The purpose of the workshop is to bring together the Midwest community interested in supernovae of all types, and transients in general, including kilonovae, fast radio bursts, TDEs, gamma-ray bursts etc. We will deal with all aspects of these objects, including the explosion mechanism, progenitors, evolution, nucleosynthesis, and radiation over all wavelengths from radio to gamma-rays.

Ample time would be given to students and postdocs, and significant time reserved for discussions.

Conference is organized by the Department of Astronomy and Astrophysics at the University of Chicago.

**Organizing Committee**

<table>
<thead>
<tr>
<th>Laura Chomiuk</th>
<th>Sean Couch</th>
<th>Vikram Dwarkadas</th>
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<tr>
<td>Michigan State University</td>
<td>Michigan State University</td>
<td>University of Chicago</td>
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**Paul Ricker**  
University of Illinois Urbana-Champaign
Monday - February 25, 2019

8:05 AM - 9:00 AM  Breakfast

SESSION 1
Chair: Vikram Dwarkadas

9:00 AM - 9:10 AM  John Carlstrom, Astronomy and Astrophysics, University of Chicago
Welcome

9:10 AM - 9:20 AM  Vikram Dwarkadas, University of Chicago
Introduction and Logistics

9:20 AM - 9:40 AM  Kate D Alexander, Northwestern University - CIERA
Cosmic Extremes: Probing Energetic Transients with Radio Observations

9:40 AM - 9:55 AM  Jon Miller, University of Michigan
X-ray Observations of Tidal Disruption Events

9:55 AM - 10:10 AM  Anya E Nugent, Northwestern University
Analysis of A Short Gamma Ray Burst in an Old Galaxy Cluster

10:10 AM - 10:25 AM  Deanne L Coppejans, Northwestern University
Multi-wavelength studies of Fast-evolving Blue Optical Transients

10:25 AM - 11:00 AM  Maxim Lyutikov, Purdue
Transients following white dwarfs merger

11:00 AM - 12:30 AM  SESSION 2
Chair: Sean Couch

11:00 AM - 11:20 AM  Tuguldur Sukhbold, The Ohio State University
Life and Death of Massive Stars

11:20 AM - 11:35 AM  Wilson Ricks, University of Chicago
Excavating the Explosion and Progenitor Properties of Type IIP Supernovae via Modelling of their Optical Lightcurves

11:35 AM - 11:50 AM  Giacomo Terreran, Northwestern University
The "He-rich" Type Ic SN 2016coi and its massive progenitor

11:50 AM - 12:05 PM  Danny Milisavljevic, Purdue University
Connecting Distant Supernovae with Nearby Supernova Remnants

12:05 PM - 12:30 AM  Morning Discussion

12:30 PM - 2:00 PM  Lunch

SESSION 3
Chair: Dan Milisavljevic

2:00 PM - 2:20 PM  Damiano Caprioli, University of Chicago
Towards a Comprehensive Theory of Diffusive Shock Acceleration
2:20 PM - 2:35 PM  Chelsea E Harris, Michigan State University  
Which SNe Ia Come from the Single Degenerate Channel? The Answer Will Shock You.

2:35 PM - 2:50 PM  Charlotte Wood, University of Notre Dame  
The Slowly Fading Light Echo Around Type Ia Supernova 2009ig

2:50 PM - 3:05 PM  Vikram Dwarkadas, University of Chicago  
Investigating the X-ray Emission from High X-ray Luminosity SNe

3:05 PM - 3:20 PM  Deep Chatterjee, University of Wisconsin Milwaukee  
Predicting Supernova Rates Using iPTF: Estimating the transient detection efficiency

3:20 PM - 3:35 PM  Noel D Richardson, University of Toledo  
eta Carinae: A stellar system 170 years after a Great Eruption

3:35 PM - 4:00 PM  Coffee Break

4:00 PM - 5:30 PM  SESSION 4  
Chair: Paul Ricker

4:00 PM - 4:15 PM  Xilu Wang, University of Notre Dame  
Sandblasting The R-Process: Spallation Of The R-Process Nuclei Ejected From A NSNS Event

4:15 PM - 4:30 PM  A. Miguel Holgado, University of Illinois at Urbana-Champaign  
On the Formation of Double Neutron Stars from Supernova Natal Kicks

4:30 PM - 4:45 PM  Antonella Palmese, Fermilab  
Gravitational wave astrophysics and cosmology with DES galaxies

4:45 PM - 5:00 PM  Chris Pankow, Northwestern University  
Astronomy and Astrophysics with Gravitational Waves

5:00 PM - 5:30 PM  Discussion

6:30 PM  Dinner
Monday - February 25, 2019

8:00 AM - 9:00 AM  Breakfast

SESSION 5  
Chair: Kate Alexander

9:00 AM - 9:20 AM  Mansi M. Kasliwal, Caltech  
First results from the Zwicky Transient Facility

9:20 AM - 9:35 AM  Sumit K Sarbadhikary, Michigan State University  
Drilling deep into the transient radio sky with the CHILES-VERDES survey

9:35 AM - 9:50 AM  Patrick Vallely, Ohio State University  
ASAS-SN: Big Science with Small Telescopes

9:50 AM - 10:05 AM  Gil Holder, University of Illinois  
Transients in CMB Surveys

10:05 AM - 10:20 AM  Rachel A Patton, The Ohio State University  
Optical Depth Constraints on the Supernova Impostors SN 1954J and SN 1961V

10:20 AM - 10:50 AM  Coffee Break

SESSION 6  
Chair: Tuguldur Sukhbold

10:50 AM - 11:05 AM  Sean Couch, Michigan State University  
The Turbulent Frontier in Massive Stellar Death

11:05 AM - 11:20 AM  Michael A Pajkos, Michigan State University  
Gravitational Wave Features from Rotating Core-Collapse Supernovae

Multimessenger signals from the landscape of core-collapse supernovae

11:35 AM - 11:50 AM  Matthias Raives, The Ohio State University  
The Antesonic Condition for Core-Collapse Supernovae

11:50 AM - 12:05 PM  Brian Fields, University of Illinois  
When Stars Attack! Confirmation, Identification, and Localization of a Recent Near-Earth Supernova

12:05 PM - 12:30 PM  Morning Discussion

12:30 PM - 2:00 PM  Lunch

2:00 PM - 5:00 PM  SESSION 7  
Chair: Paul Ricker

2:00 PM - 2:15 PM  Albert Stebbins, Fermilab  
Vacuum Pair Production and EMP for Short Radio Transients

2:15 PM - 2:30 PM  Niharika Sravan, Purdue University  
A comprehensive population-scale modeling of Type Ib supernova progenitors
2:30 PM - 2:45 PM  Elias Aydi, Michigan State University  
A “shock” to the system - classical novae emitting gamma-rays

2:45 PM - 3:05 PM  Elad Steinberg, Columbia University  
Emission from Radiative Shocks

3:05 PM - 3:20 PM  Kirill Sokolovsky, Michigan State University  
Classical novae as X-ray transients: the case of Nova Carinae 2018

3:20 PM - 3:35 PM  Kerry Paterson, Northwestern University  
Rapid follow-up of neutron star mergers and short GRBs

3:35 PM - 4:00 PM  Coffee Break

4:00 PM - 5:05 PM  SESSION 8  
Chair: Mansi Kasliwal

4:00 PM - 4:20 PM  David Kaplan, UW-Milwaukee  
Radio Followup of Binary Neutron Star Mergers

4:20 PM - 4:35 PM  Zoheyr Doctor, Uchicago  
Search for Optical Emission from Binary-Black-Hole Merger 170814

4:35 PM - 4:50 PM  Aprajita Hajela, Northwestern University  
Developing New Technique to Measure the Ambient Density of GW170817

4:50 PM - 5:05 PM  Adithan Kathirgamaraju, Purdue University  
The non-thermal counterparts of GW170817: current observations and what we can expect in the future

5:00 PM - 5:30 PM  Final Discussion

5:30 PM  End