

Toxicology in Norway

and at the Norwegian Institute of Public Health

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Authorities

- Norway as non-EU country follow EU legislation regarding chemicals and implement this is national legislation
- Norwegian food safety Authority (Mattilsynet)
 - The Norwegian Food Safety Authority is a governmental body with responsibility for food and drinking water safety and also the promotion of plant, fish, and animal health. The Norwegian Food Safety Authority also performs duties relating to cosmetics and pesticides, and inspects animal health personnel
- Norwegian Environment Agency (Miljødirektoratet)
 - The agency's primary responsibilities are to reduce greenhouse gas emissions, manage Norwegian nature, and prevent pollution.
 - REACH competent Authority. Risk Assessment Committee member in ECHA
 - The Product Register is the Norwegian authorities' central register of hazardous substances and chemical products that are on the market in Norway.

Major Institutes involved in toxicology

R&D institutes under ministeries

- National Institute of Occupational Health (STAMI)

- The National Institute of Occupational Health is a research institute contributing to the increased knowledge and practical applications of occupational health.
- The Institute is organized under the Ministry of Labour and Social Affairs as an integrated part of the national system for protection of workers.
- Shan Narui

- Norwegian Defence Research Establishment (FFI)

- Defence related research
- Laboratory for chemical analysis in an emergency situation

- Norwegian Institute of Public Health (NIPH)

- National competence institution for research-based knowledge of public health and the health and care services. NIPH shall provide knowledge of infectious disease control, physical and mental health, environmental factors (including substance abuse, nutrition and other factors that affects health).
- The Norwegian Poisons Information Centre is a part of NIPH
- The Norwegian Scientific Committee for food and environment (VKM)
 - VKM is an independent body that performs independent risk assessment for the Norwegian Food Safety Authority and the Norwegian Environment Agency. VKM's Scientific Panels comprise about 100 independent experts with broad interdisciplinary competencies. VKM is the Norwegian Focal Point for the European Food Safety Authority, EFSA.

Major Institutes involved in toxicology

R&D institutes under ministeries

- Norwegian veterinary institute (NVI)

- National Institute in the fields of animal health, fish health and food safety. Provide advisory support to the government
- Gunnar Eriksen, Christiane Kruse Fæste

- Institute of Marine Research (IMR)

- Performs research and provides advisory services in the fields of marine ecosystems and agriculture
- Josef Rasinger

- Norwegian Institute of bioeconomy Research (NIBIO)

- Food quality and safety, agricultural and rural development, environmental protection and natural resource management

Universities

- Norwegian University of life Sciences, including faculty of veterinary medicine (Ås)
 - Biology, food, environment and natural resources
 - CERAD – Centre of Excellence for low dose radiation
 - Jan Erik Paulsen, Jan Ludvig Lyche. Erik Ropstad
- Norwegian University of Science and technology (NTNU)
 - Environmental toxicology
 - Microplasts in the environment
 - Åse Krøkje and Martin Wagner
- University of Bergen
 - Effects on aquatic animals. iCOD project
 - Anders Goksøyr
- University of Oslo
 - Department of biosciences
 - Toxicology research at the school of pharmacy
 - Ketil Hylland, Katrine Borgå, Johan Øvrevik
- University in Tromsø / the Arctic university of Norway
 - Exposure and biomonitoring of POPs
 - Sandra Huber

Independent research institutes

- Norwegian Institute for Air Research (NILU)
 - Environmental research with focus on sources of airborne pollution, atmospheric transport, transformation and deposition
 - Nanomaterials
 - Maria Dusinska and Elise Runden-Pran
- Norwegian Institute for Water Research
 - Research institute in the field of use and protection of water bodies and water quality. Environmental health
 - Merete Grung and Knut-Erik Tollefsen
- Nordic Institute of dental materials (NIOM)
 - Dental biomaterials: safety and effective
 - Ellen Bruzel and Jan Tore Samuelsen
- Norwegian Geotechnical Institute
 - Sarah Hale and Hans Peter Arp: Zero pollution of persistent, mobile substances

Toxicology at NIPH in numbers

- Division of Climate and Health (Dr Ågot Aakra)
 - Air Quality and Noise - Dr Kristin Bjerve Gützkow
 - Food safety – Dr Cathrine Thomsen
 - Chemical Toxicology – Dr Hubert Dirven
- 70-75 persons employed, 25 toxicologists with a PhD degree
- 50% involved in advisory work and 50% research

Toxicology at NIPH –Advisory work

- Involved in ECHA/REACH assessments for the Norwegian Environment Agency
 - For example the general PFAS restriction, the evaluation of 160 Expanded One-Generation ReproToxicity studies (EOGRT studies), biocides classifications, safety assessments of chemicals in toys and read-across activities.
 - Support to Norwegian RAC members if Norway is rapporteur
- Involved in EFSA panels and in assessments for the Norwegian Food Safety Authority
 - Ethyleneoxide in sesame seeds, side effects of Personal Care Products, toxicological assessments of water treating products
- Member of the Scientific Committee for Consumer Safety (SCCS)
- Covering a wide span of competencies: hazard assessments, risk assessments, read across, interpretation of animal studies, QSAR, New Approach Methods, biostatistics, bioinformatics, exposure assessments, epidemiology

Toxicology at NIPH – Research work

- Biomonitoring
- Immunotoxicology
- Developmental Neurotoxicity
- Inhalation toxicology
- Human studies: Norwegian Environmental biobank, Athlete, EuroMix, PreventADALL
- Epigenetics and transcriptomics
- Comet assay
- Radiation (part of the CERAD center of Excellence)

EU Projects



+ PARC and EIRENE

Challenges

- In Norway: focus on ecotoxicology
- MSc courses in human toxicology mainly at UiO
- Difficult to get funding from the Research Council for experimental work related to human toxicology in the last 7 years
 - Quite successful in getting EU projects
- Almost no PhD students in human toxicology
- Recruitment of the next generation of human toxicologists will be difficult
- In emergency situations with chemical accidents: many players . Roles are not clearly defined
- Interpretation of findings in animals studies: this expertise is declining
- Toxicology students need to improve skills in bioinformatics and biostatistics

Takk for nå!