

## Short CV: Donald Blair MELROSE

### Professional Address:

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### Date and Place of Birth:

13th September 1940: Hobart, Tasmania

### Academic Qualifications:

1962 : B.Sc. (Hons.) University of Tasmania

1965 : D.Phil. University of Oxford Theoretical Physics

### Present Position:

Emeritus Professor, The University of Sydney, since October 2015

### Past Positions:

1965-1966 : Research Fellow in Physics, University of Sussex.

1966-1968 : Research Associate in Physics, Yeshiva University, New York.

1968-1969 : Research Fellow in the Astronomy Program, University of Maryland.

1969-1978 : Lecturer/Reader, Australian National University.

1979-2015 : Professor of Physics (Theoretical), The University of Sydney.

### Other Professional Activities:

1979-1984 : Chair Advisory Committee *Australian Journal of Physics*

1980-1984 : Chair National Committee for Astronomy

1991-1999 : Director, ARC Research Centre for Theoretical Astrophysics

1992-1992 : Associate Editor *Journal of Geophysical Research, Space Physics*

1992-2006 : Associate Editor *Journal of Plasma Physics*

1994-1997 : Chair, Steering Committee, Australia Telescope National Facility

1996-2002 : Secretary Commission C19 (Astrophysics), IUPAP

1999-2000 : Chair, Panel A6 (Physics & Mathematic), Australian Research Council

2001-2002 : Head, School of Physics, The University of Sydney

2003-2006 : President, Commission 10, IAU

2006-2009 : President, Division II, IAU

**Awards and Honours:**

- 1962 : Rhodes Scholar for Tasmania
- 1974 : Pawsey Memorial Medal (Australian Academy of Science)
- 1986 : Fellow, Australian Academy of Science
- 1986 : Walter Boas Medal (Australian Institute of Physics)
- 1987 : Thomas Ranken Lyle Medal (Australian Academy of Science)
- 1998 : Harrie Massey Medal and Prize (Institute of Physics)
- 2002 : Centenary Medal for 'science in theoretical astrophysics'
- 2004 : Ellery Medal (Astronomical Society of Australia)
- 2013 : Moyal Medal (Macquarie University)
- 2016 : S. Chandrasekhar Prize (AAPPS Division of Plasma Physics)

**Fields of Interest:**

1. Plasma astrophysics, including coherent radio emissions mechanisms, pulsars and solar flares.
2. Quantum electrodynamics, including the effects of superstrong magnetic fields.

**Publications**

As of early 2017, publications include 7 books (listed below), 9 chapters in books, 264 journal articles, 127 published conference papers, and various other minor publications.

1. Melrose, D.B. 1980, *Plasma Astrophysics Volume I Emission, Absorption and Transfer of Waves in Plasmas*, Gordon & Breach, New York pp. 1–269, ISBN 0-667-02340-5
2. Melrose, D.B. 1980, *Plasma Astrophysics Volume II Astrophysical Applications*, Gordon & Breach, New York pp. 1–423, ISBN 0-667-02130-5
3. Melrose, D.B. 1986, *Instabilities in Space and Laboratory Plasmas*, Cambridge University Press pp. 1–280, ISBN 0-521-30541-1 [paperback ISBN 0-521-37962-8 (1989)]
4. Melrose, D.B., & McPhedran, R.C. 1991, *Electromagnetic Processes in Dispersive Media* Cambridge University Press pp. 1–407, ISBN 0-521-41025-8
5. Kirk, J.G., Melrose, D.B., & Priest, E.R. 1994, *Plasma Astrophysics*, Saas-Fee Advanced Course 24, Benz, A.O., & Courvoisier, T.J.-L., (eds) Springer-Verlag, Berlin pp. 1–324, ISBN 3-540-58327-0 & 0-387-58327-0
6. Melrose, D.B. 2008, Quantum Plasmadynamics: Unmagnetized plasmas, Lecture Notes in Physics, Volume 735, Springer Science+Business Media, LLC pp. 1–464, ISBN 978-0-387-73902-1, e-ISBN 978-0-387-73903-8
7. Melrose, D.B. 2013, Quantum Plasmadynamics: Magnetized plasmas, Lecture Notes in Physics, Volume 854, Springer Science+Business Media, LLC pp. 1–490, ISBN 978-1-4614-4044-4, e-ISBN 978-1-4614-4045-1