

NORDROCS 2012

4th Joint Nordic Meeting
on Remediation
of Contaminated Sites



Program
Short Papers
Abstracts



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18-21 September 2012, Oslo, Norway

ORGANIZING COMMITTEE

Harald Bjørnstad, M.Sc., Head of Section, Ground and Water Pollution,
Norwegian Defence Estates Agency; Chairman of Miljøringen, Norway

Ida Holm Olesen, M.Sc., Head of Section, Regional Development, Department of Contaminated Soil,
Region of Southern Denmark; ATV Soil and Groundwater, Denmark

Peter Harms-Ringdahl, M.Sc., Project management, Empirikon Konsult AB;
Web master of Nätverket Renare Mark, Sweden

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REVIEW COMMITTEE

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Norwegian Geotechnical Institute (NGI); Miljøringen board member

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NORDROCS 2012 is arranged by:



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Nätverket
Renare Mark

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VENUE: Clarion Hotel Royal Christiania, Oslo

PROGRAM

Tuesday, September 18, 2012

SHORT COURSES at Norwegian Geotechnical Institute (NGI)

SESSION I

10.00 – 12.30 Dynamic approach for investigations at contaminated sites.
Charlotte Riis et. al. NIRAS, Denmark

SESSION II

Sorption made simple.
Hans Peter H. Arp, NGI, Norway

12.30 – 13.30 Lunch

13.30 – 16.00 SESSION I

Stakeholder involvement.
Amy Oen and Magnus Sparrevik, NGI, Norway

SESSION II

Introduction to the use of compound-specific isotope analyses (CSIA) on contaminated sites.
Daniel Bouchard and Daniel Hunkeler, Centre d'Hydrologie & Geothermie, Switzerland

16.00 – 17.30 Registration opens at the hotel

17.30 Joint walk from the hotel to Oslo City Hall

18.00 WELCOME RECEPTION with Mayor Fabian Stang. Oslo City Hall. Light buffet

Wednesday, September 19, 2012

08.30 – 10.00 Registration and coffee

10.00 – 11.45 OPENING SESSION (Christiania Hall at Clarion Hotel Royal Christiania)

Welcome and opening of the conference

Harald Bjørnstad, M.Sc., Head of Section Ground and Water Pollution, Norwegian Defence Estates Agency; Chairman of Miljøringen, Norway

Chair: *Ida Holm Olesen, M.Sc., Head of Section, Regional Development, Department of Contaminated Soil, Region of Southern Denmark; ATV Soil and Groundwater, Denmark*

Key note speakers

Toxic substances in the Arctic – effects on ecosystems and humans.

Lars Otto Reiersen, M.Sc., Executive Secretary Arctic Monitoring and Assessment Program (AMAP), Norway

How to document the effect of sediment remediation?

Gijs Breedveld, Ph.D., Discipline Leader Environmental Engineering, Norwegian Geotechnical Institute (NGI), Norway

State of the art, challenges and upcoming techniques regarding investigation and remediation of chlorinated solvents.

Tom Heron, M.Sc., Executive Director, Environment and Infrastructure, Municipality of Horsens; Chairman of ATV Soil and Groundwater, Denmark

11.45 – 12.45 Lunch, poster session and exhibition

to be continued

12.45 – 14.15 SESSION I (Christiania Hall AB)

Contaminated sediments. Remediation and control system

Chair: *Jens Laugesen, Ph.D., Chief Specialist, Det norske Veritas (DNV); Miljøringen board member, Norway*

In-situ management of contaminated sediments. *Danny Reible, Center for Research in Water Resources, University of Texas, US*

Thin layer capping to reduce bioavailability of contaminants in seabed sediments, status after field testing in Norwegian fjords. *Espen Eek, Norwegian Geotechnical Institute (NGI), Norway*

The use of passive samplers to monitor the effectiveness of AC amendment to contaminated sediments. *Amy M. P. Oen, Norwegian Geotechnical Institute (NGI), Norway*

Effect of carbon amendments on ecological responses and PCB bioaccumulation in *Lumbriculus variegatus*. *Inna Nybom, University of Eastern Finland, Department of Biology, Finland*

SESSION II (Christiania Hall C)

Chlorinated compounds

Chair: *Solvår Reiten, M.Sc., Senior Engineer at the County Governor Office in Vest-Agder, Department of Environmental protection; Miljøringen board member, Norway*

Remediation of VOCs in clay and bedrock using sequenced thermal treatment and in situ bioremediation.

Evan Cox, Geosyntec Consultants, Canada

Contaminated site investigation in clayey till: Challenges, pit-falls and solutions. *Thomas H. Larsen, Orbicon, Denmark*

In-situ remediation of TCE by ERD in clay tills. Feasibility and performance of full-scale application insights gained through an integrated investigative approach for 2 sites.

Mette M. Broholm, Technical University of Denmark, Denmark

Successful pilot test of electrokinetic-enhanced bioremediation (ek-bio) as an innovative remedial approach for PCE DNAPL source area. *Charlotte Riis, NIRAS, Denmark*

14.15 – 15.15 Poster session and exhibition. Coffee.

15.15 – 16.45 SESSION III (Christiania Hall AB)

Contaminated soil. Case studies

Chair: *Randi Skirstad Grini, M.Sc., Department Director, Norwegian Geotechnical Institute (NGI); Miljøringen board member, Norway*

Characterization of DNAPL contamination containing T Parathion. *Torben Højbjerg Jørgensen, COWI, Denmark*

The avenue coking works remediation. *Stany Pensaert, DEME Environmental Contractors, Belgium*

Simonsland – redeveloping former textile industry buildings into a modern university campus. *Maud Söderberg, Golder Associates AB, Sweden*

Review of Danish experience with passive ventilation under houses. *Henrik Husum Nielsen, NIRAS, Denmark*

SESSION IV (Christiania Hall C)

EU projects and Framework Directives

Chair: *Gunnel Göransson, M.Sc., Research Scientist, Swedish Geotechnical Institute (SGI), Sweden*

BECOSI-authorities in four countries cooperating about contaminated sites. *Intars Cakars, Latvian Environment, Geology and Meteorology Center (LEGMC), Latvia*

Introducing the FP7 project TIMBRE: Tailored improvement of brownfield regeneration in Europe. *Stephan Bartke, Helmholtz-Centre for Environmental Research – UFZ, Germany*

Sediment management in the shadow of the Water Framework Directive. *Kristine Mordal Hessen and Marit Ruge Bjerke, Climate and pollution agency (Klif), Norway*

Accounting for soil functions and services in sustainability appraisal of remediation alternatives. *Yevheniya Volchko, Chalmers University of Technology, Sweden*

18.30 – 24.00 Conference dinner and dance at the Opera

24.00 – 02.00 Late night get-together in the Clarion Hotel Royal Christiania bar for NORDROCS participants

Thursday, September 20, 2012

09.00 – 10.30 JOINT SESSION (Christiania Hall)

Chair: *Peter Harms-Ringdahl, M.Sc., Project Management, Empirikon Konsult AB; Web master of Nätverket Renare Mark, Sweden*

Snowman Network - Knowledge for sustainable soils. Short information about the network and call 4.
Yvonne Ohlsson, Ph.D., Swedish Geotechnical Institute (SGI), Sweden

Key note speakers

Integrated approaches to global sustainable sediment management - the paradox of having it all.
Eric A. Stern, M.Sc., Research Leader-Sediment Management, Battelle Memorial Institute, USA

Impact of climate change and natural hazards on the quality of surface waters.
Gunnel Göransson, M.Sc., Research Scientist, Swedish Geotechnical Institute (SGI), Sweden

Pesticides in groundwater: Modelling and data analysis of the past, present and future.
Philip J. Binning, Professor, Department of Environmental Engineering, Technical University of Denmark (DTU), Denmark

10.30 – 11.00 Coffee break, posters and exhibition

11.00 – 12.30 SESSION V (Christiania Hall AB)

Contaminated sediments. Case studies and management

Chair: *Eric A. Stern, MSc., Research Leader-Sediment Management, Battelle Memorial Institute, USA*

Strategies and technologies for sustainable sediment remediation.

Mark Travers, ENVIRON International Corporation, US

Management of dredged sediments in Italy.
Francesca Giaime, ISPRA Institute for Environmental Protection and Research, Italy

Choosing techniques for the remediation of the Oskarshamn harbor.

Pär Elander, Elander Miljöteknik, Sweden

The successful use of aquatic deposition of 450 000 m³ contaminated sediments from Oslo Harbor.

Arne Pettersen, Norwegian Geotechnical Institute (NGI), Norway

SESSION VI (Christiania Hall C)

PFOS (Fire fighting foam)

Chair: *Mette M. Broholm, Associate Professor, Department of Environmental Engineering, Technical University of Denmark (DTU), Denmark*

Remedial methods and strategies for PFOS and PFOA.

Niklas Törneman, Sweco Environment, Sweden

Environmental investigations at selected fire fighting stations at Avinor's airports.

Kim Rudolph-Lund, Sweco, Norway

Cases of AFFF-use and dispersion – dedicated sampling, risk assessment, remediation and SEIA.

Per Johansson and Andreas Woldegiorgis, WSP Environmental, Sweden

PFOS mobility and remediation in the vadose and groundwater zone of glaciofluvial sediments, Gardermoen, Norway.

Kevin J. Tuttle, Norconsult, Norway

12.30 – 14.00 Lunch, poster session and exhibition

to be continued

Program Thursday, continued

14.00 – 15.10 SESSION VII (Christiania Hall AB)

Contaminated soil. Remediation and mining

Chair: *Vibeke Riis, M.Sc., Division Director Environment, Water and Climate change, Rambøll, Norway*

Experimental and numerical study of the hydro-geochemical behaviour of monolayer covers placed on acid generating tailings.

Thomas Pabst, Département des génies civil, géologique et des mines, Ecole Polytechnique de Montréal, Canada, Industrial NSERC Polytechnique-UQAT Chair in Environment and mine wastes management, now at Norwegian Geotechnical Institute (NGI), Norway

The use of sequential leaching procedure for risk assessment of heavy metals in waste rock utilized in railway ballast.

Juhani Kaakinen, ELY-Centre for North Ostrobothnia, Finland

Remediation of a heavy contaminated site at Ilsvika, Trondheim.

Geir Arne Røstum, Rambøll, Norway

SESSION VIII (Christiania Hall C)

Contaminated soil. Tools and models

Chair: *Erika Winquist, M.Sc. (Tech.), Research Scientist, Aalto University, School of Chemical Technology; MUTKU board member, Finland*

Hydrogeological modeling to improve management for a contaminated drinking water aquifer.

Martin Bergvall, Tyréns, Sweden

Microbiological and molecular tools for soil remediation.

Kristian Koefoed Brandt, Faculty of Life Sciences, University of Copenhagen, Denmark

Eco-efficiency analysis of a fungal bioremediation method.

Markus Räsänen, Department of Biotechnology and Chemical Technology, Aalto University, Finland

15.10 – 15.30 Coffee break

15.30 – 16.40 CLOSING SESSION (Christiania Hall)

Chair: *Marja Tuomela, Ph.D., University of Helsinki; MUTKU board member, Finland.*

Key note speakers

Environmental risk management of mine wastes (from planning to aftercare).

Marja-Liisa Räsänen, Ph.D., Senior Expert, Environment and Natural Resources, ELY-Centre for Kainuu, Finland

Toxic substances in our every-day life.

Rolf Tore Ottessen, Professor, Norwegian University for Science and Technology (NTNU) and Geological Survey of Norway (NGU), Norway

Closing speech

Harald Bjørnstad, M.Sc., Head of Section Ground and Water Pollution, Norwegian Defence Estates Agency; Chairman of Miljøringen, Norway.

Peter Harms-Ringdahl, M.Sc., Project Management, Empirikon Konsult AB; Web master of Nätverket Renare Mark, Sweden

Friday, September 21, 2012

09.30 – 12.30 Excursion (City walk) in Oslo guided by Turid Winther-Larsen

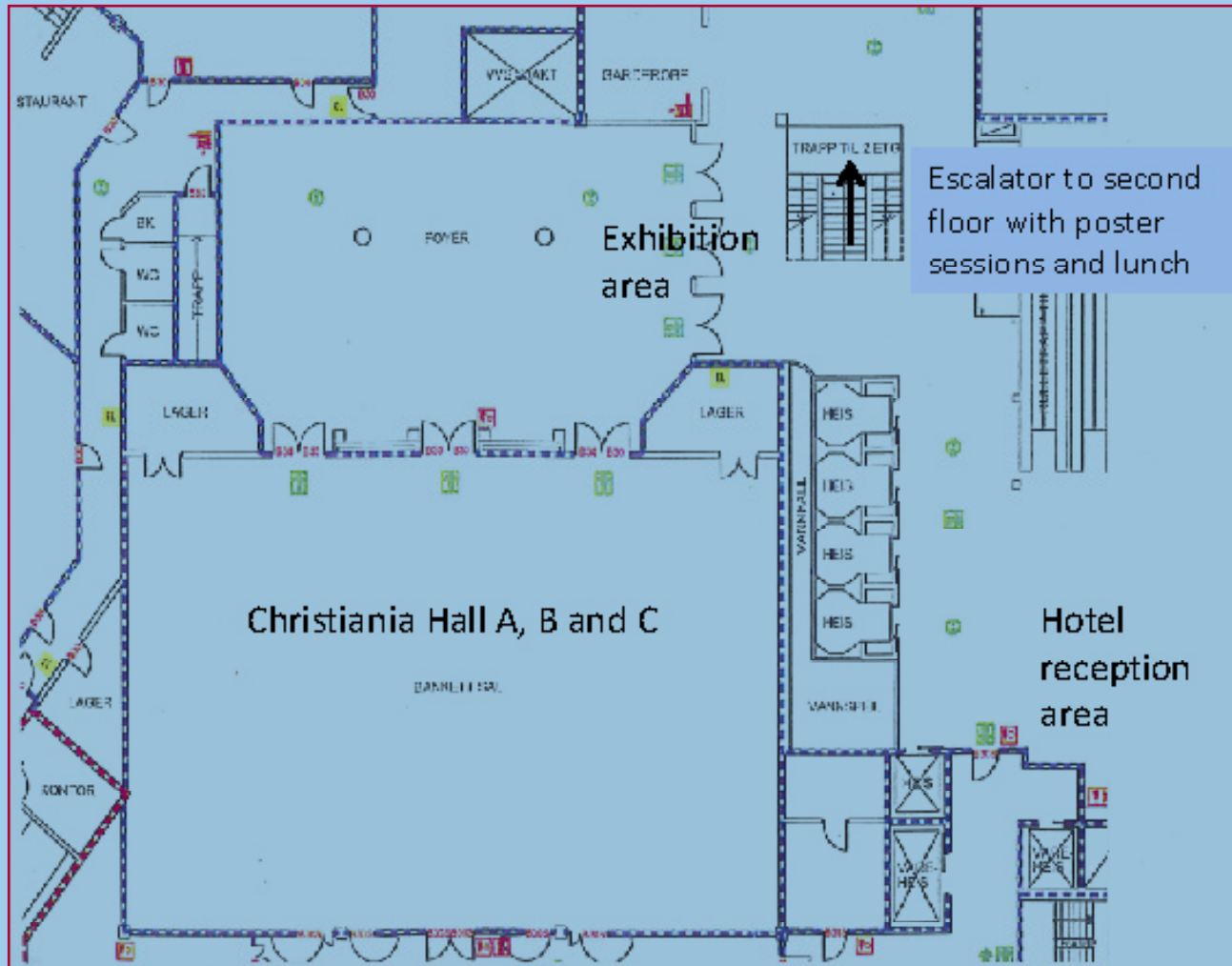
Oslo as town has a history of thousand years and is established just next to the Oslofjord. Today a prior fjord area is transformed from harbour to offices and house-buildings. The driving force was the political decision of a new Opera house and to move the main road traffic into an immersed tunnel. Huge areas at both sea and land sites have been cleaned through remediation processes, and the area is now available for different types of recreation.

We will give you a guided tour in the area around the Opera House and tell you how the new part of the city will be formed. The tour also takes you back in Oslo's and Norway's history by walking through the medieval part of Oslo and tells you about how life was then. You will be guided through one of Oslo's most exotic city areas, and on the way we will enjoy a lunch together at an historical theatre.

Meeting place: Outside the Opera by the statue of Kirsten Flagstad.

CONFERENCE FACILITIES

You find Christiania Hall and the exhibition area on the ground floor in Clarion Hotel Royal Christiania. The poster sessions and lunch are on the second floor:



SOCIAL PROGRAM

For all registered participants

Welcome reception at Oslo City Hall
with Mayor Fabian Stang. Incl. light buffet
Tuesday, September 18 at 18:00

Conference dinner and dance at the Opera
Artistic performances by
Espen Langvik with pianist
Dance with Sad & Crazy
Wednesday, September 19
18:30 – 24:00

Late night get-together in the hotel bar at Clarion Hotel Royal Christiania
Wednesday, September 19
24:00 – 02:00