

# Program Schedule

## Midwest Workshop on Supernovae and Transients Columbus, Ohio, 26-27 September, 2019

Physics Research Building – 1080 (Smith Seminar Room)

### Thursday 26 September, 2019

- 08:50 AM    **John Beacom** (Ohio State University, Director of CCAPP)  
Welcome to CCAPP
- 09:00 AM    **Tuguldur Sukhbold** (Ohio State University)  
Welcome to the Meeting
- 09:10 AM    **Lars Bildsten** (UC Santa Barbara / KITP)  
Keynote Talk: *What can be learned from Stellar Explosions?*
- 10:15 – 11:15 AM    Coffee and Snack Break (1<sup>st</sup> group join Astronomy Coffee in McPherson #4054)

Session#1

Chair: Tuguldur Sukhbold

- 11:15 AM    **Andre Sieverding** (University of Minnesota)  
*Nucleosynthesis based on a 3D supernova simulation of an 11.8 Msun progenitor model*
- 11:30 AM    **Michael A Pajkos** (Michigan State University)  
*The Final Heartbeat from Core-collapse Supernovae: Gravitational Waves*
- 11:45 AM    **Matthias J. Raives** (Ohio State University)  
*The Antesononic Condition: Understanding the Critical Explosion Criterion*
- 12:00 PM    **Shiv K. Subedi** (Ohio University)  
*Nuclear Reaction Rate Sensitivities of Ti-44 Synthesis in Core Collapse Supernovae Using MESA*
- 12:15 PM    **Dan Milisavljevic** (Purdue University)  
*Probing Progenitors and Explosion Mechanisms of Core-collapse Supernovae With Late-time Observations*
- 12:30 PM    Poster Presentations:  
- **John Banovetz** (Purdue University)  
*The Center of Expansion and Explosion Age of the Oxygen-Rich Supernova Remnant 1E01012.2-7219*

- **Kirby Hermansen** (Michigan State University)  
*Reaction Rate Sensitivity Studies for Nucleosynthesis in Core-Collapse Supernovae*

- **Jayasinghe Tharindu** (Ohio State University)  
*Constructing an all-sky catalog of bright variable stars with ASAS-SN*

- **Charlotte Wood** (University of Notre Dame)  
*The light echo around Supernova 2009ig*

12:40 – 2:30 PM      Lunch

Session#2

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Chair: Dimitrios Giannios

02:30 PM      **Patrick Kelly** (University of Minnesota)  
*The Multiply Imaged Supernova Refsdal*

02:45 PM      **Daniel Perrefort** (University of Pittsburgh)  
*Photometric 91bg Classification with Lightcurve Morphology*

03:00 PM      **Deep Chatterjee** (University of Wisconsin - Milwaukee)  
*Toward Rate Estimation for Transient Surveys*

03:15 PM      **Timothée Grégoire** (Penn State University)  
*The Astrophysical Multimessenger Observatory Network (AMON)*

03:30 PM      **Robert Morgan** (University of Wisconsin - Madison)  
*Recent Results from Multimessenger Follow-up Programs by the Dark Energy Survey*

03:45 PM      **Troy Raen** (University of Pittsburgh)  
*Setting up an LSST alert broker*

04:00 – 04:20 PM      Coffee and Snack Break

Session#3

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Chair: Dan Milisavljevic

04:20 PM      **John Beacom** (Ohio State University)  
*Diffuse Supernova Neutrino Background*

04:35 PM      **Ermal Rrapaj** (UC Berkeley – University of Minnesota)  
*Exact solution of multi-angle quantum many-body collective neutrino flavor oscillations*

04:50 PM **Spencer Griswold** (University of Rochester, NY)  
*Galactic Supernova Detection at the IceCube Neutrino Observatory*

05:05 PM **Zidu Lin** (Arizona State University)  
*Detectability of SASI activity of supernova neutrino fluxes*

05:20 PM **Joshua Wood** (NASA / MSFC)  
*Fermi-GBM in the era of multimessenger transients*

05:35 – 06:00 PM Evening Discussion

06:30 PM Optional Dinner

## **Friday 27 September, 2019**

Session#4

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Chair: Roberta Humphreys

09:15 AM **Dimitrios Giannios** (Purdue University)  
*Neutron star mergers: gravitational waves and jet structure*

09:30 AM **Aprajita Hajela** (Northwestern University)  
*Two years of non-thermal emission from GW170817*

09:45 AM **Adam Kawash** (Michigan State University)  
*The Galactic Nova Rate with ASAS-SN*

10:00 AM **Patrick Vallely** (Ohio State University)  
*TESS as a transient exploration mission: Synergies with ASAS-SN and other ground-based supernovae surveys*

10:15 – 11:15 AM Coffee and Snack Break (2<sup>nd</sup> group join Astronomy Coffee in McPherson #4054)

Session#5

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Chair: Andre Sieverding

11:15 AM **C. S. Kochanek** (Ohio State University)  
*Why the RSG mass limit exists?*

11:30 AM **Roberta Humphreys** (University of Minnesota)  
*The Red Supergiant Problem -- Warm Hypergiants and Post-Red Supergiant Evolution*

11:45 AM **Kris Davidson** (University of Minnesota)  
*Eta Carinae is nearing completion of its change of state*

12:00 PM **Rachel Patton** (Ohio State University)  
*An improved Explosion Landscape for Binary Population Synthesis*

12:15 – 12:45 PM Morning Discussion

12:45 – 2:30 PM Lunch

Session#6

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Chair: Laura Lopez

02:30 PM **David Khatami** (UC Berkeley)  
*Diversity and Classification of Light Curves from CSM Interaction SNe*

02:45 PM **Subhash Bose** (Ohio State University)  
*A Strongly Bipolar core in the dust forming ejecta of a normal IIP supernova*

03:00 PM **Niharika Sravan** (Purdue University)  
*A comprehensive population-scale modeling of Type IIb supernova progenitors*

03:15 PM **Tuguldur Sukhbold** (Ohio State University)  
*What really powers the light curves of ordinary Type Ib/c supernovae?*

03:30 – 04:00 PM Coffee and Snack Break

Session#7

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Chair: Kris Stanek

04:00 PM **Abigail Polin** (UC Berkeley)  
*Modeling sub-Chandrasekhar mass explosions as Type Ia supernovae*

04:15 PM **Wynn Jacobson-Galan** (Northwestern University)  
*Calcium-Rich Transients from Helium-Shell Detonations on White Dwarfs*

04:30 – 05:00 PM Evening Discussion

05:00 PM **Tuguldur Sukhbold**  
Closing Remarks