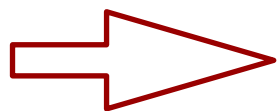


Peter Willendrup

Establishing the learning goals, a look at the programme

Learning goals:

1. Learn McStas basics
2. Build and operate simple instrument models, source + optics + sample + detector
3. Learn how McStas connects with other simulation tools and optimisation packages
4. Add Mantid / NeXus capabilities
5. Get a better idea of what you want to do with McStas, how to do it, how to get help
6. Get up-to-speed with latest developments and advanced features



Enable your independent work with McStas





HighNes

McStas



2021
HighNESS
Virtual
McStas
School

Time (CET)	May 5th	Time (CET)	May 6th	Time (CET)	May 7th
9:00-10:00	15 min Welcome + <u>setting learning goals</u> 15 min McStas live demo 30 min McStas <u>intro + general concepts</u> Responsible: Peter	9:00-10:00	Samples I - overview of " <u>elastic scattering</u> " and material structure * Crystalline materials + exercise * SANS Responsible: Erik	9:00-10:00	A discussion of Wolter optic models in McStas Responsibles: Peter + Erik
10:00-10:15	Break	10:00-10:15	Break	10:00-10:15	Break
10:15-11:15	60 min Components basics: 20 min <u>Sources, monitors</u> and slits 40 "Build-along", guided exercise: Create simple instrument with source / det Responsible: Erik	10:15-11:15	Samples II - overview of inelastic comps Responsible: Peter	10:15-11:15	McStas -> Mantid, NeXus: Presentation + demo Responsible: Torben
11:15-11:30	Break	11:15-11:30	Break	11:15-11:30	Break
11:30-12:30	60min <u>Guides and gravity</u> : 20 min presentation 40 min practical Responsible: Peter	11:30-12:30	NCrystal - talk and demo. Responsibles: Thomas + Peter	11:30-12:30	Writing your own component, including GPU-specifics Responsibles: Erik + Peter
12:30-13:30	Lunch break	12:30-13:30	Lunch break	12:30-13:30	Lunch break
13:30-14:30	60-min <u>Choppers and other rotating optics</u> : 20 min presentation 40 min practical Responsible: Erik	13:30-14:30	60 min Presentation and demo: Union Responsible: Mads	13:30-14:30	Docs and information - where is what? Q & A session Responsibles: Peter + Erik
14:30-14:45	Break	14:30-14:45	Break	14:30-14:45	Break
14:45-15:45	Tips and tricks for <u>optimising your simulation, variance reduction etc.</u> Interfacing with other MC codes, MCPL Responsibles: Peter + Esben	14:45-15:45	60 min Presentation and demo: Guide_bot 2.0 Responsible: Mads	14:45-15:45	Feedback, continuing from here

School programme - day 1

HighNess

McStas



2021
HighNESS
Virtual
McStas
School

Time (CET)	May 5th
9:00-10:00	15 min Welcome + <u>setting learning goals</u> 15 min McStas live demo 30 min McStas <u>intro + general concepts</u> Responsible: Peter
10:00-10:15	Break
10:15-11:15	60 min Components basics: 20 min <u>Sources, monitors and slits</u> 40 "Build-along", guided exercise: Create simple instrument with source / det Responsible: Erik
11:15-11:30	Break
11:30-12:30	60min <u>Guides and gravity</u> : 20 min presentation 40 min practical Responsible: Peter
12:30-13:30	Lunch break
13:30-14:30	60-min <u>Choppers and other rotating optics</u> : 20 min presentation 40 min practical Responsible: Erik
14:30-14:45	Break
14:45-15:45	Tips and tricks for <u>optimising your simulation</u> , <u>variance reduction</u> etc. Interfacing with other MC codes, MCPL Responsibles: Peter + Esben

Intro lecture, general principles

Lectures + "recipe" exercises

Optimising your simulation
Variance reduction
MCPL - connectivity with other simulation codes

In "cookbook" sections,
think ahead toward
toward your own use of
the code

- * Which neutron source
- * What optics
- * What sample

- K.I.S.S. for now

School programme - day 2, samples



McStas



2021
HighNESS
Virtual
McStas
School

Time (CET)	May 6th
9:00-10:00	Samples I - overview of "elastic scattering" and material structure * Crystalline materials + exercise * SANS Responsible: Erik
10:00-10:15	Break
10:15-11:15	Samples II - overview of inelastic comps Responsible: Peter
11:15-11:30	Break
11:30-12:30	NCrystal - talk and demo. Responsibles: Thomas + Peter
12:30-13:30	Lunch break
13:30-14:30	60 min Presentation and demo: Union Responsible: Mads
14:30-14:45	Break
14:45-15:45	60 min Presentation and demo: Guide_bot 2.0 Responsible: Mads

Samples I, elastic scattering

Samples II, inelastic scattering

NCrystal ("Samples III")

Union ("Samples IV")

McStasScript + Guide_bot tools

School programme - day 3, fancy-fancy “new stuff”

Time (CET)	May 7th	
9:00-10:00	A discussion of Wolter optic models in McStas Responsibles: Peter + Erik	Wolter optics, a little theory and a look at available models in McStas
10:00-10:15	Break	
10:15-11:15	McStas -> Mantid, NeXus: Presentation + demo Responsible: Torben	McStas + Mantid
11:15-11:30	Break	
11:30-12:30	Writing your own component, including GPU-specifics Responsibles: Erik + Peter	How to write your own McStas component
12:30-13:30	Lunch break	
13:30-14:30	Docs and information - where is what? Q & A session Responsibles: Peter + Erik	A final documentation overview, where can I find what
14:30-14:45	Break	
14:45-15:45	Feedback, continuing from here	Open session, feedback and remaining questions

 HighNess

McStas

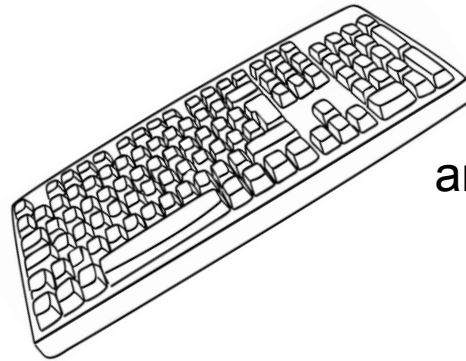


2021
HighNESS
Virtual
McStas
School

For the exercise-based work-sessions

- You will benefit from working in pairs, $2 > 1$

- Take turns being the “coder”



and the “parallel processor”



 HighNess

McStas



2021
HighNESS
Virtual
McStas
School

Let's get to it!

