NY Area Computational Astrophysics Meeting
April 2016

Who Are We?

- 10 different institutions represented
  - AMNH
  - Columbia
  - CUNY
  - Farmingdale
  - LIU
  - NYU
  - Princeton
  - Rutgers
  - Stony Brook
  - SCCC

http://nyaca.github.io/

main goal:
We share common interests and toolsets—we should foster more collaboration between our institutions

Last Year

- We focused on what sort of research we are each doing

- We setup a mailing list (on google groups)
  - But we haven't used it much
  - Original thought—we should encourage our students to use the list to volunteer for talks as they prepare for the job market

Goals of this Meeting

- Community and collaboration

  - Leveraging the large expertise in computational astrophysics in the NY Area

  - How will the Simons Center help build community?

  - Workshops and joint seminars?

- Students of computational astrophysics

  - Increasing collaboration between our students (inviting them out to seminars)

  - Summer schools?

  - Training events (software carpentry, yt event, …)?

Afternoon Schedule

- 1:15pm — Geoffrey Ryan (NYU) *Relativistic Accretion Discs in Binaries*

- 1:35pm — Miao Li (Columbia) *How Do Supernovae Drive Galactic Outflows?*

- 1:55pm — Andrea Derdzinski (Columbia) *Hydrodynamic simulations of circumbinary disks following black hole binary mergers*

- 2:15pm — Adam Jacobs (Stony Brook) *Accelerating Nuclear Reactions with OpenACC*

2:35pm to 2:50pm — break

- 2:50pm — Sheehan H Ahmed (Rutgers) *Coherent Satellite Planes and their Origins around Milky Way N-body Simulations*

- 3:10pm — Jonathan D Sloane (Rutgers) *Using Galaxy Simulations to Quantify the Uncertainty in Direct Detection of Dark Matter*

- 3:30pm — Zephyr Penoyre (Columbia) *How to Break an Elliptical Galaxy: Slow Rotators in the Illustris Simulation*

Shared Seminars

- Would it be possible / of interest to have a regional seminar series on computational astro?
  - Speaker is present at one of the area institutions
  - Talk is streamed to other sites
    - Google hangouts?
    - Jitsi?
    - appear.in?
    - (people had mentioned success on second life in the past)

Co-teaching Classes

- Computational astro class is specialized—enrollment can be small
  - Some institutions have had success offering classes across different campuses
  - Has anyone had any experience with this? (direct, or indirectly)
  - Is there interest in trying this out?
    - Several of us can co-teach a class, each on our own expertise
    - We'll need to work out logistics with our home institutions
  - Different potential topics:
    - Astrophysical simulation
    - Data analysis in astro

Summer School

- Is there a need to a summer school to help new students get off to a good start?
  - There are some good national summer schools
    - *Argonne Training Program on Extreme-Scale Computing*
    - *MESA Summer School*
  - Not many (if any?) *regular* summer schools on computational hydro
    - NASA Goddard used to run the nice *NASA Summer School for High Performance Computational Earth and Space Sciences*
- What would be required to run a ~ 1 week summer school on computational astro hydro?

Training Events

- Are there shorter (½ day or 1 day) training events that would benefit all of us?

  - OpenMP / OpenACC / PGAS / … (Steve will talk about this)

  - Data analysis?

  - Specific tools like yt? Particular codes?

Software Carpentry

- Software carpentry organizes 2-day training events on UNIX shell, python, git, …
  - Should we investigate hosting an event?
- Some of us have applied to be instructors
  - Training events are backlogged due to popularity
  - Last year they put out a call for instructor-training in groups. This is something we should apply for as a group

http://software-carpentry.org/

Opportunities for Outreach

- Does anyone participate in outreach to area schools (and can share their experiences)?

Stony Brook Institute for Advanced Computational Science

- Comments from Deputy Director Alan Calder

Frontier-scale Institutes

- There are regular calls for funding large, multi-institution centers
  - NSF Physics Frontiers
  - DOE SciDAC
  - NNSA PSAAP
- Is there a common theme we could organize around?