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Nordisk kärnsäkerhetsforskning  
 Norrøntar kjarnryggjarannsóknir  
 Pohjoismaiden ydinturvallisuustutkimus  
 Nordisk kjernesikkerhetsforskning  
 Nordisk kärnsäkerhetsforskning  
 Nordic nuclear safety research

**NKS-B: On-going Activities and Future Funding Possibilities**

Justin Gwynn  
 NKS-B Program Manager

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This is NKS...

**NKS – Nordic Nuclear Safety Research**  
 Has for decades supported Nordic co-operation in research and development within the fields of:

- Radiological emergency preparedness
- Radioecology
- Nuclear technology and safety

NKS builds upon a strong tradition of cooperation within and between the Nordic countries...  
 The main aims of the entire NKS program:

- Creating and maintaining informal Nordic networks
- Raising Nordic competence in the field of nuclear research

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This is NKS...

**NKS is not an institution, it is a voluntary co-operation of Nordic authorities**

**Owners and Main Financiers**

DK	Danish Emergency Management Agency
FI	Ministry of Industry and Trade
IS	Islandic Radiation Protection Institute
NO	Norwegian Radiation Protection Authority
SE	The Swedish Nuclear Power Inspectorate The Swedish Radiation Protection Authority (Swedish Radiation Safety Authority)

**Additional funding from:**

• Fortum Power and Heat Oy (Finland)	• Kärnsäkerhet och utbildning (KSU) AB (Sweden)
• TVO (Finland)	• OKG Aktiebolag (Sweden)
• IFE (Norway)	• Ringhals AB (Sweden)
• Forsmarks Kraftgrupp AB (Sweden)	

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**Owners & Board**

<b>NKS-R</b> Patrick Isaksson (Vattenfall)	<b>NKS-B</b> Justin Gwynn (NRPA)	<b>NKS Secretariat</b>
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- Reactor Safety
- Decommissioning
- Emergency Preparedness
- Radiological Assessments
- Measurement strategy/technology
- Waste and discharges

• Annual budget/Annual CfP

[www.nks.org](http://www.nks.org)

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NKS-B Activities in 2008

**PARDNOR**  
*Emergency preparedness*  
 Co-ordinator - Sven P Nielsen (Denmark)  
 Partners - Finland, Iceland, Norway, Sweden, Faroe Islands

- Ongoing activity from 2007
- Generate up-to-date and Nordic relevant parameters to improve calculated ingestion doses

**2008**

- Nordic soil migration parameters
- Nordic leaf area indices
- Sensitivity analyses of ingestion dose parameters

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NKS-B Activities in 2008

**GAPRAD**  
*Radiological assessment*  
 Co-ordinator – Justin Brown (Norway)  
 Partners - Denmark, Finland, Sweden

- Ongoing activity from 2007
- Improve understanding of natural background doses to reference organisms.

**2008**

- Po-210 and other natural radionuclide transfer in terrestrial and freshwater environments
- Natural radionuclides in the Baltic Sea

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## NKS-B Activities in 2008



Nordisk kemiskehelseforskning  
Norskaner igemjyggjarsmisker  
Poljensmaner ydirturvalisaututimus  
Nordisk kjemiskehelseforskning  
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### BIOPEX

#### Emergency preparedness

Co-ordinator – Carlita Lindholm (Finland)

Partners - Norway, Sweden

• Builds on previous NKS activity BIODOS

• Established a PCC method as a rapid biodosimetry assay for emergency preparedness

#### 2008

- Conduct an accident scenario exercise to test PCC assay
- Gain experience on handling large numbers of samples and processing the resulting data

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## NKS-B Activities in 2008



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### GammaRate

#### Measurement strategy, technology + QA

Co-ordinator – Hans Bjerke (Norway)

Partners - Denmark, Finland, Iceland, Sweden

- New activity
- Harmonize calibration of handheld dosimeters used in emergency situations
- Propose guidance documents for use and maintenance of dosimeters (for emergency personnel)
- Workshop in autumn – Experience from previous emergency preparedness exercises (DEMOEX)

• Workshop only open to invited participants

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## NKS-B Activities in 2008



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### REMSPEC

#### Emergency preparedness

Co-ordinator – Mark Dowdall (Norway)

Partners - Denmark, Finland, Iceland, Norway, Sweden

- New activity
- Exercise involving the distribution and analysis of spectral data intended to simulate the sort of signal an analyst may expect to encounter after a nuclear event.
- Practice the analysis of complex spectra under time constraint (hours – days)
- Practice analysing data not drawn from their own instrumental setup

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## NKS-B Activities in 2008



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### DepEstimate

#### Emergency preparedness

Co-ordinator – Sigurður Emil Pálsson (Iceland)

Partners - Denmark, Finland

- New activity
- Precipitation has been used successfully to estimate fallout deposition
- Better deposition estimates are obtained if the concentration time series are available and precipitation time series
- Validate the concentration time series function derived using global data sets with Nordic data
- Expand the function to include Pu isotopes
- Validate the method of estimating fallout Pu deposition taking other sources of Pu into account

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## NKS-B Activities in 2008



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### FOREST-2

#### Emergency preparedness

Co-ordinator – Virve Vetikko (Finland)

Partners – Finland, Norway, Sweden

- New activity - related to NKS-B FOREST
- Seminar to be held in Helsinki in October 2008
- Forum for scientific communication to Nordic forest radioecologists and forestry experts
- Provide information about radioactive contamination of forests and mitigation of the effects of contamination.

• Seminar will be open to all

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## NKS-B Activities in 2008



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### SPECIATION

#### Measurement strategy, technology + QA


Co-ordinator – Xiaolin Hou (Denmark)

Partners - Finland, Norway, Sweden + Lithuania

- Continued activity
- Further develop and improve analytical methods for speciation of radionuclides in the environment (Pu, Am, Np, <sup>137</sup>Cs, <sup>90</sup>Sr, <sup>129</sup>I, and <sup>99</sup>Tc)
- Optimize and harmonize separation techniques for radionuclide speciation developed in Nordic laboratories
- Intercomparison on the speciation analysis in soils and sediments
- Radionuclide speciation in specific Nordic environments

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NKS-B Activities in 2008


**HAIRPOL**  
*Radiological assessment*  
 Co-ordinator – Elis Holm (Sweden)  
 Partners - Denmark, Norway

- New activity
- Provide data on <sup>210</sup>Po and <sup>210</sup>Pb transfer coefficients to hair and feathers for man and animals
- Investigate the possibility of using hair as an indicator of <sup>210</sup>Po and <sup>210</sup>Pb body burdens and intake instead of urine and faeces
- Improve radioanalytical techniques for <sup>210</sup>Po and <sup>210</sup>Pb

More details on [www.nks.org](http://www.nks.org)

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NKS-B Seminars in 2008

**NordThreat**  
*Emergency preparedness*  
 Co-ordinator – Inger Margrethe Eikermann (Norway)  
 Partners – Finland, Iceland, Sweden

- Seminar to be held in Oslo on the 28-29 August 2008
- Topics to be covered include:
  - Threat assessments
  - Potential sources
  - Experience from previous case histories
  - Public perception to nuclear threats
- Seminar will be open to all

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NKS-B Call for Proposals 2009

NKS will invite proposals for activities (up to 50% of total cost) in 2009 from a budget of **2730 kDKK**  
 Funding - amount sought...


No specified priority areas...  
 Proposals should be based on the NKS- B framework document

E - Emergency preparedness  
 M - Measurement strategy, technology and quality assurance  
 R - Radioecological assessments  
 W - Waste and discharges

NKS-B and NKS-R cross over activities

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NKS-B Call for Proposals 2009

All applications will be assessed on the following criteria...

1. Nordic value (networks/competence)
2. Technical and/or scientific standard
3. Distinct and measurable goals
4. Relevancy to NKS end-users
5. Participation of young scientists
6. Links to other national/international programmes (past/present)
  - do not repeat work!!

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NKS-B Young Scientist Travel Assistance

- Applicants must be affiliated to an institution/organisation/university within a Nordic Country.
- Applications will only be considered for 'Young Scientists' at degree, masters, and PhD level or where postdoctoral scientists are within their first 2 years of postdoctoral study. A priority will be given to those below the age of 35.
- Applications will only be considered for 'Young Scientists' making an oral and/or poster presentation at an NKS-B seminar or meeting.
- Applications should be inline with expected travel costs (maximum award per claim of 10 000 DKK).
- Applicants must submit a meeting report as part of travel claim.
- More details on [www.nks.org](http://www.nks.org) soon

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NKS and Young Scientists

- How can NKS involve more 'Young Scientists' in it's programme of activities and seminars???
- Informal meeting in one of the NSFS meeting rooms at 15:00
- Follow the NSFS signs pass the lifts and up the stairs
- Young and not so young scientists welcome...

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NKS DVD!!!

nks

Nordisk kjerneenergiforskning  
Norsk atom- og trykkesikkerhetsforskning  
Poljska energia jądrowa i bezpieczeństwo  
Nordisk kärnkraftsforskning  
Nordic nuclear safety research

Contains over 250 NKS reports and publications from 1981 up to 2006

Includes scientific reports from both the R and B programmes from 2002 to 2006

Fully searchable...

Includes the book "Half a Century of Nordic Nuclear Cooperation" by Franz R. Marcus

Copies from [nks@nks.org](mailto:nks@nks.org)



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