NALINI JOSHI AO FAA FRSN FAustMS

Payne-Scott Professor of Mathematics, University of Sydney

EDUCATION

- Feb. 1982 B. Sc (Hons) First class with University Medal, *Sydney*
- June 1984 M. A. in Applied Mathematics, *Princeton*
- Jan. 1987 PhD in Applied and Computational Mathematics, *Princeton* (Supervisor: Martin D. Kruskal)

CURRENT APPOINTMENT

Payne-Scott Professor**,** Chair of Applied Mathematics, The University of Sydney

PREVIOUS APPOINTMENTS

- ARC Georgina Sweet Australian Laureate Fellow (2012-2017)
- ARC Senior Research Fellow, The University of Adelaide (1997-2002)
- Senior Lecturer, University of NSW (1994-1996)
- Lecturer, University of NSW (1990-1994)
- Research Fellow and Lecturer, Australian National University (1988-1990)
- Postdoctoral Fellow, Australian National University (1987)
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KEY HONOURS and AWARDS

- 2023–26 Elected Member-at-Large of the Executive Committee of the International Mathematical Union
- 2022 Elected honorary member, Real Sociedad des Mathematicas Español
- 2021 Rothschild Distinguished Visiting Fellow, Isaac Newton Institute for Mathematical Sciences, Cambridge University, UK
- 2021 MSRI Research Professor, Mathematical Sciences Research Institute, Berkeley CA, USA
- 2021 ANZIAM Medal, Australian Mathematical Society
- 2020 George Szekeres Medal, Australian Mathematical Society
- 2020–21 Leverhulme Trust Visiting Professorship, UK
- 2019–22 Vice-President of the International Mathematical Union
- 2019 NSW Premier's Prize for Excellence in Mathematics, Chemistry, Physics, and Geosciences
- 2019 Bragg Fellowship, Royal Institution of Australia
- 2018 Australian Museum Eureka Prize for Outstanding Mentor of Young Researchers
- 2016 Officer of the Order of Australia

SENIOR LEADERSHIP ROLES

- 2019–22 Vice-president of the International Mathematical Union
- 2020–22 Equity, Diversity and Inclusion Board, Banff International Research Station
- 2018–22 Scientific Advisory Board, Banff International Research Station
- 2014–18 Commonwealth Science Council, chaired by the Prime Minister
- 2014–16 Foundation Co-Chair, Science in Australia Gender Equity (SAGE)
- 2012–15 Council of the Australian Academy of Science (AAS)
- 2008–10 President, the Australian Mathematical Society
- 2008 Chair, Australian Council of Heads of Mathematical Sciences
- 2007–10 Head, School of Mathematics and Statistics, University of Sydney

COMPETITIVE RESEARCH GRANTS (SINCE 2010)

(Total grants awarded $6.3M; All except one awarded by the Australian Research Council; one awarded by the Australian Learning and Teaching Council.)

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School of Mathematics and Statistics F07•The University of Sydney
•NSW 2006•AUSTRALIA

- 2021–23 *Dynamics on space-filling shapes*
- 2020–22 *Geometric analysis of transcendental solutions of nonlinear systems*
- 2016–20 *Reflection Groups and Discrete Dynamical Systems*
- 2012–17 *Geometric Construction of Critical Solutions of Nonlinear Systems*
- 2013–15 *Critical Solutions of Nonlinear Systems*
- 2011–13 *Geometry and Analysis of Discrete Integrable Systems*
- 2009–11 *Integrable Lattice Equations*
- 2009–10 *A National Discipline-Specific Professional Development Programme for Lecturers and Tutors in the Mathematical Sciences*

RESEARCH PUBLICATIONS

121 peer-reviewed research papers, 2 research monographs (published by American Mathematical Society and Cambridge University Press) and 1 edited monograph. (See *http://www.maths.usyd.edu.au/u/nalini/* for a detailed list.)

RESEARCH TRAINING AND COLLABORATION

More than 24 postdoctoral research fellows from 10 countries; 9 research assistants; 15 PhD students and 1 Masters student completed; 13 honours students; 5 visiting students from France, UK and Japan. Over 60 research visitors, including National Medal of Science winner Martin D. Kruskal.

SELECTED PLENARY AND INVITED TALKS

- 2022 Orthogonal Polynomials and Special Functions (OPSFA16) (Montreal, Canada)
- 2021 Isaac Newton Institute for Mathematical Sciences (Cambridge, UK)
- 2021 MSRI, Berkeley (USA)
- 2021 Integrable Systems in Geometry and Mathematics Conference (SISSA, Italy)
- 2021 University of Gujarat Mathematics Colloquium (Gujarat, India)
- 2020 UC Davis, Mathematical Physics/Probability Seminar (USA)
- 2019 UCLA Distinguished Lecture Series (3 Lectures, LA, USA)
- 2018 Plenary lecturer, British Mathematics Colloquium (St Andrews, UK)
- 2017 LMS/OPSF Summer School (5 lectures, Kent, UK)
- 2016 CBMS/NSF Invited lectures (10 lectures in the USA)
- 2016 Di Prima lecturer (Caltech, USA)
- 2015 LMS Sesquicentennial Hardy lectures (9 lectures in the UK)
- 2015 Representation theory, special functions and Painlevé equations (Kyoto, Japan)

SELECTED EDITORIAL AND ADVISORY BOARDS

- 2021– *Grundlehren der mathematischen Wissenschaften* book series, Springer
- 2021 Scientific Advisory Committee, program on *Applicable Resurgent Asymptotics*, Isaac Newton Institute for Mathematical Sciences, Cambridge University
- 2020– Nonlinearity
- 2018–22 Scientific Advisory Board, Program Committee, and Equity, Diversity and Inclusion Board, Banff International Research Station
- 2010– Studies in Applied Mathematics
- 1996– Scientific Advisory Committee for *International Conferences on Symmetries and Integrability of Discrete Integrable Systems*

MEDIA

Appeared on the Australian Broadcasting Corporation (ABC) programs *One Plus One, Q&A* (alongside Brian Cox, Miranda Tapsell, Matt Colwell and Richard Gill), *the Weekly with Charlie Pickering*, *Ockam's Razor* and *News at Noon*. Interviewed on ABC radio and 2GB on mathematics and for print and online publications including the Sydney Morning Herald, the Australian, Australian Financial Review.

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