

Peter Willendrup, Erik Knudsen, Mads Bertelsen

Welcome...

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Peter Willendrup



- Born 1973 in Copenhagen, DK
- BSc. in Physics - RISØ / Univ. CPH 1997 “Neutron diffraction and magnetic structures” (Ho-Er alloys)
- Master-courses in X-ray scattering, atomic physics, solid state physics, “computer physics”, numerical analysis
- MSc. in Physics, BSc. in Mathematics from Univ. CPH year 2000
“Point-spread Functions in Tomography using Filtered Back-projection Reconstruction” (CT/PET/SPECT scanners)
- Software solutions for Neurobiology Research Unit, Copenhagen University Hospital 2000-2002
3D brain-scan visualisation, alignment MR-PET etc...



RISØ



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About the lecturer



- 2002- “development engineer” on the McStas project

- 2002-2007 Risø National Lab
- 2007-2011 Risø DTU
- 2012- DTU Physics
- 2015- 1/3 seconded to ESS DMSC



- External funding from EU projects, ISIS TS2 project, ESS project etc.
Currently ESS project + SINE2020



- Daily tasks wrt. McStas:

- Develop new functionality - be it physics or infrastructure-wise
- Work with users to solve their problems (in any area of neutron scattering...)
- Software expert for “anything McStas”
- Teach users about the code and how to use it efficiently

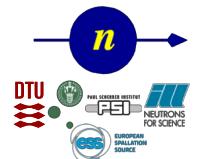




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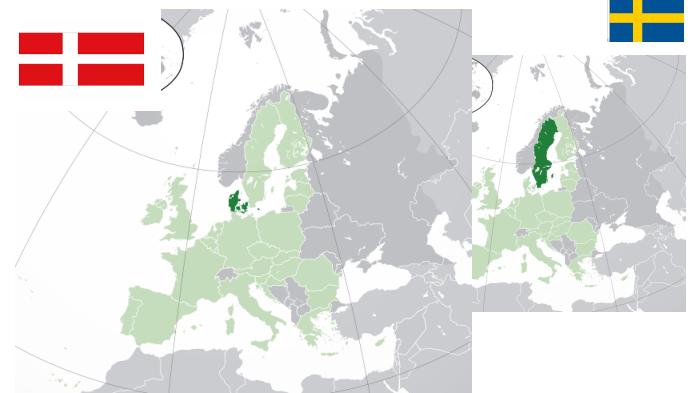
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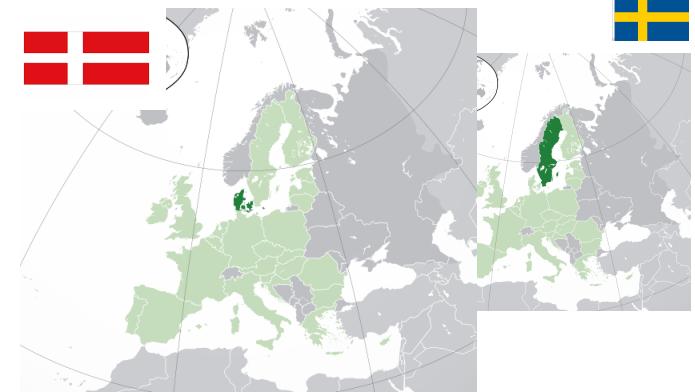


Erik Bergbäck Knudsen

- Born 1974 in Finspång, SE
- M. Sc. E. E – Lund University, Sweden
("Multi-mode optical Fibers")
- Ph. D. in Fiber Optics Modelling, Technical University of Denmark.
- Tomographic Reconstruction Algorithms for X-ray Diffraction Microscopy Data
- From 2007 – McStas and McXtrace development



About me:



- Responsibilities and Research Interests:
 - McStas Polarization subsystem
 - Head developer of McXtrace
 - Interference effects in photon ray tracing simulations.
 - Molecular orientation scattering simulations
 - X-ray Space telescope simulations
 - McHelium ray tracing He atom beams.

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Mads Bertelsen

- Born 1988 in Copenhagen, DK
- M. Sc. in neutron guide optimization, University of Copenhagen
- Ph. D. in neutron instrument simulation, University of Copenhagen
- Currently a Post Doc at the European Spallation Source, DMSC



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Mads Bertelsen

- Research on guide optimization
 - Minimalist principle – Boundary conditions for optimization
 - guide_bot automatic guide optimization software
- McStas Union expansion
 - Multiple scattering in complex geometries
 - Alternate approach to sample physics
- Co proposer on 5 ESS Instruments, 3 accepted for construction
- Provided large part of data for optics consideration of ESS moderator choice



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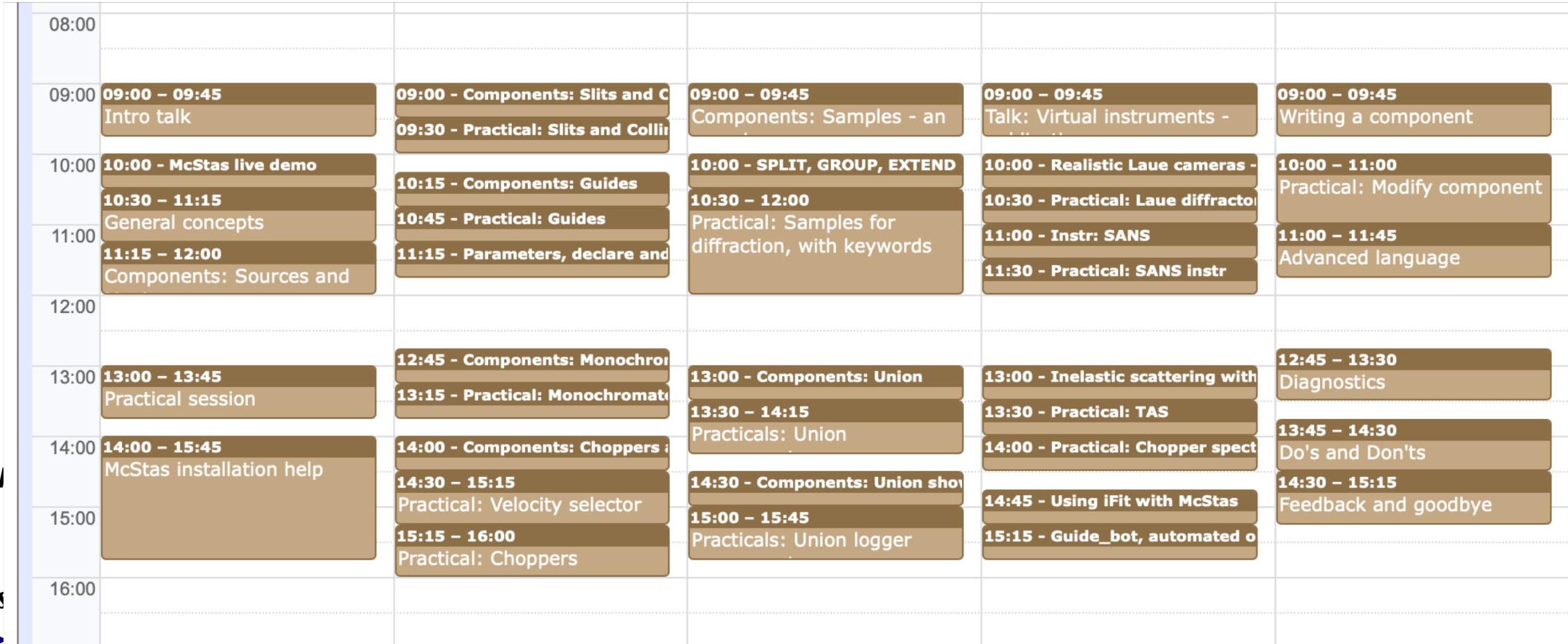
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08:00					
09:00	09:00 – 09:45 Intro talk	09:00 – Components: Slits and C 09:30 – Practical: Slits and Collin	09:00 – 09:45 Components: Samples - an	09:00 – 09:45 Talk: Virtual instruments -	09:00 – 09:45 Writing a component
10:00	10:00 – McStas live demo 10:30 – 11:15 General concepts	10:15 – Components: Guides 10:45 – Practical: Guides	10:00 – SPLIT, GROUP, EXTEND 10:30 – 12:00 Practical: Samples for diffraction, with keywords	10:00 – Realistic Laue cameras - 10:30 – Practical: Laue diffracto	10:00 – 11:00 Practical: Modify component
11:00	11:15 – 12:00 Components: Sources and	11:15 – Parameters, declare and		11:00 – Instr: SANS 11:30 – Practical: SANS instr	11:00 – 11:45 Advanced language
12:00					
13:00	13:00 – 13:45 Practical session	12:45 – Components: Monochro 13:15 – Practical: Monochromat	13:00 – Components: Union 13:30 – 14:15 Practicals: Union	13:00 – Inelastic scattering with 13:30 – Practical: TAS	12:45 – 13:30 Diagnostics
14:00	14:00 – 15:45 McStas installation help	14:00 – Components: Choppers a 14:30 – 15:15 Practical: Velocity selector	14:30 – Components: Union show 15:00 – 15:45 Practicals: Union logger	14:00 – Practical: Chopper spect 14:45 – Using iFit with McStas	13:45 – 14:30 Do's and Don'ts
15:00		15:15 – 16:00 Practical: Choppers		15:15 – Guide_bot, automated o	14:30 – 15:15 Feedback and goodbye
16:00					

School format



But we will be flexible – spend time on what is needed as we move along!

School principles

1. Informal! Please raise your hand at any time if you have a question or comment
2. We suggest you work in groups of 2 (taking turns at the keyboard or working in parallel)
3. Delays are expected – don't be frustrated if a topic "spills over" to the next day
4. We will try to make the school both enjoyable and useful

A couple of questions to the participants

- ❖ How many have previous experience with McStas?
- ❖ How many have previous experience with Vitess?

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