



**Australian Institute of Physics
NSW Branch (Public Talk & AGM)**

**Understanding the Evolution of Interstellar
Matter in the Milky Way**

**Dr Naomi McClure-Griffiths
ATNF-CSIRO**

Tuesday 25th November 2008 @ 6.00PM

(The talk will follow the AGM which commences @ 5.30PM)

At the

Slade Lecture Theatre, School of Physics, University of Sydney

Public talk arranged by: The Australian Institute of Physics (NSW Branch)

Entrance is FREE

Summary of talk:

The interstellar medium of our home galaxy, the Milky Way, is a varied and dynamic place. Interstellar gas has temperatures ranging over more than six orders of magnitude and densities covering a range from a 10^{-3} particles per cubic centimetre to more than a million particles per cubic centimetre. In addition, interstellar gas is constantly in motion with velocities anywhere from 1 km/s to 1000 km/s. The interstellar gas is constantly disturbed by massive stellar winds and supernova explosions which heat and reshape the gas on scales of hundreds of lightyears. Somehow in the midst of this dynamic environment interstellar matter must make incredible phase transitions from hot, diffuse, fast moving stellar by-products to cold, dense matter capable of forming new stars. Adding to the complexity is the fact that the Milky Way is not a closed box: some of the most dramatic motions force matter clear out of the Galactic potential and there is a constant influx of raw material from extragalactic space. Recent surveys of the Milky Way are allowing us to probe the physics of the interstellar medium in more detail than ever before. I will discuss what we what we have learned recently about how the interstellar medium evolves and how that affects the evolution of the Milky Way as a whole.





Brief Biography of the Speaker:

Dr Naomi McClure-Griffiths is a CEO Science Leader at the CSIRO Australia Telescope National Facility where she leads the Galactic Interstellar Medium group with the aim of better understanding the structure and evolution of our own Milky Way. Currently McClure-Griffiths is the principal investigator on the Galactic All Sky-Survey, an international project to map all of the hydrogen in the Milky Way. She holds an Honorary appointment at the University of Sydney and supervises PhD students in Australia, the U.S. and Japan.

In 2006 she was awarded the Prime Minister's Malcolm McIntosh Prize for Physical Scientist of the Year for her discovery of a new spiral arm in the outer Milky Way. In 2007 she was awarded the Powerhouse Museum Wizard prize. McClure-Griffiths started with CSIRO in 2001 as a Bolton Fellow and held a subsequent appointment as a CSIRO Postdoctoral Fellow. She completed her PhD in Astrophysics at the University of Minnesota in Minneapolis, MN, USA and her undergraduate in Physics at Oberlin College in Oberlin, OH, USA.

Detailed Schedule for Tuesday, 25th November 2008:

- **5:30-6.00 pm ANNUAL GENERAL MEETING, Slade Lecture Theatre.**
- **6:00-6.30 pm REFRESHMENTS, Slade Lecture Theatre.**
- **6.35-7.30 pm LECTURE by Dr Naomi McClure-Griffiths.**
- **8.00 pm DINNER with the Speaker at Buon Gusto (Italian), 368 Abercrombie Street, Chippendale.**

E-mail Dr Fred Osman (fred_osman@exemail.com.au) if you will be able to join us for dinner.

Travel Directions:

- Train to Redfern station and walk to the **School of Physics**.
- Buses 422, 423, 426, 428, 448, and 450 from Circular Quay to City Road / King, or 412, 435, 438, 470, 483 etc. along Parramatta Road from Circular Quay.
- Drive and park in various parking lots. You will need to pay for parking (**\$6 flat-rate after 4 pm**) and display the ticket in your car. You may also find parking places on public roads outside the Uni.

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