

# KIPAC@20

A conference celebrating 20 years of KIPAC

## Monday, September 11

17:30-19:30	Welcome reception (FKB patio)
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## Tuesday, September 12

8:00-8:45	Breakfast available (FKB patio)
8:45-9:00	Opening remarks (Risa Wechsler, KIPAC Director)
Mapping the Sky (Chair: Emmanuel Schaan)	
9:00-9:30	3D dust mapping in the Milky Way <i>Greg Green (Max Planck Institute for Astronomy)</i>
9:30-10:30	The Vera C. Rubin Observatory, status and plans <i>Chihway Chang (U. Chicago/KICP) and Phil Marshall (SLAC)</i>
10:30-10:35	Poster highlights
Break	
11:00-11:30	Spectroscopic galaxy surveys <i>Juna Kollmeier (CITA)</i>
11:30-12:00	Line intensity mapping <i>Simon Foreman (Arizona State University)</i>
12:00-12:30	The cosmic microwave background <i>Kimmy Wu (SLAC)</i>
Lunch	
Transformative Technologies (Chair: Zeeshan Ahmed)	
14:00-14:30	The Vera C. Rubin Observatory LSST Camera <i>Aaron Roodman (SLAC)</i>
14:30-15:00	Extremely Large Telescope programs <i>Rob Simcoe (MIT Kavli Institute)</i>
15:00-15:30	Future space missions and detector technologies <i>Sven Hermann (KIPAC)</i>
15:30-15:35	Poster highlights
Break	
16:00-16:30	Advances in astronomical adaptive optics <i>Jessica Lu (UC Berkeley)</i>
16:30-17:00	Superconducting Sensors across the EM Spectrum <i>Cyndia Yu (University of Chicago, KICP)</i>
17:00-17:30	Quantum sensing for dark matter <i>Saptarshi Chaudhuri (Princeton)</i>
17:30-19:00	Reception (FKB patio)

## Wednesday, September 13

8:00-9:00	Breakfast available (FKB patio)
<b>The Extreme and Variable Universe (Chair: Dan Wilkins)</b>	
9:00-9:30	High resolution X-ray spectroscopy with XRISM and beyond <i>Anna Ogorzalek (NASA Goddard Spaceflight Center)</i>
9:30-10:00	Building observatories to access the high-energy Universe <i>Stefan Funk (Erlangen Centre for Astroparticle Physics)</i>
10:00-10:30	Multi-messengers from the high energy frontier <i>Ke Fang (U. Wisconsin)</i>
10:30-10:35	Poster highlights
<b>Break</b>	
11:00-11:30	Millihertz gravitational wave sources and short-timescale variables with the Vera C. Rubin Observatory <i>Kevin Burdge (MIT)</i>
11:30-12:00	Transient Science with DSA 2000 <i>Gregg Hallinan (Caltech)</i>
12:00-12:30	Transient astronomy and high energy astrophysics in the era of the Vera C. Rubin Observatory (discussion) <i>Kevin Burdge (MIT), Gregg Hallinan (Caltech), Krista Lynne Smith (Texas A&amp;M)</i>
<b>Lunch</b>	
14:00-	Free time
14:00-15:30	Tours to Vera C. Rubin Observatory LSST Camera and SLAC overlook (sign-up required)
<b>Public Event</b>	
19:00-20:00	The Next Decade of Discovery with the Vera C. Rubin Observatory <i>Aaron Roodman (SLAC), Yao-Yuan Mao (University of Utah), Krista Lynne Smith (Texas A&amp;M), Kevin Burdge (MIT)</i> <b>Hewlett Teaching Center Room 200 (Stanford Campus)</b>

## Thursday, September 14

8:00-9:00	Breakfast available (FKB patio)
9:00-9:30	Special update from the Vera C. Rubin Observatory
Data-driven Discovery (Chair: Susan Clark)	
9:30-10:00	Climate solutions <i>Kyle Story (Muon Space)</i>
10:00-10:30	Strong gravitational lensing in the era of data-driven algorithms <i>Yashar Hezaveh (Universite de Montreal)</i>
10:30-11:00	Experimental science x supercomputing <i>Debbie Bard (NERSC)</i>
Break	
11:30-12:30	Synergies between overlapping cosmological surveys <i>Elisabeth Krause (University of Arizona)</i>
12:00-12:20	The emergence of the star-forming cosmic web <i>Dongwoo Chung (CITA/U. Toronto)</i>
12:20-12:40	Polarimetric profiles of pulsar wind nebulae <i>Josephine Wong (KIPAC)</i>
12:40-13:00	The PHANGS Survey: Resolving nearby galaxies into individual star-forming units <i>Jaeyeon Kim (KIPAC)</i>
Lunch	
KIPAC in the World (Chair: Pat Burchat)	
14:00-14:30	NVIDIA'S HPC Developer Technology Group <i>Peng Wang (NVIDIA)</i>
14:30-15:00	Carbon dioxide removal through bio-oil sequestration <i>Edward Young (Charm Industrial)</i>
15:00-15:30	Human-Machine Collaboration for Improving Semiconductor Process Development <i>Yu Lu (Lam Research)</i>
15:30	Group photograph
Break	
16:00-17:30	Developing as compassionate scientists for the good of the world (a few KIPAC highlights, followed by discussion) <ul style="list-style-type: none"> <li>• Bruce Macintosh (chair)</li> <li>• Risa Wechsler</li> <li>• Xinnan Du</li> <li>• Susan Clark</li> <li>• Yao-Yuan Mao</li> </ul>
18:30-21:00	Conference Dinner (Allied Arts Guild, Menlo Park)

## Friday, September 15

8:00-9:00	Breakfast available (FKB patio)
Snapshots of KIPAC Research	
9:00-9:10	Measuring Magnetic Flux on the Far-side of the Sun <i>Shea Hess-Webber</i>
9:10-9:20	Detecting Gaps in Stellar Streams as a Probe for Dark Matter with the Nancy Grace Roman Telescope <i>Christian Aganze</i>
9:20-9:30	Studying Galactic InscRIPTIONS: what we can learn about the history of the Milky Way from dynamical perturbations <i>Elise Darragh-Ford</i>
9:30-9:40	Learning real physics with fake universes <i>Sandy Yuan</i>
9:40-9:50	Gaseous halos of spiral galaxies: feeding and feedback <i>Sanskriti Das</i>
9:50-10:00	Cosmic Chemistry: Exploring The History of Cluster Enrichment with Current and Next-gen X-ray Telescopes <i>Anthony Flores</i>
10:00-10:10	Mapping the Accretion onto Supermassive Black Holes through the Time Domain <i>Zhefu Yu</i>
10:10-10:20	A rare case of strong lensing by a quasar <i>Martin Millon</i>
10:20-10:30	What in the Galaxy is Scattering Cosmic Rays? <i>Iryna Butsky</i>
Break	
11:00-11:45	Thinking ahead to next-generation surveys (discussion) <i>Emmanuel Schaan, Elisabeth Krause, Steve Allen, Risa Wechsler</i>
11:45-12:30	KIPAC Directors' perspective and closing remarks
Lunch	