

EAO JCMT Large Programs

## Large Program Allocations

Large Program	Instrument	Hours awarded
<a href="#">A Transient Search for Variable Protostars</a>	Sc-2	150
<a href="#">S2-COSMOS: An EAO SCUBA-2 survey of 1,000 SMGs in the COSMOS field</a>	Sc-2	223
<a href="#">SCOPE: SCUBA-2 Continuum Observations of Pre-protostellar Evolution</a>	Sc-2	300
<a href="#">A magnetic field survey of the Gould Belt clouds</a>	Pol-2	224
<a href="#">JINGLE: the JCMT dust and gas In Nearby Galaxies Legacy Exploration</a>	Sc-2/RxA	780
<a href="#">STUDIES: SCUBA-2 Ultra Deep Imaging EAO Survey</a>	Sc-2	330
<a href="#">MALATANG: Mapping the Dense Molecular Gas in the Strongest Star-forming Galaxies</a>	HARP	390
<b>Total</b>		<b>2397</b>

## Hours awarded per weather band

Large Program	Band 1	Band 2	Band 3	Band 4	Band 5
Transient	50	50	50		
S2-COSMOS		111	112		
SCOPE			150	150	
Gould Belt (pol-2)		224			
JINGLE		57	123	200	400
STUDIES	330				
MALATANG		40	100	250	
Total	380	482	535	600	400

# A Transient search for variable protostars – How Do Stars Gain Their Mass?

Gregory Herczeg (KIAA/Peking University), Doug Johnstone (NRC Canada), Geoff Bower (ASIAA), Yuri Aikawa (University of Tsukuba), Jeong-Eun Lee (Kyung Hee University).

- Most protostars have luminosity lower than that expected for steady accretion.
- Episodic accretion? If so, what are the time scale and amplitude?
- Long term SCUBA-2 monitoring of several nearby star-forming regions to detection variability.

# SCOPE: SCUBA-2 Continuum Observations of Pre-protostellar Evolution

Coordinators: Tie Liu (KASI, S. Korea), Mark Thompson (University of Hertfordshire, U.K.), Sheng-Yuan Liu (ASIAA, Taiwan), Gary Fuller (The University of Manchester, U.K.), Ken Tatematsu (NAOJ, Japan), Yuefang Wu (Peking University, P. R. China), Di Li (NAOC, P. R. China)

- SCUBA-2 followup of all-sky Planck cold clumps to study the earliest stage of star formation.
- ~1000 cold clumps selected across different Galactic environments.
- SCUBA-2 can resolve the substructure where Planck and Herschel can't.

# A Magnetic Field Survey of the Gould Belt Clouds

D. Ward-Thompson, R. Furuya, D. Li, R. Rao, W. Kwon, P. Bastien

- Pol-2 polarization mapping of the densest parts of the Gould Belt star forming region.
- To use dust polarization to map magnetic field.
- To understand the role of magnetic field in filaments and outflows at 1000 AU scale.

# MALATANG: MApping the dense moLecular gAs in the sTrongest stAr-formiNg Galaxies

Yu Gao (Purple Mountain Observatory), Zhiyu Zhang (The Royal Observatory, Edinburgh and European Southern Observatory), and Thomas R. Greve (University College London)

- HARP-B mapping of HCN and HCO<sup>+</sup> (J=4-3) of 23 nearby, IR-bright galaxies.
- spatially resolved (0.2-2.8 kpc) dense gas tracers over various environments (galactic centers, disks).
- role of dense gas and star formation (Kennicutt-Schmidt law).

# JINGLE: The JCMT dust and gas In Nearby Galaxies Legacy Exploration

## – A new local galaxy evolution legacy survey

A. Saintonge (UK), C. Wilson (Canada), T. Xiao (EAO/China)

- SCUBA-2 imaging of 190 galaxies plus CO(2-1) RxA flux measurements of a subset of 75 galaxies
- Galaxies selected with MaNGA IFU targets and Herschel surveys.
- Study global properties of galaxies (dust properties, gas mass, star formation, stellar mass, metallicity,...)



# S2-COSMOS: A SCUBA-2 survey of 1,000 SMGs in the COSMOS field

Ran Wang (CN), Scott Chapman (CA), Yuichi Matsuda (JP), Yujin Yang (KR),  
**Ian Smail (UK)**, Wei-Hao Wang (TW)

- SCUBA-2 850  $\mu\text{m}$  mapping of the 2 deg<sup>2</sup> COSMOS area. (COSMOS is one of HSC's ultra deep pointings.)
- Will detect  $\sim 1000$  submm galaxies to a flux limit of 4.5 mJy ( $\sim 5 \times 10^{12} L_{\odot}$ ).
- Very powerful for clustering analyses of submm galaxies, and multiwavelength studies of galaxies.

# STUDIES: SCUBA-2 Ultra Deep Imaging EAO Survey

Scott Chapman (CA), Xianzhong Zheng (CN), Hyunjin Shim (KR), Tadayuki Kodama (JP), Ian Smail (UK), **Wei-Hao Wang (TW)**

- SCUBA-2 450  $\mu\text{m}$  mapping of a portion of the COSMOS-CANDELS area.
- Will reach confusion limit in the map center, to provide the deepest ever far-IR selections of high- $z$  galaxies.
- To understand the typical galaxies that produce the far-IR extragalactic background.

# JCMT Large Program Open Enrollment Period Now - February 1<sup>st</sup> 2016



Calling all astronomers from *EAO regions and partners*:

*If you are interested in Star Formation, Nearby Galaxies or Cosmology now is the chance to get involved with any of our seven newly approved Large Science Programs!*

*For more information or to express interest in joining one of the seven projects email:  
[JCMTLargePrograms\\_join@eaobservatory.org](mailto:JCMTLargePrograms_join@eaobservatory.org)*

Visit: [www.eaobservatory.org/jcmt/science/large-programs/](http://www.eaobservatory.org/jcmt/science/large-programs/) for more information

To get involved with any of the above programs please email:

[JCMTLargePrograms\\_join@eaobservatory.org](mailto:JCMTLargePrograms_join@eaobservatory.org)

Please include your name, institution (please note only astronomer from [EAO regions and partners](#) will be permitted to join), and a brief – one paragraph – explanation as to your interest and what you feel you can contribute to the project.