Welcome to eSSENCE Academy 2014!

Umeå October 15—16, 2014

Ingela Nyström, Professor
Coordinator of eSSENCE
Strategic Research Area: e-Science

- e-Science is one of 20 strategic research areas funded by the Swedish government during 2010—2014
- **KTH** – LiU – SU – KI, 30 MSEK/year
- **UU** – Umeå – Lund, 26 MSEK/year
- **CHALMERS**
- **Infrastructure funded separately by SNIC HPC centra**
  - PDC and NSC part of SeRC
  - UPPMAX, HPC2N, and Lunarc part of eSSENCE
  - C3SE part of CheSC
Swedish e-Science builds on Swedish e-Infrastructure

- Swedish National Infrastructure for Computing (SNIC), [www.snic.se](http://www.snic.se)

- Swedish University Computer Network (SUNET), [www.sunet.se](http://www.sunet.se)

- SNIC and SUNET are bodies of the Swedish Research Council (Vetenskapsrådet, VR), [www.vr.se](http://www.vr.se)
e-Science...

- has emerged as the third pillar underlying research, complementing theory and experiments
- builds on developing, implementing and using computer-based tools in research where traditional experimental and theoretical approaches are not sufficient
- provides new opportunities for collaboration in academia and industry, within the same and different disciplines, and over short and long geographical distances
- is connected to the development of computational tools and methods, as well as to the readiness of application areas to novel paradigms and to meet challenges from new directions
Vision

Provide excellence and scientific solutions at all stages of the e-Science process

– e-Science for disciplinary progress in distributed research collaborations

– Interdisciplinary collaboration for progress in methods and tools for e-Science applications

Advancing science through leading computation, information and communication technologies

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## Research Areas & Programs

with collaboration between Universities

<table>
<thead>
<tr>
<th>Research Area/Materials Science</th>
<th>Programs</th>
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<tbody>
<tr>
<td>Materials physics</td>
<td>-</td>
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<tr>
<td>Chemistry of complex materials</td>
<td>-</td>
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<tr>
<td>Nano materials</td>
<td>-</td>
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<tr>
<td>Linguistics and visual information</td>
<td>-</td>
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<tr>
<td>Pattern recognition in the living brain</td>
<td>-</td>
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<tr>
<td>Economic demography</td>
<td>-</td>
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<tr>
<td>Ecosystems and climate change</td>
<td>-</td>
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<tr>
<td>Computational biology</td>
<td>-</td>
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<tr>
<td>Bioinformatics</td>
<td>-</td>
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<tr>
<td>Distributed computing services and grid</td>
<td>-</td>
</tr>
<tr>
<td>Computational algorithms, implementation also for GPU:s</td>
<td>-</td>
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<tr>
<td>High-performance parallel computing</td>
<td>-</td>
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<tr>
<td>Database technology</td>
<td>-</td>
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**Funding some 25 projects**
Organisation

Programme Council
3 university, 1 external representatives

Management Group
Programme Coordinator
6 university representatives

Local Reference Groups
PI:s and other stakeholders

SeSE – Swedish e-Science Education
in collaboration with SeRC

Focus Area Materials
Science
Research groups

Focus Area Human
Function and Environment
Research groups

Focus Area Life Sciences
Research groups

Focus Area Generic e-Science
Methods and Tools
Research groups

Additional e-Science
Initiatives
Research groups
Principal Investigators

- Prof. Tord Ekelöf, Physics and Astronomy, UU
- Prof. Hans Ellegren, Evolutionary Biology, UU
- Prof. Erik Elmroth, Computing Science, UmU
- Prof. Olle Eriksson, Physics and Materials Science, UU
- Prof. Kersti Hermansson, Materials Chemistry, UU
- Prof. Bo Jönsson, Theoretical Chemistry, LU
- Prof. Bo Kågström, Computing Science, UmU
- Prof. Tore Risch, Information Technology, UU
- Prof. Anders Lindroth, Physical Geography & Ecosystem Analysis, LU
- Prof. Sven Strömqvist, Linguistics and Phonetics, LU
Program Council

• Ingemar Kaj, UU, Chair
• Sven Strömqvist, Dean LU
• Åsa Rasmuson-Lestander, Dean UmU
• Martin Norin, Kancera
• Ingela Nyström, UU
• Carmen Medina, research secretary UU

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Management Group

• Göran Sandberg, LU
• Magnus Ullner, LU
• Bo Kågström, UmU
• Erik Elmroth, UmU
• Gunilla Kreiss, UU
• Johan Åqvist, UU
• Ingela Nyström, UU, Chair
• Carmen Medina, research secretary UU
## Budget (in kSEK)

<table>
<thead>
<tr>
<th>University</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>LU (35 %)</td>
<td>3 500</td>
<td>4 900</td>
<td>9 100</td>
<td>9 152</td>
<td>9 340</td>
<td>9 340</td>
</tr>
<tr>
<td>UmU (20 %)</td>
<td>2 000</td>
<td>2 800</td>
<td>5 200</td>
<td>5 230</td>
<td>5 337</td>
<td>5 337</td>
</tr>
<tr>
<td>UU (45 %)</td>
<td>4 500</td>
<td>6 300</td>
<td>11 700</td>
<td>11 767</td>
<td>12 009</td>
<td>12 009</td>
</tr>
<tr>
<td>Total</td>
<td>10 000</td>
<td>14 000</td>
<td>26 000</td>
<td>26 148</td>
<td>26 687</td>
<td>26 687</td>
</tr>
</tbody>
</table>

- 90% of the budget
  - Distributed to researchers at each University
  - How this distribution is performed is evaluated in the Management Group to identify possibilities for collaboration
- 10% of the budget
  - Used for joint activities such as workshops, conference participation, involvement in higher education, coordination, etc.
Interaction

Thanks go to Pavlin Mitev and Carmen Medina

- Visit [www.essenceofescience.se](http://www.essenceofescience.se)
- Subscribe to [http://essenceofescience.se/essence-mail-list/](http://essenceofescience.se/essence-mail-list/)
- Share info on mailing list [mail-list@essenceofescience.se](mailto:mail-list@essenceofescience.se)
- Arrange eSSENCE seminars
- Propose eSSENCE workshops
- Contact Ingela Nyström [ingela.nystrom@it.uu.se](mailto:ingela.nystrom@it.uu.se)
- Submit papers to the series IEEE International Conference on e-Science
The 10th IEEE International Conference on e-Science
October 20 – 24, 2014,
Guarujá, São Paulo, Brazil
AIMday e-Tools & Methods

- www.aimday.se
  - by UU Innovation

- In November 2013, 5 companies:
  - ABB Crane Systems
  - Folksam
  - Prosilico
  - Vegesack Arkitekter AB
  - Watty AB

- Planning an AIMday in 2015
Swedish e-Science Education

• Courses in e-Science for PhD students
• SeSE is a collaboration between the two national strategic research initiatives eSSENCE and SeRC, originating from the e-Science graduate schools NGSSC and KCSE
• Information about upcoming courses with syllabus and further information can be found at www.sese.nu
Academy Workshops

• It has become an annual opportunity to meet and acquaint ourselves with the exciting research that is happening within eSSENCE

• October 16—17, 2012 in Uppsala (Sigtuna)
  – 60 participants

• October 16—17, 2013 in Lund
  – 80 participants

• **October 15—16, 2014 in Umeå**
Academy days 2014

• 91 participants
• Oral presentations
• 37 posters
• Panel discussion
• Lunches, dinner, coffees
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