

## Brief Curriculum Vitae Barry W. Ninham

Born Adelaide, South Australia (09-04-1936)  
Foundation Professor (1970-2000) and Head,  
Department of Applied Mathematics,  
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Married to Jennifer Ann Grose (deceased) 1958-2000. 4 adult children. 7 grandchildren.  
1 great granddaughter. Married to Veronica Ruth White 2004

### Career

- 1970 - 2000** Founder and Head, Dept. Applied Mathematics, Institute of Advanced Studies, ANU.
- 1962 - 1970** Lecturer, Senior Lecturer, Queen Elizabeth II Fellow, Assoc. Professor, Dept. of Applied Mathematics, Univ. of N.S.W., Australia
- 1960 - 1962** Research Fellow, IBM Corporation, T.J. Watson Centre, NY, USA
- 1968 - 1969** Research scientist, National Institutes of Health, Bethesda Md.
- 1962** **Ph.D.** University of Maryland, USA (Mathematical Physics),  
Thesis Advisor: Professor Elliott W. Montroll;  
*'Statistical Mechanics of Assemblies of Charged Particles.'*
- 1957** **M.Sc.** Theoretical Physics, University of Western Australia.  
Thesis Advisor: Professor R. B. Dingle  
*'Studies in Statistical Mechanics.'*  
Contents: 1. The Statistical Mechanics of Moving Systems  
2. Nearest Neighbour Lattice Statistics  
3. A Programme for the Mathematical discussion of the Yang-Lee Condensation Phenomenon
- 2000-present** Emeritus Professor (ANU) & Principal research base (Univ. of Florence)
- 1968-2010** Visiting Professor at numerous universities.
- 2010-present.** Continuing research collaborations at ANU; Florence and Cagliari, Italy; Regensburg, Germany; Lund and Linköping, Sweden

### Awards

- 2016** The Matthew Flinders Medal, the Australian Academy of Science  
**2014** Officer of Order of Australia  
**2014** Overbeek gold medal of European Colloid and Interface Society  
**2013** Enzo Ferroni gold medal of Italian Physical Chemistry Society  
**2010** Honorary Doctorate of Science, U. Western Australia

**2008** The Australian National University created the Barry Ninham Chair of Natural Sciences to recognise his contributions  
**2006** Craig Medal, Australian Academy of Sciences,  
**2005** Ostwald Award of German Chemical Society (Colloid and Surface Science)  
**2004** SIS Nestle-Mittal award  
**2004** Humboldt Distinguished Professor of Chemistry, Germany  
**2002-3** Italian National Chair of Chemistry based in Florence; 2005-9 Visiting Professor  
**2001** Honorary Doctorate of Science, U. Lund  
**1998** Tage Erlander National Chair in Chemistry, Sweden  
**1999** Chalmers University 150th Anniversary Chair  
**1996** TFR (Basic Engineering Sciences) Swedish National Chair in Chemical Engineering  
**1995** Inaugural Lectureship Award, Colloid Division, Japan Chemical Society  
**1994** Medal of College de France  
**1991** Hon. Doctor of Technology in Chem. Eng. at KTH (Royal Institute of Technology), Sweden  
**1990** Rebinder Medal of the USSR Academy of Science  
**1978** Fellow Australian Academy of Science  
**1970** Pawsey Medal of Australian Academy of Science  
**1970** Edgeworth David Medal of Royal Society of NSW  
**1964** First Queen Elizabeth 11 Fellowship Australia awarded

## **Professorships**

**1970-2000** Foundation Professor and Head, Department of Applied Mathematics (Natural Sciences), ANU.  
**2006-2007** University of Florence  
**2005 (Jan-July)** Humboldt Distinguished Professor, Regensburg, Germany  
**2004-2005** Italian National Chair in Chemistry based mainly in Florence and Cagliari  
**2000-present** Visiting Professor, University of Florence  
**2002** (8 months) Guest Professor, Malmo University, Sweden  
**2001** (Dec 4-6), Speaker, 100th anniversary Nobel Prizes Jubilee Symposium, Friiberghs Herrgard, Orsundsbro, Sweden  
**2001-present** Professor Emeritus, Australian National University  
**1999** Chalmers University 150th anniversary Chair of Chemistry  
**1998-1999** Swedish National Tage Erlander NFR (Basic Sciences) Chair in Chemistry  
**1997-1999** Visiting Professor University of Paris VI  
**1996** (12 months) National Chair in Chemical Engineering, University of Lund, Sweden [TFR (Swedish Res. Council for Engineering Sciences)]  
**1994** CEA Saclay, (Atomic Energy Commission), and College de France, University of Paris, France)  
**1991 & 1994** (6 months) University of Lund, Sweden  
**1987** (3 months) Visiting Professor, CEA Saclay, France  
 Foundation Professor, Institute for Mathematics and Its Applications, University of Minnesota and Department of Chemical Engineering, USA  
**1968-1969** Visiting Scientist, National Institutes of Health USA

## Publications (1963-2015)

- In excess of 440 research papers in physical chemistry, mathematics, physics, biology, 7 joint books.
- Science citations in chemistry around 26,456 at July 2015. (Other citations in mathematics, physics and biology).
- Average citations per publication > 50
- H-index: > 78, i10-index: 305
- Highest cited paper (3593 at July 2015)  
J. N. Israelachvili, D. J. Mitchell and B. W. Ninham 'Theory of self-assembly of hydrocarbon amphiphiles into micelles and bilayers' *Journal of the Chemical Society, Faraday Transactions II*, (1976), 72 (9), 1525-1568.  
DOI:10.1039/F29767201525

## Other professional contributions

- Chairman and organiser, various international meetings in Mathematics, Physics, Chemistry, and Biology;
- Reviewer, many scientific journals.
- Member and Chair, 10 years, ANU Encyclopaedia Britannica Committee.
- Director Australian Enhanced Oil recovery program,
- Chair National Review Committees in Physical Chemistry (1986), and Basic Engineering Sciences, Sweden (1997)
- Reviewer of Phys. Chem. for Atomic Energy Commission France (1998).
- Numerous University Committees;
- Feature Writer in National Press, on education and science policy.
- Consultant to companies incl. Proctor and Gamble, Unilever, joint programs with Memtec, Rohm and Haas, W.A. Sands.
- Played a major role in preserving ANU from dismemberment during political disputes on new versus old Universities.
- Founder, with Professor John Molony of the ANU Emeritus Faculty.
- Foundation Member, UNESCO World Commission on Ethics of Scientific Knowledge and Technology. (1998-2002).

## Significant scientific contributions

Ninham founded the ANU Department of Applied Mathematics in 1970, a world leader in the field of colloid and surface science. He has continued to lead the field for nearly 4 decades. He also founded and led the ANU Optical Sciences Department for more than 15 years. More than 75 of the students and/or research fellows he has mentored became full professors in Australia and overseas in various fields by 2010, and more than 10 had become Fellows of the Australian Academy of Sciences, and five Fellows of the Royal Society. He supervised around 200 Ph.D. theses in Australia and Overseas.

The Department maintains its high profile in experiment, applied work, and in theory at the boundaries of physical chemistry, chemical engineering, physics and biology, structure in condensed matter, inorganic chemistry and works extensively with industry.

Most recognised contributions are: pioneering advances in surface force theory and measurement, in theories of electrolytes and colloidal interactions, and in the self-assembly of surfactants, microemulsions, lipids and other biosystems.

Contributions to other fields: Numerical analysis, astrophysics, stochastic processes, physical, inorganic and biochemistry, statistical mechanics of soft condensed matter, liquids at interfaces, solution chemistry, especially electrolytes, polyelectrolytes, new materials via templating and mechanochemistry, immunology, hydrophobic interactions, porous, disordered and random media; membranes for reverse osmosis and ultrafiltration. Number theory in physics, molecular forces in physics, and asymptotic analysis.

## Selected Books

- **Random and Restricted Walks: Theory and Application**, M. Barber, B. W. Ninham, Gordon & Breach, New York (1970), 176pp. ISBN: 067702620X
- **Dispersion Forces**, J. Mahanty, B. W. Ninham, Academic Press, London and New York (1976), 236pp. ISBN: 0124650503
- **The Mathematics and Physics of Disordered Media: Percolation, Random Walk, Modeling, and Simulation**. Editors: B. D. Hughes & B. W. Ninham, Springer, (1983) Volume 1035. ISBN: 978-3-540-12707-9 (Print) 978-3-540-38693-3 (Online)
- **The Language of Shape**, S. T. Hyde, S. Andersson, K. Larsson, S. Lidin, T. Landh, Z. Blum and B. W. Ninham, Elsevier Science B.V. Amsterdam (1997), 470pp. ISBN: 0 444 81538 4
- **Molecular Forces and Self Assembly**: in Colloid, Nano Sciences and Biology, B. W. Ninham & P. Lonostro, Cambridge Molecular Science, Cambridge University Press (2010), 365pp. ISBN: 9780521896009
- **Aqua Incognita**, Why Ice Floats on Water and Galileo 400 Years on, Editors, P. Lonostro & B. W. Ninham, Connor Court publishers Ballarat, Victoria (2014), 505pp. ISBN: 1925138216

