

2nd ICM Theory and Computation Workshop Program

WEDNESDAY, AUGUST 29th

[Talk durations include 5 minutes for questions]

8:15 am	BREAKFAST ¹
8:50 - 9:00am	Mateusz Ruszkowski & Gus Evrard (University of Michigan) <i>Opening remarks</i>
9:00 - 9:40am	Aurora Simionescu (Stanford University) <i>Plasma physics in the intracluster medium from the smallest to the largest scales</i>
9:40 - 10:10am	Brian McNamara (University of Waterloo) <i>Outflows in Clusters</i>
10:10 - 10:40am	Mike McCourt (University of California at Berkeley) <i>Cool cores, conduction, and virial shocks: Sculpting cosmic gas into clusters</i>
10:40 - 11:10am	COFFEE BREAK
11:10 - 11:30am	Dongwook Lee (University of Chicago) <i>A New 3D Unsplit Staggered Mesh MHD Solver in FLASH and Recent Progress toward HEDP in FLASH</i>
11:30 - 11:50am	Gabor Toth (AOSS, University of Michigan) <i>Multi-ion and Anisotropic Magnetohydrodynamics</i>
11:50 - 12:10pm	Dinshaw Balsara (University of Notre Dame) <i>Inclusion of Thermal Conduction in Astrophysical Simulations -- Applications to SNRs and HVCs</i>

¹ Breakfasts will be provided in West Hall near the workshop lecture hall.

- 12:10 - 12:30pm Stephanie Tonnesen (Princeton University)
The Influence of a Galactic Magnetic Field on Ram Pressure Stripping
- 12:30-2:00pm LUNCH BREAK
- 2:00 - 2:30pm Ellen Zweibel (University of Wisconsin Madison)
Waves in the ICM
- 2:30 - 3:00pm Alex Schekochihin (Oxford University)
How to model the effect plasma microinstabilities on ICM dynamics? (Effective closure schemes for theory and simulations)
- 3:00 - 3:30pm Matt Kunz (Princeton University)
TBA
- 3:30 - 4:00pm COFFEE BREAK
- 4:00 - 4:30pm Chris Reynolds (University of Maryland)
TBA
- 4:30 - 5:00pm Martin Pessah (Niels Bohr Institute)
On the Dynamical Stability of the ICM with Thermal and Composition Gradients

THURSDAY, AUGUST 30th

- 8:15am BREAKFAST
- 9:00 - 9:30am Norbert Werner (Stanford University)
Properties of hot and cold gas phases in nearby ellipticals
- 9:30 - 10:00am Mark Voit (Michigan State University)
Triggering of AGN Feedback in Cluster Cores

- 10:00 - 10:20am Fulai Guo (University of California Santa Cruz)
AGN feedback, cooling flows and cosmic rays in galaxy clusters
- 10:20 – 10:50am COFFEE BREAK
- 10:50 - 11:15am Karen Yang (University of Michigan)
Fermi Bubbles as AGN Laboratories: Supersonic Jets with Anisotropic Cosmic Ray Diffusion
- 11:15 – 11:40pm Pete Mendygral (University of Minnesota, Cray Inc.)
Probing the ICM with AGN Jets
- 11:40 - 12:05pm Sean O'Neill (University of Colorado at Boulder)
Current-driven Instabilities in AGN Jets
- 12:05- 12:30pm Christoph Pfrommer (Heidelberg Institute for Theoretical Studies)
The Physics and Cosmology of TeV Blazars or The Physics of Radio Halos and Relics in Galaxy Clusters
- 12:30 – 2:00pm LUNCH BREAK
- 2:00 - 2:30pm Tom Jones (University of Minnesota)
Diffusive Shock Acceleration Simulations of Cluster Radio Relics
- 2:30 - 2:50pm Francesco Miniati (ETH Zurich)
Turbulence in Cluster Cores and Outskirts From Very High Resolution Simulations
- 2:50 - 3:10pm David Collins (Los Alamos National Laboratory)
Gravity, Turbulence, and Magnetic Fields
- 3:10 - 3:40pm Paul Drake (AOSS, University of Michigan)
Magnetic field generation in shocks: experiments and simulations

- 3:40 – 4:00 PM COFFEE BREAK
- 4:00 - 4:20pm Peng Oh (University of California Santa Barbara)
Switching Radio Halos and Relics On and Off
- 4:20 - 4:40pm Andrey Beresnyak (Los Alamos National Laboratory)
MHD Turbulence and Cosmic Ray Reacceleration in Galaxy Clusters
- 4:40 - 5:00pm Sam Skillman (University of Colorado at Boulder)
Galaxy Cluster Radio Emission: Viewing Cosmological MHD Simulations from All Angles
- 5:00 - 5:20pm Hao Xu (University of California San Diego)
Magnetic Fields and Radio Observations in Galaxy Clusters
- 6:30pm BBQ PARTY

FRIDAY, AUGUST 31st

- 8:15am BREAKFAST
- 9:00 - 9:30am Megan Donahue (Michigan State University)
They're Not Dead Yet: Star Formation and Dust in Brightest Cluster Galaxies
- 9:30 - 10:00pm Andrey Kravtsov (University of Chicago)
Pseudo-evolution of halo mass and implications for evolution of observable-mass relations
- 10:00 - 10:30am Elena Rasia (University of Michigan)
The concentration-mass relation: observations and simulations

- 10:30 – 11:00am COFFEE BREAK
- 11:00 - 11:30am Paul Nulsen (Harvard-Smithsonian Center for Astrophysics)
Sloshing Cold Fronts and Cluster g-modes
- 11:30 - 12:00am John ZuHone (NASA Goddard Space Flight Center)
Gas Sloshing, Mini-halos, and Thermal Conduction
- 12:00 - 12:30pm Daisuke Nagai (Yale University)
Non-equilibrium Phenomena in the Outskirts of Galaxy Clusters
- 12:30pm DISCUSSION