IHPCSS 2022 – Draft Agenda – April 4, 2022

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| **Sunday, June 19** | | |
| 16:00 | **Registration opens** | |
| 18:00 | **Instructions on mentoring** | |
| 19:00 21:00 | **Welcome Reception** | |
| **Monday, June 20** | | |
| 07:00 08:30 | *BREAKFAST* | |
| 08:15 08:45 | *Testing of course accounts* Participants may also register at the school venue on Monday. | |
| 08:45  09:00 | **Welcome** | |
| 09:00 10:00 | **Keynote**  **NN, tbd** | |
| 10:00 10:30 | **Introduction of presenters and mentors** | |
| 10:30 11:00 | *BREAK* | |
| 11:00  11:40 | **Overview of PRACE, RIKEN, SciNet, XSEDE**  *(10 min each organization)* | |
| 11:40 12:30 | **Parallel programming methodologies; Introduce parallel programming challenge**  John Urbanic, PSC, US | |
| 12:30 13:30 | *LUNCH* | |
| 13:30  17:30 | Hands-on session | |
| **Parallel programming: classic track (MPI & OpenMP)**  David Henty, EPCC, UK  Weronika Filinger, EPCC, UK  Ludovic Capelli, EPCC, UK  — Coffee break around 3pm — | **Parallel programming: accelerator track**   John Urbanic, PSC, US — Coffee break around 3pm — |
| 17:30 20:30 | **Dinner buffet & electronic poster session I** The poster sessions will take place on Monday and Tuesday afternoon, with integrated dinner buffet. | |
| **Tuesday, June 21** | | |
| 07:00 08:30 | *BREAKFAST* | |
| 9:00 10:30 | Hands-on session | |
| **Parallel programming: classic track (MPI & OpenMP)**  David Henty, EPCC, UK  Weronika Filinger, EPCC, UK  Ludovic Capelli, EPCC, UK | **Parallel programming: accelerator track** John Urbanic, PSC, US |
| 10:30  10:50 | *Break* |  |
| 10:50 12:30 | Hands-on session | |
| **Parallel programming: classic track (MPI & OpenMP): Q&A, Advanced Topics**  David Henty, EPCC, UK  Weronika Filinger, EPCC, UK  Ludovic Capelli, EPCC, UK | **Parallel programming: accelerator track** John Urbanic, PSC, US |
| 12:30 13:30 | *LUNCH* | |
| 13:30 14:05 | **HPC challenges in Plasma Physics**  *(30 min + 5 min discussion)*  Frank Jenko, MPI for Plasma Physics, Germany and Univ. of Austin, US | **HPC Challenges in Materials Science**  *(30 min + 5 min discussion)*  NN |
| 14:10 14:45 | **HPC challenges in Life Sciences**  *(30 min + 5 min discussion)*  Tom Cheatham, Univ. Utah, US | **HPC challenges in numerical climate simulation and weather prediction**  *(30 min + 5 min discussion)*  Takemasa Miyoshi, RIKEN CCS |
| 14:45  15:15 | *Break* |  |
| 15:15 16:00 | *Programming challenge / bring your own code / hands-on* | |
| 16:00  16:40 | **Software Engineering**  Erik Lindahl, Univ. Stockholm | |
| 16:40  17:30 | **Mentoring session** | |
| 17:30 20:30 | **Dinner buffet & electronic poster session II** The poster sessions will take place on Monday and Tuesday afternoon, with integrated dinner buffet | |
| **Wednesday, June 22** | | |
| 07:00 08:30 | *BREAKFAST* | |
| 9:00 10:30 | **HPC Python programming I**  Ramses van Zon, Univ Toronto, Canada | **Performance analysis and optimization I**  Ilya Zhukov, JSC, Germany |
| 10:30 11:00 | *BREAK* | |
| 11:00 12:30 | **HPC Python programming II**  Ramses van Zon, Univ Toronto, Canada | **Performance analysis and optimization II**  Ilya Zhukov, JSC, Germany |
| 12:30 13:30 | *Lunch* | |
| 13:30 14:05 | **HPC Challenges in Bioengineering**  (30 min + 5 min discussion)  Orly Olter, Univ. of Utah, US | **HPC Challenges in …..**  (30 min + 5 min discussion)  NN. |  |  |
| 14:10 15:25 | Hands-on session:  **Scientific visualization I**  Ramses van Zon, Univ Toronto, Canada | GPU performance analysis I  Dominik Ernst, Univ. Erlangen, Germany |
| 15:25 15:45 | *BREAK* | |
| 15:45 16:45 | Hands-on session:  **Scientific visualization II**  Ramses van Zon, Univ Toronto, Canada | GPU performance analysis II  Dominik Ernst, Univ. Erlangen, Germany |
| 16:45  17:30 | Mentoring | |
| 17:30 | **Social Event/ Dinner** | |
| **Thursday, June 23** | | |
| 07:00 08:30 | *BREAKFAST* | |
| 09:00 11:00 | Lecture and hands-on session: **Big Data Analytics I**  John Urbanic,  PSC, US | |
| 11:00 11:30 | *BREAK* | |
| 11:30 12:30 | **Mentoring session** | |
| 12:30 13:30 | *LUNCH* | |
| 13:30  14:30 | Lecture and hands-on session: **Big Data Analytics II**  John Urbanic,  PSC, US | |
| 14:30 15:00 | *Break* | |
| 15:00 15:40 | **Workflow Tools**  Scott Callaghan, Univ. of Southern California, US | **Parallel I/O**  John Cazes, TACC, US |
| 15:40 16:30 | Parallel Programming Challenge | |
| 17:00 | **Social Event / Dinner** | |
| **Friday, June 24** | | |
| 07:00 08:30 | *BREAKFAST* | |
| 09:00 10:30 | Lecture and hands-on session:  **Machine Learning I**  Daniel L. Silver, Acadia University, Canada |  |
| 10:30 10:50 | Break |  |
| 10:50 12:30 | Lecture and hands-on session: **Machine Learning II** Daniel L. Silver, Acadia University, Canada |  |
| 12:30  13:30 | LUNCH | |
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| 13:30 14:00 | Mentoring session | |
| 14:00 14:40 | **Numerical Libraries**  Ramses van Zon, Univ Toronto, Canada | |
| 14:40 15:30 | Conclude Parallel Programming Challenge, Announce winners  Closing Ceremony | |
| 15:30 17:00 | *Optional program: Bring your own code* | |
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