

# SCIENTIFIC FRONTIERS AND SYNERGIES FOR THE DSA-2000 RADIO CAMERA

## Conference Program

MONDAY MARCH 20

### *Session 1: Introduction and Multi-Lambda Synergies*

TIME	NAME	TITLE
8:30 – 8:40	Fiona Harrison	Welcome Address
8:40 – 9:10	Gregg Hallinan	DSA-2000 Project Overview
9:10 – 9:30	David Woody	DSA-2000 Antennas and RF Electronics
9:30 – 9:40	Katie Jameson	DSA-2000 Timeline and Site Selection
9:40 – 10:00	Ian Sullivan	The Rubin Observatory: Enabling Rapid Follow-Up of Transient Detections
10:00 – 10:30	<i>coffee break</i>	
10:30 – 10:50	Tzu-Ching Chang	Synergies Between SPHEREx and DSA-2000
10:50 – 11:10	Shri Kulkarni	UVEX
11:10 – 11:25	David Cook	NED meets DSA-2000: Galaxy Science Enabled by Radio Data
11:25 – 12:00	<b>poster flash talks</b>	
12:00 – 12:30	<b>discussion on multi-lambda</b>	Leader: Vikram Ravi
12:30 – 14:00	<i>lunch break</i>	

## MONDAY MARCH 20

### *Session 2: Multi-Messenger Astronomy*

TIME	NAME	TITLE
14:00 – 14:25	Megan DeCesar	Pulsar Timing Arrays: Gravitational Waves with NANOGrav and the DSA-2000
14:25 – 14:40	Deborah Good	An Introduction to Pulsar Timing with the DSA-2000
14:40 – 14:55	Luke Kelley	Astrophysics from Low-Frequency Gravitational Wave Sources
14:55 – 15:10	Tingting Liu	Multi-Messenger Observations of Supermassive Black Hole Binaries with DSA-2000
15:10 – 15:25	Scott Ransom	The Equation of State of Dense Nuclear Matter with the DSA-2000
15:25 – 16:05	<i>coffee break</i>	
16:05 – 16:30	Alessandra Corsi	Compact Binary Coalescences in the Era of Multi-Messenger Astronomy
16:30 – 16:45	Mansi Kasliwal	Discovering Gravitational Wave Counterparts with DSA-2000
16:45 – 17:00	Genevieve Schroeder	The Hunt for Magnetar Remnants: Searching for the Elusive Radio Signal from Binary Neutron Star Mergers
17:00 – 17:15	Elias Most	Fast Radio Precursor Transients to Neutron Star Mergers
17:15 – 17:30	Bing Zhang	On Radio Detection of Gravitational Waves and Gravitational Wave Sources
17:30 – 18:00	<b>discussion on multi-messenger astronomy</b>	Leader: Thankful Cromartie
18:00 – 20:00	<i>poster viewing + wine &amp; cheese @ Cahill</i>	

## TUESDAY MARCH 21

### *Session 3: Our Cosmic History: Continuum*

TIME	NAME	TITLE
8:30 – 8:55	Tessa Vernstrom	A New Era of Continuum Surveys
8:55 – 9:10	Bryan Gaensler	Cosmic Magnetic Fields with the DSA-2000
9:10 – 9:25	Allison Matthews	Towards a Robust Measurement of the Star-Formation History of the Universe
9:25 – 9:40	Kristina Nyland	New Insights on Quasar Jet Life Cycles with the DSA-2000
9:40 – 9:55	Liam Connor	Weak Lensing and Galaxy Lensing with the DSA-2000
10:00 – 10:30	<i>coffee break</i>	
10:30 – 10:45	Sam Ponnada	Synthetic Synchrotron Observations of Galaxies and Synergies with DSA-2000
10:45 – 11:00	Sumit Sarbadhicary	Where Do Stars Explode in the ISM?
11:00 – 11:15	Kritti Sharma	Host Galaxies of Fast Radio Bursts
11:15 – 11:35	Chris Carilli	DSA2000 and the ngVLA
11:35 – 12:00	<b>discussion on our cosmic history: continuum</b>	Leader: Kristina Nyland
12:00 – 12:30	<b>flash talks on DSA-2000 project posters</b>	
12:30 – 14:00	<i>lunch break</i>	

## TUESDAY MARCH 21

### *Session 4: Fast Transients*

TIME	NAME	TITLE
14:00 – 14:25	Vicky Kaspi	FRB Searches
14:25 – 14:50	Kiyoshi Masui	FRB Applications to Cosmology and Galaxy Evolution
14:50 – 15:05	Vikram Ravi	FRB Origins, and Questions in Neutron-Star Formation
15:05 – 15:20	Myles Sherman	Pulsar Searching Forecasts for the DSA-2000 Array
15:20 – 15:35	Zorawar Wadiasingh	Ultra-Long Period Magnetars, Fast Radio Bursts and Precursor Emission of Compact Binary Coalesces
15:35 – 15:50	Assaf Horesh	Delayed Radio Flares—A New Phenomenon in Tidal Disruption Events
15:50 – 16:20	<i>coffee break</i>	
16:20 – 16:35	Joseph Lazio	Technosignatures with the DSA-2000
16:35 – 16:50	Jeffrey Hazboun	Tuning PTAs for Single-Source Detections
16:50 – 17:20	<b>discussion on fast transients</b>	Leader: Shami Chatterjee
18:30 – 22:00	<i>dinner at Athenaeum (after-dinner speaker: Anneila Sargent)</i>	

## WEDNESDAY MARCH 22

### *Session 5: Our Cosmic History: HI*

TIME	NAME	TITLE
8:30 – 8:55	Kristine Spekkens	HI Galaxy Surveys Out to $z \sim 1$
8:55 – 9:20	Adam Leroy	The Huge Promise of a True 'Survey' Perspective of the Atomic Phase of the Interstellar Medium
9:20 – 9:35	Susan Clark	Galactic HI and Magnetic Fields
9:35 – 9:50	Pedro Salas	The Properties of the Neutral and Ionized Gas in Our Galaxy
9:50 – 10:05	Fillipo Maccagni	MHONGOOSE: The MeerKAT Ultra-Deep Nearby Galaxy HI Survey
10:05 – 10:35	<i>coffee break</i>	
10:35 – 10:50	Michael Rugel	THOR-GC: An extension of THOR to the Galactic Center
10:50 – 11:05	Kimberly Emig	Surveying Radio Recombination Lines in Galaxies and AGN over Cosmic Time
11:05 – 11:25	Ruby Byrne / Nivedita Mahesh	21-cm Intensity Mapping with the DSA-2000
11:25 – 12:00	<b>discussion on our cosmic history: HI</b>	Leader: Marcel Neeleman

## WEDNESDAY MARCH 22

### *Session 6: Slow Transients*

TIME	NAME	TITLE
12:00 – 12:15	Dillon Dong	Direct Detection and Characterization of Slow Radio Transients with the DSA-2000
12:30 – 14:00	<i>lunch break</i>	
14:00 – 14:15	Poonam Chandra	Explosive Transients and Role of DSA-2000
14:15 – 14:30	Dovi Poznanski	Anomaly Detection–Finding Things We Did Not Know We Should Be Looking For
14:30 – 14:45	Jean Somalwar	Searching for Tidal Disruption Events using Radio Surveys
14:45 – 15:00	Igor Andreoni	Rubin and DSA: A Winning Synergy to Unveil Populations of Elusive Transients
15:00 – 15:30	<b>discussion on slow transients</b>	Leader: Mansi Kasliwal
15:30 – 16:00	<i>coffee break</i>	
16:00 – 16:30	Željko Ivezić	DSA-2000 Synergies with Rubin/LSST and Other Multi-Lambda Sky Surveys
16:30 – 17:00	Maura McLaughlin / Fabian Walter	Concluding Remarks

## THURSDAY MARCH 23

Optional trip to Bishop, afternoon: OVRO site visit

## FRIDAY MARCH 24

Departure from Bishop

## POSTERS

NAME	TITLE
Stella Ocker	Noise Considerations for Pulsar Science with DSA-2000
Scott Chapman	Brightest Cluster Galaxy Formation in the $z=4.3$ Protocluster SPT 2349-56: Discovery of a Radio-Loud AGN
Pallavi Patil	Young Radio AGN in the DSA-2000 Era
Rikuto Omae	Polarization Analysis of Gravitational Lens Galaxies for Future Polarization Surveys
Hariharan Krishnan	Transient Imaging with MeerKAT
Jakob Faber	High-DM Fast Radio Burst Detections with DSA-110
Olivia Young	CLEAN Deconvolution of Radio Pulsar Pulses
Yuankun Wang	Counterparts to Radio Transients and Variables in Optical Survey Data in the Rubin Era
Michael Lam	The Dynamic Ionized Interstellar Medium in the DSA-2000 Era
Cameron Hummels	Using Simulated FRBs as a Probe of the CGM/IGM
Sophia Sosa	DM-misestimations with Varying Bandwidth
Joaquin Vieira	mm-Wave Transients from CMB Experiments
Frank Schinzel	The Power of Circular Polarization to Reveal Missing Populations of Pulsars

DSA-2000 posters that capture all key systems of the project will also be presented