2017**

**at the Sven Lovén Center, Kristineberg, Fiskebäckskil, Sweden**



**Funded by grants from:**

Department of Biological and Environmental Sciences at University of Gothenburg, Sweden

The Royal Swedish Academy of Sciences

Formas-project (942-2015-605), Sweden

Center for Digital Life Norway Research School, Norway

The dCod 1.0 Project, Center for Digital Life Norway



## Objectives

The overall objectives are to generate a deeper understanding of the responses of marine organisms such as fish to environmental contamination pressures, including mixed stressor situations and such hazardous compounds and ocean acidification. The aim of the PhD course/Workshop activities is to bring together scientists and PhD students from different countries and to interact with scientist and experts at the Sven Lovén Center, Kristineberg. We will extract information from *in vitro* and *in vivo* experiments and integrate environmental genomics and exposure data into systems biology and create new models *in silico*. We embrace mathematical approaches, which can be developed to predict adverse outcomes of specific exposures and mixtures, and assist in future experimental designs. We will discuss development of biomarker technology and modelling tools.

## Work Plan

There will be a 3 day PhD course *in silico* followed by a 3 day workshop. There will be pre-tasks and post-tasks for the PhD-student such as making a poster of their research project with research questions within their PhD-program. They will present their poster during the PhD course. In addition, the PhD students will be asked to send in suggestions for discussions-topics for the workshop before they arrive to Kristineberg. After the PhD course and workshop, the PhD students will be assigned specific tasks originating from the 3 workshop groups (*i.e.* Experimental Design; Critical Review; Future Grant Proposals; Responsible Research and Innovation).

## The PhD-course (3 Days)

There will be lectures in toxicogenomics, bioinformatics and mathematical modeling and hands-on computer exercises. The lectures and exercises will be held by scientists within the dCod research and the Formas projects (below) and other invited international experts.

## The workshop (3 Days)

This includes round-table discussions and group discussions with aimed tasks and different outcomes where PhD students interact with scientists from different fields and countries. There will be 3 main groups (*i.e.* Experimental Design; Critical Review; Future Grant Proposals). Depending on how many PhD students that participate and their backgrounds/interests, the groups may be split into sub-groups for part of the workshop discussions.

## Credits

2 ECTS is recommended for the course/workshop week. Credits for additional tasks can be added and final credits are determined by the examiners for each PhD student.

## PhD course leaders and lecturers/workshop chairs

Malin Celander, University of Gothenburg (UGOT), Sweden

Anders Goksøy, University of Bergen, Norway

John J Stegeman, Woods Hole Oceanographic Institution, USA

## Lecturers for PhD course/workshop chairs/co-chairs (tentative, to be confirmed)

Cinta Porte (CSIC, Spain); Nancy Denslow (University of Florida, USA); Jed Goldstone (Woods Hole Oceanographic Institution, USA); Marta Eide, Odd André Karlsen, Dorothy J. Dankel, Guttorm Alendal, Morten Brun, Hans Julius Skaug and Inge Jonassen (University of Bergen, NO); Augustine Arukwe (NTNU, NO); Ketil Hylland (University of Oslo; NO); Pål Olsvik (NIFES, NO); Bjørn Einar Grøsvik (Institute of Marine Research, Bergen, NO); Daniela M. Pampanin (IRIS, NO); Jan Ludwig Lyche and Ian Mayer (NMBU, NO); Torbjörn Lundh and Kerstin Wiklander (UGOT/Chalmers, SWE); Daniel Schlenk, University of California, Riverside, USA.



Maximum 20 participants.

### **Application**

Use the following link for your application:

<http://science.gu.se/english/education/phd/courses/current-courses/phd-courses-detail/?eventId=70136439592>

Please fill in your full name, affiliation, e-mail adress and cell phone number.

### **Travel grant**

Travel grants are available for [members of Digital Life Norway Research School](#). Application for travel grants should be submitted to Anders Goksøy <anders.goksoyr@uib.no>. Further information about the DLN Research School can be obtained from Liv Eggset Falkenberg <liv.falkenberg@ntnu.no>.

### **Bus-transportation**

Bus-transportation from Göteborg C or Oslo C to Kristineberg – roundtrip will be arranged and the cost is covered by the grant from the Royal Swedish Academy.

## **PROGRAM OUTLINE**

### **Monday August 14**

Welcome

Poster-setup

Afternoon/Evening Talk(s)

### **Tuesday August 15**

Lectures

Poster-presentations

### **Wednesday August 16**

Lectures

Lab-demo? (not confirmed)

### **Thursday August 17 Start Workshop**

Workshop themes:

Experimental Design

Critical Review

Future Grant Proposals

Responsible Research and Innovation

### **Friday August 18**

Workshop discussions cont:d.

### **Saturday August 19**

Presentation of workshop outcome and plan including time-plan for continuation.



## VERY IMPORTANT INFORMATION

### The Location

The Sven Lovén Center for Marine Sciences at Kristineberg, Fiskebäckskil

<http://www.loven.gu.se/english/stations/kristineberg/> Phone: 031-786 9500 (Reception)

### Pre-preparations before the PhD course starts

Prepare questions (minimum 3 questions) for group discussions. Big picture questions, specific research questions and ecotoxicology challenges as well as an optional Quiz-question for the FishToxInSilico Quiz. Submission to [malin.celander@gu.se](mailto:malin.celander@gu.se) no later than August 8.

Prepare a poster (see below) and bring it with you.

### Poster

Each participant presents one poster during the poster session on Monday. All posters will be up during the whole course. During the poster session each poster will be highlighted for a 10 min “Speaker’s Corner” which includes a 5 min presentation of the poster followed by 5 min for questions and discussions.

The poster should be in A0 (portrait) format and include the following:

- ✓ Title, Name & Affiliation
- ✓ A short description of your research project (approximately 100 words)
- ✓ Aim, Results & Conclusions
- ✓ A specific scientific research problem that you want to discuss during the course.

### Clothes

We are all scientists so obviously there is no fancy dress code, but please bring good walking shoes and rain clothes (for the “walk & talks” and the boat excursion).

The weather could be chilly, wet & windy ... or it could be absolutely fantastic!

Weather forecast: [www.smhi.se](http://www.smhi.se)

Bring bathing-clothes if you want to be one with the ocean.

### Housing

In 2-bed bedrooms. All rooms have private bathrooms, but not all of the bathrooms have showers and for those there is a shared shower-room facility across the hall. Sheets and towels are included.

### Meals

Breakfast, Lunch, Coffee/Tea & Dinner are all included and will be served in the “Mässen”.

**Note!** Please, let us know in advance (no later than August 8) if you have special food requirements (e.g. vegetarian/allergies).

### Pub

There will be a cash pub in the evenings. No cash (*i.e.* Swedish crowns) - no drink!

There is no ATM machine on the marine station, so remember to bring Swedish cash.

No food will be served after dinner, but there are grocery stores on the island that we will pass during the walk & talks, in case you need an extra snack, and they accept credit cards.