Nalini Joshi

Address: School of Mathematics and Statistics,
F07 The University of Sydney NSW 2006
t +61 2 9351 2172, ***f*** +61 2 9351 4534, ***m*** +61 2 402 008 859
nalini.joshi@sydney.edu.au

CURRICULUM VITAE*

Personal and Educational Data:

1958 born in Rangoon, Burma (now called Yangon, Myanmar)
1981 BSc (Hons) majoring in pure and applied Mathematics, University of Sydney
1987 PhD, Princeton University

Employment:

1987-1990 Postdoctoral fellow/Research Fellow/Lecturer, Australian National University, Canberra, Australia
1990-1996 Lecturer/Senior Lecturer, University of New South Wales, Sydney, Australia
1997-2002 Associate Professor and Australian Research Council Senior Research Fellow, University of Adelaide, Adelaide, Australia
2002-2012 Full Professor at the University of Sydney
2012- Full Professor and Australian Research Council Georgina Sweet Australian Laureate Fellow at the University of Sydney

Research Interests:

Integrable systems: the Painlevé and discrete Painlevé equations, Riemann-Hilbert theory, integrable PDEs and lattice equations, solitons; Asymptotics and Approximation Theory: exponential asymptotics; Geometry of dynamical systems: resolution of singularities

Awards:

1982 University medal in Applied Mathematics of the University of Sydney,
Centenary prize of the Australian Association of University Women
1997 Australian Research Council Senior Research Fellowship
2008 Fellow of the Australian Academy of Science (FAA)
2012 Australian Research Council Georgina Sweet Australian Laureate Fellowship
2015 London Mathematical Society 150th anniversary Hardy Fellowship
Australian Financial Review and Westpac 100 Women of Influence award
2016 Officer of the Order of Australia for services to Mathematics
Richard di Prima Lecturer, Caltech
Conference Board of Mathematical Sciences and National Science Foundation Principal Lecturer
Daily Life Woman of the Year (Finalist)

Selected Academic Services and Roles:

2007–10 Head of School of Mathematics and Statistics, University of Sydney
2008 Chair, Australian Council of Heads of Mathematical Sciences
2008-10 President, the Australian Mathematical Society
2010–12 Board member, Australian Mathematics Trust
2010–12 Chair, IMU/ICIAM Working Group on Journal Rankings
2011–16 Chair, National Committee for Mathematical Sciences, AAS
2012–15 Member, Council of the Australian Academy of Science (AAS)
2013–14 Member, IMU Working group on Women in Mathematics
2013–16 Executive group member, Decadal Plan for Mathematical Sciences
2014–16 Co-Chair, Science in Australia Gender Equity (SAGE) Initiative
2014– Member, the Prime Minister's Commonwealth Science Council
2016– Member, Science in Australia Gender Equity Expert Advisory Group

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* Further details can be found at *http://www.maths.usyd.edu.au/ut/people?who=N_Joshi*

Editorial responsibilities for 5 scientific journals.

Selected Plenary and Invited Talks:

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)
Di Prima lecturer (Caltech USA)
2015 LMS Hardy lectures (9 lectures in the UK)
2015 Representation theory, special functions and Painlevé equations (Kyoto, Japan)
2014 Summer School on nonlinear discrete dynamical systems (Bangalore, India)
2013 Recent Progress on Painlevé Equations (Strasbourg, France)
2013 Elliptic Integrable Systems and Hypergeometric Equations (Lorentz Centre, Leiden, Netherlands)

Selected Publications

Monograph

J. Hietarinta, N. Joshi, F.W. Nijhoff, *Discrete Systems and Integrability*, Cambridge University Press, 2016, 456 pages.

Selected Papers[†]

N. Joshi and N. Nakazono, Elliptic Painlevé equations from next-nearest-neighbor translations on the $E_8^{(1)}$ lattice, *Journal of Physics A: Mathematical and Theoretical*, **50** (2017), 305205 (17 pp).

S. Butler and N. Joshi**:** An inverse scattering transform for the lattice potential KdV equation, *Inverse Problems*, **26**(2010), 28 pages.

J.J. Duistermaat and N. Joshi, Okamoto's space for the first Painlevé equation in Boutroux coordinates, *Archive for Rational Mechanics and Analysis* **202** (2011) 707–785.

N. Joshi and A.V. Kitaev, On Boutroux's tritronquée solutions of the first Painlevé equation, *Stud. Appl. Math.* **107** (2001) 253–291.

R.H.J. Grimshaw and N. Joshi, Weakly nonlocal solitary waves in a singularly perturbed Korteweg-de-Vries equation, *SIAM J. Appl. Math.*, **55** (1995) 124-135.

N. Joshi and M.D. Kruskal, A direct proof that the six Painlevé equations have no movable singularities except poles, *Stud. Appl. Math.*, **93** (1994).

STATEMENT AND DESCRIPTION OF ACTIVITIES

I am humbled and honoured to be considered for membership of the IMU Executive Committee and am willing to commit to the role as Vice-President of IMU.

In my contribution to the work of the IMU EC, I would like to concentrate on issues related to increasing the diversity of mathematics, as well as developing issues that relate to publishing, communication and outreach. I have a particular interest in women and minority groups in mathematics. This would relate to the work of the Committee for Women in Mathematics (CWM) committee, in particular, helping to establish networks of women mathematicians and activities to encourage, support and retain women in mathematics, and regarding the important issues surrounding the Gender Gap Project established by the International Science Council. I also have an interest in the work of the Committee for Electronic Information and Communication (CEIC).

As someone born in a developing country, I am also interested in the work of the Commission on Developing Countries (CDC) and very willing to contribute to relations between the IMU and the International Science Council (ICS) especially in the Asia/Pacific region. I am very willing to participate in all EC business, including selection committees.

[†] A list of more than 100 papers and research monographs can be found at *http://www.maths.usyd.edu.au/ut/people?who=N_Joshi*