

Multiwavelength Views of the ISM in High-redshift Galaxies

27–30 June 2011, ESO Vitacura, Santiago, Chile



The study of the interstellar matter (ISM) is no longer limited to the nearby Universe. Major progress in observational capabilities from the optical to the radio have allowed the first studies out to the highest redshift galaxies known, while theoretical modelling has proved essential to interpret the different environments in the early Universe. The imminent availability of the Atacama Large Millimeter/submillimeter Array (ALMA) will revolutionise this field, thanks to its exquisite sensitivity and spatial resolution. At the same time, the Herschel Space

Observatory is observing nearby galaxies in atomic and molecular lines, which will be redshifted down to ALMA frequencies at high redshift. This workshop aims to provide an overview of this field at this crucial moment, and foster collaboration between scientists working at low and high redshifts and in different wavelength regimes.

Topics to be covered include:

- Theoretical predictions of the physical properties of gas in high- z galaxies;
- Outflows and inflows at high redshifts;
- Effects of star formation and active galactic nuclei activity;
- Census of molecular gas masses and excitation at high- z ;
- Interplay between mass, metallicity and star formation rate in galaxies;
- ALMA and far-infrared line emission in high- z studies;
- Synergy between ALMA, the Expanded Very Large Array (EVLA) and the future Extremely Large Telescopes (ELTs).

The meeting will be held at the ESO and Joint ALMA Office (JAO) campus

in Santiago, and will be limited to 100 participants. At the end of the workshop, interested participants will be given the opportunity to fly to San Pedro de Atacama and enjoy a guided tour of the ALMA and APEX Chajnantor site.

The Scientific Organising Committee consists of: Andrew Baker (Rutgers University), Chris Carilli (NRAO), Carlos De Breuck (ESO, co-chair), Leopoldo Infante (PUC), Rob Ivison (UK ATC and IfA, Edinburgh), Roberto Maiolino (INAF, Roma), Alison Peck (JAO), Dominik Riechers (Caltech), Linda Tacconi (MPE), Jeff Wagg (ESO, co-chair), Fabian Walter (MPIA), Tommy Wiklind (JAO) and Min Yun (University of Massachusetts).

The deadline for registration is 8 April 2011.

Further information can be found at <http://www.eso.org/sci/meetings/2011/gas2011.html>.

Formation and Early Evolution of Very Low Mass Stars and Brown Dwarfs

11–14 October 2011, Garching, Germany



The wide-area surveys in nearby molecular clouds that are currently being conducted with Herschel in the far-infrared and APEX in the submillimetre will soon be complemented and extended with observations by SCUBA2 at the James Clerk Maxwell Telescope. Together they will add to the enormous amount of data that will be collected by ground-based wide-area surveys with telescopes like VISTA and the VST, and those already available, most notably those carried out with the Spitzer Space Telescope. These surveys will offer complete samples of objects in nearby star-forming regions, from cores to protostars and young stars, with unprecedented sensitivity. The surveys will probe the physical conditions at

the sites where the lowest mass isolated objects form.

Together, these facilities will provide a multiwavelength view of the origin of the full stellar and sub-stellar mass function. In parallel, detailed studies of individual objects and small samples are already underway with new and existing VLT/I instruments and with current millimetre interferometers, and will shortly begin with ALMA. At the same time, increasingly realistic computations of the collapse and fragmentation processes, the early evolution of the resulting objects, their inner structure, and the dynamics and chemistry of their atmospheres and surrounding medium are

producing a sound framework for the interpretation of observations.

This workshop will review the current progress in our understanding of low-mass star and brown dwarf (BD) formation in nearby molecular clouds, and will bring together observers and theoreticians to promote stimulating discussion.

The main science topics include:

- Properties of nearby molecular clouds and cores forming stars and BDs;
- Theory and observations of collapse of protostars and protoplanets;
- Early evolutionary stages of very low mass stars and BDs: disc-mediated accretion and ejection;

- The initial mass functions of stars and BDs and their possible relation with the molecular cloud clump mass function;
- The processes that regulate star formation in giant molecular clouds from theoretical and observational aspects;
- Surveys for young, very low mass stars and BDs.

The workshop is jointly organised by ESO, the Max-Planck Institute for Extraterrestrial Physics, the Excellence Cluster Origin and Structure of the Universe and the University Observatory Munich. The meeting will take place at ESO Garching. There will be five main sessions, each introduced by an invited observational review and a theoretical

review. The sessions will be further complemented by contributed talks and open discussions. Ample space will be provided for posters. Proposals for both contributed talks and posters are invited. Owing to the capacity of the local facilities, the number of participants will be limited to around 120. Financial support will be available for a small number of participants, mainly for students and young researchers.

The registration deadline is 30 June 2011.

Further details are available at <http://www.eso.org/sci/meetings/2011/vlms2011.html>.

Announcement of the Workshop

Feeding the Giants: ELTs in the Era of Surveys

29 August–2 September 2011, Hotel Continental Terme, Ischia, Italy

Over the next decade, by the time of first light of the Extremely Large Telescopes (ELTs), an incredible wealth of data will have become available through many new survey facilities. Astronomy will enter an era of surveys. At the same time, the ELTs will open up a new parameter space of unprecedented sensitivity and spatial resolution. This workshop is aimed at exploring the synergies between these two approaches. It will review ongoing and forthcoming survey projects and explore the developments that these will bring to a wide range of science areas, including exoplanets, star formation, stellar populations, galaxy formation/evolution and cosmology.

The workshop will address two broad questions:

- Along with surveys conducted by current and forthcoming observatories, how will the upcoming dedicated survey facilities (such as, to name just a few, Kepler, Gaia, the Large Synoptic Survey Telescope [LSST], the Dark Energy Survey [DES], the VLT Survey Telescope [VST] and the VLT Infrared

Survey Telescope for Astronomy [VISTA], the Panoramic Survey Telescope & Rapid Response System [Pan-STARRS], the Wide-Field Infrared Survey Telescope [WFIRST], SCUBA-2, WISE, Euclid, Plato, the Square Kilometer Array [SKA] and its pathfinders, etc.) profit from follow-up by the ELTs?

- To what extent do the three ELT projects (Giant Magellan Telescope [GMT], Thirty Meter Telescope [TMT] and European Extremely Large Telescope [E-ELT]) require surveys to prepare scientific breakthroughs?

The goal is to bring together the survey and ELT communities and to define first strategies to maximise the success of both aspects.

The workshop is organised jointly by ESO (Markus Kissler-Patig and Jochen Liske), OPTICON and the INAF–Observatory of Rome (Annalisa Calamida and Isobel Hook) and the University of Oxford (Aprajita Verma). The other members of the Scientific Organising Committee are: Daniel Eisenstein (University of Arizona),

Josh Frieman (Fermilab), Gerry Gilmore (University of Cambridge), Anne-Marie Lagrange (Grenoble Observatory), Pat McCarthy (GMT Observatory), Timo Prusti (ESA), Hans-Walter Rix (MPIA), Elaine Sadler (University of Sydney), David Silva (NOAO/GSMT), Luc Simard (CNRC/TMT) and Will Sutherland (University of London). The Local Organising Committee is composed of Annalisa Calamida, Vanessa Ferraro-Wood, Giuliana Giobbi and Aprajita Verma.

The workshop will be held at the Hotel Continental Terme, on the Island of Ischia near Naples. Further details can be found at <http://www.eso.org/sci/meetings/2011/feedgiant.html>.

Registration will open at the end of March 2011.

