

# Dr Richard Ogley

<b>Date of birth:</b>	22 <sup>nd</sup> February 1973	<b>Nationality:</b>	British
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		<b>Current post:</b>	Post-doctoral research fellow

## Keyskills

- Project management with both short and long-term deliverables.
- Able to delegate jobs in order to distribute workload.
- Advanced computer programmer and system administrator with 10 years experience.

## Computingspecificskills

- Writing complete software packages through design, coding, implementation and distribution.
- Advanced C programming including networking and graphical interfaces (5 years).
- Parallel computer programming using custom-built network interfacing.
- Coding simulation software to perform a variety of astronomical tasks using a wide variety of techniques.
- Has working knowledge of several computer languages including the popular C++/Java/Perl flavours, as well as obscure languages such as Assembler and Glish.
- DEC Alpha and Linux computer manager (10 years).
- Good documentation skills in both end-user manuals and internal code.
- Complex package maintenance, examples include AIPS/AIPS++, Linux distributions like SuSE and Debian.
- Home and small office computer manager. Can install, run, debug and backup a small network used in home-type environments.

## Astronomicalspecificskills

- Data reduction and analysis using MERLIN, Lovell Telescope, Parkes Telescope, Compact Array, Mopra telescope, VLA, VLBA, JCMT, Scuba, ISO and Bok telescope on Kitt Peak.
- RFI surveying software for use in mitigation projects.
- Software auto-correlator for the ATCA.
- Reduction and interpretation of continuum and spectral line data from 408 MHz to 22 GHz; 2.0 mm to 450 um; IR J,H,K; and optical echelle data.

## Leadershipskills

- Can take charge of a situation, especially in high-stressful environments.
- Active first-aid trainer with young people and inexperienced adults.
- Experience in setting up and running a small business.
- Make time-critical executive decisions.  
Examples include mass-casualty and aviation environments.
- Can identify times when personal skills need refreshing and will arrange practice (for both myself and others).

## **Teamwork**

- Regularly work within small groups, both in research environments and first-aid posts.
- Have an understanding of small-group dynamics.

## **Interpersonalcommunicationskills**

- Scientific papers and conference precedings.
- Presentations to experts and non-technical audiences.
- Documentation of computer software.
- Communicating effectively to people with a wide range of ages and mental capacities.
- Casualty injury and treatment details for handover to medical professionals.
- Performing safety assessments in an OHS capacity.
- Emergency evacuation and crowd management.

## **Experienceandqualifications**

04/2003 – present

Centre for astrophysics and supercomputing

**Postdocresearchfellow**

Swinburne University

In my current position I am responsible for writing software to perform simulations for the Square Kilometer Array telescope.

This involves research into different techniques for radio correlation, interference mitigation as well as array simulation and layout. My work draws on a wide range of skills and I am constantly learning new programming techniques in order that the job is completed as efficiently as possible. The main projects I have worked on are:

- Single dish auto-correlator and data distribution code for the ATCA. Using a 12-machine cluster, this project in progress automatically distributes packets of raw radio data to cluster machines for auto-correlation using specially designed network code for efficient data transport. I have written an easy to use interface which distributes data and analyses the resulting spectra to produce RFI survey data.
- I have also written an online user interface to MIT software which simulates SKA array configurations. The MIT software was developed outside of Swinburne, and I was responsible for the installation and management of the packages on the cluster.
- I have written code to simulate radio data to investigate SKA capabilities and the technical problems that will be required to build the telescope. While simple, this code highlighted the large data volumes that the SKA will create, and looked into some of the problems this will create.

09/2001 - 12/2001

Keele University, UK

**Quantummechanictutor**

03/2001 – 04/2003

Keele University, UK

**Postdocresearchfellow**

Half of the research undertaken at Keele University was to study X-ray binaries and supersoft X-ray sources. This was a continuation of work done at Saclay where the majority of my research was multi-wavelength detections of X-ray binaries.

The other half of my research was developing software for a new robotic automated telescope which was to be built by Keele University. Here I researched various spectral fitting routines, coding

problems which required automated responses to obtain consistent results (similar to my baseline subtraction code for the RFI survey). While at Keele, I undertook small research projects such as echelle spectroscopy in order to obtain skills I needed to write the code effectively.

02/99 - 03/01

CEA - Saclay, France

### **Postdocresearchfellow**

Astronomical research into multi-wavelength detections of new X-ray binaries, and follow observations of known sources. Predominantly using radio telescopes, but using any useful observations.

## **Qualifications**

09/95 - 01/99

The Open University, UK

PhD Astrophysics

“The astrophysics of energetic X-ray binaries”

- Observations, data reduction and interpretation of binary stars.
- Concentrated on radio observations with some infrared data.
- Both spectral line and continuum observations.
- Interpretation of superluminal motion using unusual models.

09/94 - 08/95

Jodrell Bank Observatory, UK

MSc Radio astronomy

“MERLIN mapping of the radio-loud quasar 3C345 at a frequency of 408 MHz”

Observations and modelling of the particular quasar. Included coursework, lectures and a research project in radio astronomy.

09/91 - 06/94

Leicester University, UK

BSc Physics with Astrophysics

Obtained a II-i in physics with 50% of the course having astrophysics modules.

09/89 - 06/91

The Ridge College, UK

Advanced level certification

Computer science, Physics, Maths, Further Maths

## **Nonacademicqualifications**

- Private pilot's licence – single engine aeroplane.
- St John Ambulance Australia member with qualifications in:
  - First aid with ongoing training.
  - Oxygen therapy and asthma accreditation.
  - Semi-autonomous external defibrillator.
  - Ambulance driving for non-emergency use.
- Fire warden training
  - Preventing fires and emergencies.
  - Workplace emergency control organisation and procedures.
  - Reacting to fires and emergencies.
- Radiotelephone operator licence.

## Scientific papers and conference proceedings

- Rushton M.T., Smalley B., Ogley R.N., Wood J.H., Hauschildt P., Bleach J.N., 2003, IAUS, 210, E33 “Model atmosphere analyses of post-common envelope stars”
- Ogley R.N et al., MNRAS, 2002, 330 772 “A radio survey of Galactic supersoft X-ray sources”
- Stirling A.M., Jowett F.H., Spencer R.E., Paragi Z., Ogley R.N., Cawthorn T.V., 2002, MNRAS 337, 657, “Radio-emitting components in SS433”
- Ogley R.N. et al., MNRAS, 2001, 326, 349 “Radio flares and plasmon size in Cyg X-3”
- Ogley R.N., et al., AAS, 2001, 199, 133.13 “A search for radio emission from Galactic Supersoft X-ray Sources”
- Stirling A.M., Spencer R.E., de la Force C.J., Garrett M.A., Fender R.P., Ogley R.N., MNRAS, 201, 372, 1273 “A relativistic jet from Cygnus X-1 in the low/hard X-ray state”
- Ogley R.N., Bell Burnell S.J., Fender R.P., MNRAS, 2001, 322, 177, “Cyg X-3 with ISO: investigating the wind”
- Fender R.P., Hjellming R.M., Tilanus R.P.J., Pooley G.G., Deane J.R., Ogley R.N., Spencer R.E., MNRAS, 2001, 322, L23 “Spectral evidence for a powerful compact jet from XTE J1118+480”
- Fuchs Y., Mirabel I.F., Ogley R.N., Ap+SS, 2001, 276, 99 “Mid-infrared observations of GRS 1915+105 and SS433”
- Spencer R., de la Force C., Stirling A., Garrett M., Fender R., Ogley R., Ap+SS, 2001, 276, 255 “The continuous jet of Cygnus X-1”
- Ogley R.N., Bell Burnell S.J., Fender R.P., Pooley G.G., MNRAS, 2000, 317, 158 “Excess submillimetre emission from GRS 1915+105”
- Dhawan V., Pooley G.G., Ogley R.N., Mirabel I.F., IAUC 2000, 7395
- Ogley R.N., Bell Burnell S.J., Fender R.P., AAS, 1999, 194, 104.05 “Jet and wind environment of Cygnus X-3”
- Ogley R.N., Bell Burnell S.J., (eds), New AR, 1998, 42, 573-663 “2<sup>nd</sup> workshop on Galactic sources with relativistic jets”
- Ogley R.N., et al., New AR, 1998, 42, 637, 2<sup>nd</sup> workshop on Galactic sources with relativistic jets “Magnetic field estimation in Cyg X-3's jet”
- Ash T.D.C., Ogley R.N., Bell Burnell S.J., Norton A.J., Kaper L., Neutron Stars and Pulsars, 1998
- Ogley R.N., Bell Burnell S.J., Fender R.P., Proc ISO's view on Stellar Evolution, Astroph and Space Sci, 1998, 255, 205
- Ogley R.N., Richards A.M.S., Spencer R.E., Astronomy and Geophysics, 1997, 38, 22, “A masing Hale-Bopp”
- Ogley R.N., Bell Burnell S.J., Newell S.J., MNRAS, 1997, 285, 187 “Comments on the superluminal motion in Cygnus X-3”
- Ogley R.N., Ash T.D.C., Fender R.P., IAUC 1997, 6726
- Ogley R.N., Richards A.M.S., Spencer R.E., Irish Astr. J., 1997, 24., 97 “A masing Hale-Bopp”
- Ogley R.N., Richards A.M.S., Astronomy Now, 1997, July 6
- Ogley R.N., Bell Burnell S.J., Fender R.P., 1997, VA, 41, 65 “Modelling of infrared emission from Cyg X-3 and the UKIRT IRCAM3 point spread function”
- Ogley R.N., Bell Burnell S.J., Fender R.P., IAU Coll. 163, 1996, 121, 775 “Infrared emission around Cyg X-3”
- Ogley R.N., Bell Burnell S.J., Fender R.P., Ap&SS, 255, 205 “Isocam observations of Cyg X-3: search for a hot stellar wind”