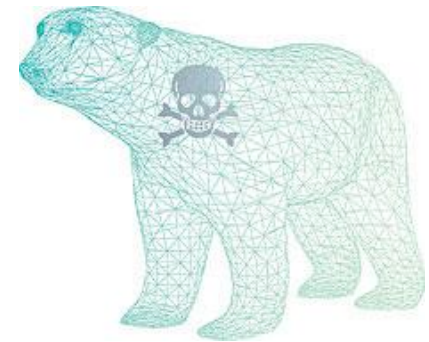




NTNU – Trondheim
Norwegian University of
Science and Technology

Master's degree programme in Environmental Toxicology and Chemistry

Åse Krøkje
Faculty of Natural Sciences



Background

- Pollution related research has been going on in the Faculty of Natural Sciences since the 1970s.
- A Strategic University programme "Basic research on pollutants and their effects" financed by the Research Council of Norway (1996-99).
 - Integrate interdisciplinary research activity
 - Develop a new interdisciplinary master's programme in pollution studies. => Norwegian Master's programme
- Several international students in our master courses
- International master's programme in Environmental Toxicology and Chemistry established in 2009

Admission requirement

- Environmental Toxicology: BSc in Biology (minimum of 80 ECTS credits biology courses) including pollution biology. In addition, applicants must have basic knowledge in chemistry
- Environmental Chemistry: Bachelor in Chemistry (minimum of 80 ECTS credits chemistry courses) including environmental and/or analytical chemistry
- Bachelor degrees within other related areas may be considered on an individual basis.
- English requirements for international master's programmes

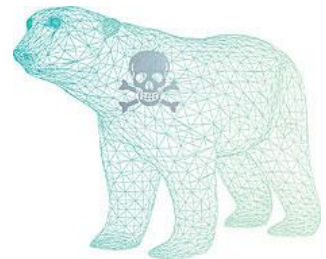
Master's programme ENVITOX

The two main components in the Master's programme:

- Masters thesis (60 ECTS credits)
- Theoretical and methodological courses, some compulsory and some elective (60 ECTS credits)

Compulsory ENVITOX

- Health, Safety and Environment (HSE) course for master students
- Experts in teamwork (7.5 ECTS credits)
- Scientific seminars in Environmental Toxicology and Chemistry (7.5 ECTS credits) (all four semesters)



Master's programme in ENVITOX offers two specialisations:

Environmental Chemistry

Compulsory:

- Organic Marine Environmental Chemistry (7.5 ECTS credits)
- Special syllabus for Master's degree (7.5 ECTS credits)

Environmental Toxicology

Compulsory:

- Environmental Toxicology (7.5 ECTS credits)
- Advanced Ecotoxicology (7.5 ECTS credits)
- Experimental Ecotoxicology (7.5 ECTS credits)
- Special syllabus for Master's degree (7.5 ECTS credits)

Three days field-trip for new students in Environmental Toxicology and Chemistry















Learning outcome

Knowledge

After finishing the study programme, the candidate should have acquired

- wide academic and applied knowledge in biology and/or chemistry with specialization in the field of Environmental Toxicology and/or Environmental Chemistry.
- research experience in a speciality that requires advanced knowledge of biology and/or chemistry through a supervised master's project that extends over several semesters.
- knowledge of relevant methods and hypothesis testing, including experimental analysis (chemical and/or biological), statistical techniques and other tools used to analyse and solve biological and/or chemical issues in research, manufacturing, management and/or teaching.
- knowledge of international research in her/his speciality, knowledge of international research groups in the field, and the breadth of research being done in the fields of "Environmental Toxicology" and "Environmental Chemistry".

Master's project - field sampling



Master's project - field sampling

"Study of Persistent Organic Pollutants in Arctic Soil"



Master's project - field sampling

”Trace elements and organic matter in Arctic during early springtime”

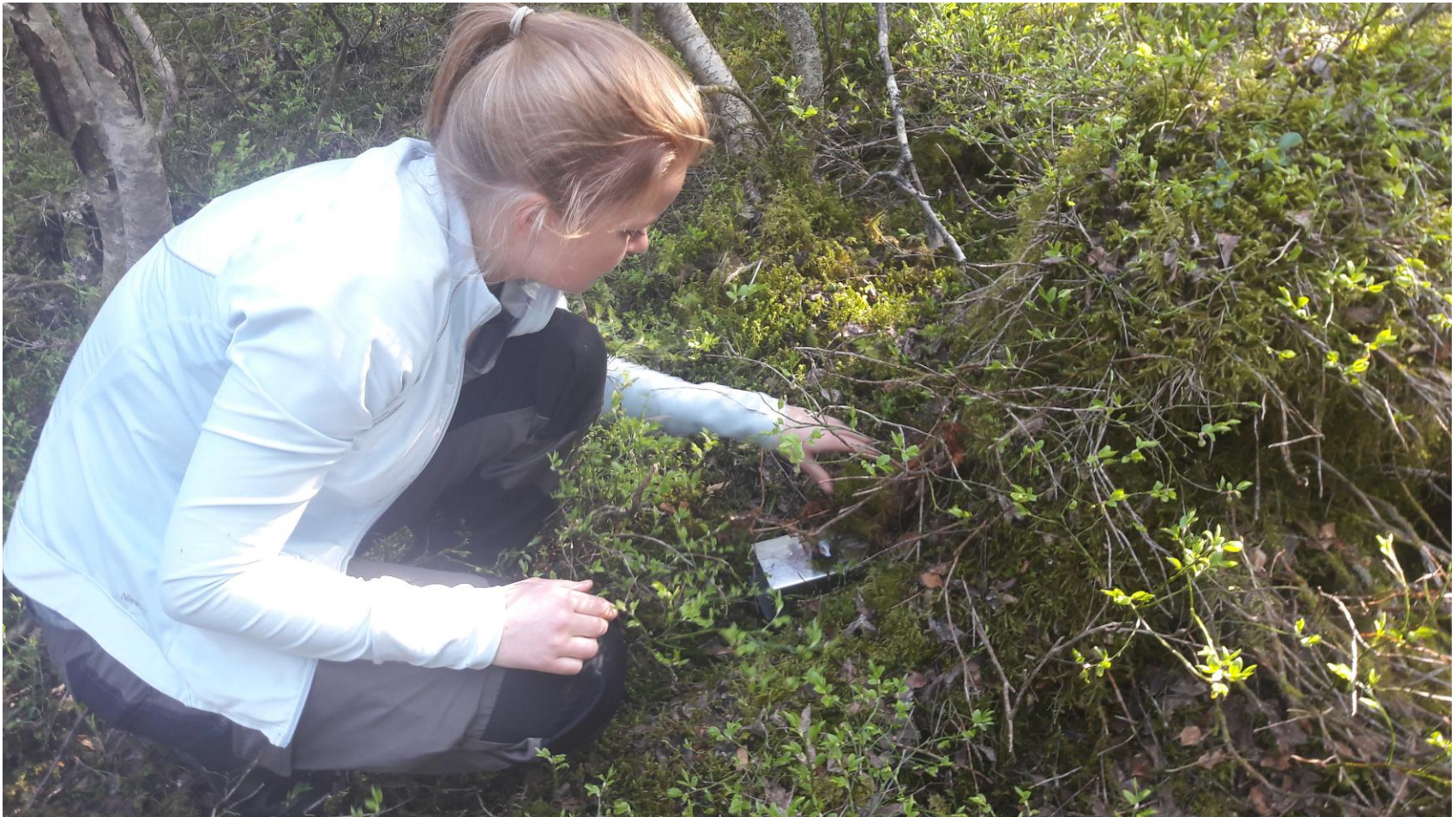


Master's project - field sampling
"Genotoxic Effects of POPs and metabolites in Arctic Sea
Birds and Eggs"



Master´s project - field sampling

”Genotoxic effects in wild rodents exposed for PFAS and heavy metals”



The students have the opportunity to spend one semester at Svalbard

The second semester they can chose to take one, two or three courses/the whole semester at The University Centre in Svalbard (UNIS).



UNIS is offering the following relevant courses:

- Techniques for the Detection of Organo-Chemical Pollutants in the Arctic Environment (10 ECTS)
- Arctic Environmental Toxicology (10 ECTS)
- Arctic Environmental Pollution: Atmospheric Distribution and Processes (10 ECTS)



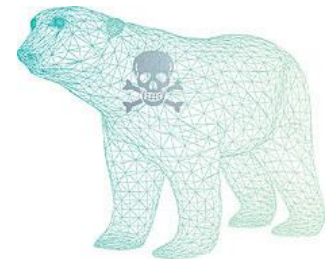
Entrance autumn 2016 – students home country

Country	Number	Specialisation
USA	3	ENVCHEM 1 ENVTOX 2
Canada	1	ENVCHEM
England	1	ENVTOX
Spain	2	ENVTOX
Italy	1	ENVTOX
Poland	1	ENVTOX
Serbia	1	ENVCHEM
Turkey	1	ENVCHEM
Nigeria	1	ENVTOX
Norway	10	ENVCHEM 6 ENVTOX 4

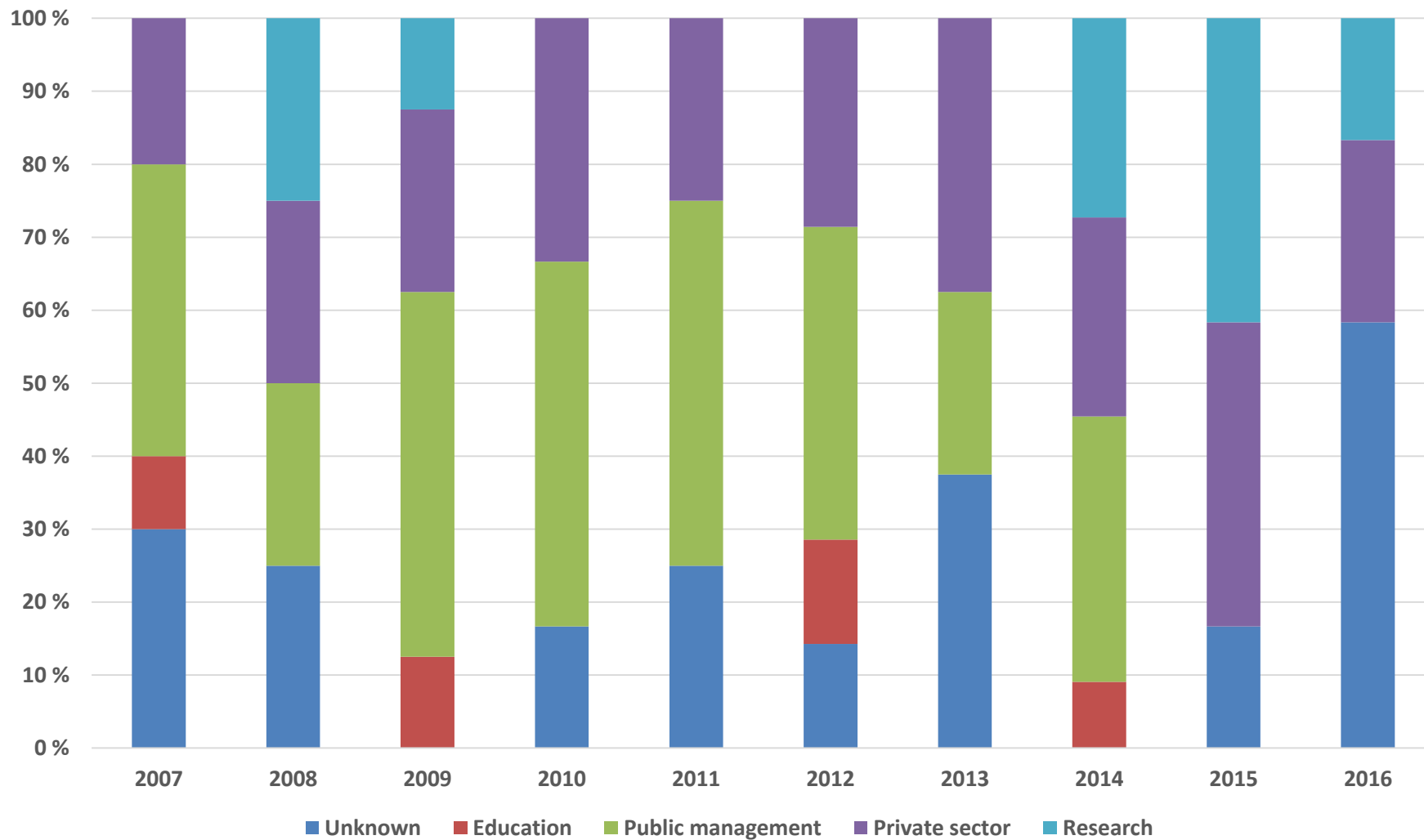
Job Prospects

Internationally qualified for a wide range of positions in:

- Public and government institutions
- Administrative environmental agencies
- Consultancy companies
- Industry, both as researcher and adviser
- Risk assessment (REACH)
- PhD candidate



Where are MSc graduates in Environmental Toxicology and Chemistry working?



Thanks for listening!

