SIGHPC Education Chapter

A virtual special interest group of the ACM
Update on organization and activities
Chapter Goals

- Promote an increased knowledge of, and greater interest in, the educational and scientific aspects of HPC and their applications.
- Provide a means of communication among individuals having an interest in education and career building activities relating to HPC.
- Promote and collate education activities and programs through formal and informal education activities.
- Provide guidance to the community on the competencies required for effective application of computational modeling, simulation, data analysis, and visualization techniques.
- Provide information on quality educational programs and materials as well as facilitating experience building access to existing HPC resources.

http://sighpceducation.acm.org/
Chapter Officers

- Officers elected annually by the membership in April
  - Chair
  - Vice-Chair
  - Secretary-Treasurer
  - At large officers
    - Two elected from general membership
    - One each designated to represent Europe and Asia/Pacific respectively
- Three named officers must also be members of ACM
- At-large officers only need to be members of the chapter

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Committees Do the Work

- **Computational Science Education Committee**
  - Develop strategies to incorporate and/or enhance computational science education at all levels of education

- **Education Content Committee**
  - Curating and making available educational material relating to computational science and High Performance Computing

- **Workshop Committee**
  - Coordinate and manage the development and implementation of in-person and virtual events

- **Outreach Committee**
  - Arranging and promoting a variety of communications mechanisms for the Chapter

- **Systems Operations Committee**
  - Curating, recommending and making available material and resources addressing topics of interest to the HPC systems professionals

- **K-12 Committee**
  - Support educators introducing computational science, HPC, and Data Science concepts in pre-university settings

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2019-2020 Activities

- Webinars describing efforts to integrate computational science into the undergraduate curriculum
- Webinars on a variety of other computational science training and education topics
- Workshops at major conferences (SC, PEARC, ISC)
- Coordination with HPC Certification Forum to develop HPC skill tree
- Assembling references to training materials for educators and Systems professionals
- Sharing information on K-12 outreach and education efforts

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Recent Examples

• Introducing Computational Science in the Undergraduate Physics Curriculum
  • https://youtu.be/eXf1MXRDowg
  • https://youtu.be/tzhIfTbrCpo

• Mentoring: Maximize Your Impact
  • https://sighpceducation.acm.org/events/mentoring.html

• Using flipped classroom and Jupiter Notebooks to teach undergraduates parallel programming
  • https://youtu.be/NqE5zMVj2gw
Past and Upcoming Workshops

- Second Workshop on Strategies for Enhancing HPC Education and Training (at PEARC19 Conference)
- Workshop on HPC Education and Training for Emerging Technologies (at ISC2019)
- Third Workshop on Strategies for Enhancing HPC Education and Training Call for Proposals (at PEARC20)
- Journal of Computational Science Special Issue on Training and Education

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Links to Resources

- Listing of past and upcoming events
  - [https://sighpceducation.acm.org/events.html](https://sighpceducation.acm.org/events.html)

- Training and Education Resources
  - [https://sighpceducation.acm.org/resources.html](https://sighpceducation.acm.org/resources.html)

- YouTube Channel with recorded webinars
  - [https://www.youtube.com/channel/UCHrmHj6nFkhxlxPv18LpBzw?view_as=subscriber](https://www.youtube.com/channel/UCHrmHj6nFkhxlxPv18LpBzw?view_as=subscriber)

- Blog on computational science education activities
  - [http://sighpceducation.hosting.acm.org/wp/](http://sighpceducation.hosting.acm.org/wp/)

- List of Systems Professionals materials
  - [http://sighpceducation.acm.org/systems.html](http://sighpceducation.acm.org/systems.html)

- HPC Certification Forum
  - [https://www.hpc-certification.org/wiki/b](https://www.hpc-certification.org/wiki/b)

- K12 Materials Repository
  - [https://github.com/SIGHPC-Education-Chapter](https://github.com/SIGHPC-Education-Chapter)

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[http://sighpceducation.acm.org/](http://sighpceducation.acm.org/)
Journal of Computational Science Education

- Open, online journal
- Refereed articles on broad set of computational science education topics
  - Articles on computational science instructional materials and projects and research on the efficacy of instruction with computational science
  - Student articles detailing their experiences in computational science internships and research experiences
- Annual special issue with papers from SIGHPC Education workshops
- Become a reviewer! Sign up on our website: www.jocse.org

http://sighpceducation.acm.org/
How Can You Help?

- Join the chapter
  - [https://sighpceducation.acm.org/membership.html](https://sighpceducation.acm.org/membership.html)
  - Only $10 annually for professionals and $5 for students

- Be a leader
  - Join one of the committees and share your expertise.
  - Submit your name for one of the officer positions.

- Be a contributor
  - You have important ideas, techniques, and approaches that need publicity – write a blog post.
  - You have great training materials - send us the links.
  - Got an important announcement related to HPC education or training? Send email to [chair@sighpcedu.com](mailto:chair@sighpcedu.com) and the officers will disseminate if approved.