

Study Environmental Analysis

At the University of Oslo

**Section of Life sciences,
Department of Chemistry**



Visit us @

<http://www.mn.uio.no/kjemi/forskning/grupper/aom/miljo/>

Education with a future

The modern society requests reliable risk assessments and a sustainable solution to our environmental problems. This requires an in-depth knowledge of Environmental analysis in order to find the best solutions and relay them to the society.

Basic and advanced Environmental chemistry courses are offered at Bachelor and Master levels. The aim of the study is to build up a fundamental understanding of chemical processes governing the mobility and transport of elements and compounds in the environment.

Job opportunities

With the versatile background of an environmental chemist you are enabled to work in many types of jobs within e.g. research, analytical laboratories, industry and consulting.

Our prior students are now holding prominent positions in a wide range of workplaces, e.g. NIVA, NILU, UMB, The Climate and Pollution agency, Statistics Norway, Norwegian Food Safety Authority, Bioforsk, Nordic Ecolabelling, SINTEF, NTNU, Norwegian Institute of Public Health, National Institute of Occupational Health, Kripes, Shell, The Norwegian Radiation Protection Authority, military, etc. as well as in teaching.

There are generally ample job opportunities for our candidates due to a lack of scholars with relevant education

Photo: Smog over Beijing, China



Photo: pH measurement in field

Environmental chemistry

Chemistry is a common denominator in all nature sciences. Environmental chemistry plays therefore a central role in all cross-disciplinary research on the fate and effect of contaminants and pollutants in the environment.

Environmental chemistry is the study of complex chemical equilibriums that exist within and between air, water, soil and biota, how humans affect this system and how we best can reduce negative effects.

Depth and span

To understand the interplay between chemistry and the environment it is necessary with knowledge of inorganic and organic chemical processes in the environment. In acquiring this understanding, we work together with other sciences as e.g. biology, geology, limnology, hydrology, physics, and environmental economics. We also apply mathematical statistics and modeling.

By inducing our chemical understanding on the processes that governs nature it becomes possible to understand the behavior of man-made chemicals and natural substances.

Photo: Brown surface water due to natural organic matter

International involvement

How emerging economies, and especially China, meet their environmental challenges will have great impact on our environment through enhanced internationalizations and global environmental problems.

Much of our research is therefore conducted in developing countries in Far East, Central Asia and Africa.

Research

Environmental chemistry is a scientific discipline in which the environmental issue is the focal point. We apply the results from analytical chemistry as a tool to study natural empirical relations between explanatory variables and with response parameters.

An Environmental chemist works multidisciplinary, exploring the borderline with other fields of science. Our activities span from analytical chemistry, laboratory experiments and fieldwork, through chemometrics to the use of theoretical simulation models.

Example of research areas are:

- Climate change effects
- Eutrophication
- Natural organic matter
- Mercury transport

Photo: China has severe pollution problems in air, water and soil