

Curriculum Vitae

Prof. Dragomir N. Neshev

1 Address

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2 Education and academic qualifications

- **1999:** PhD in Physics (awarded 07.06.1999), Sofia University, Sofia, Bulgaria.
PhD thesis title: “*Dynamics and interactions of dark spatial solitons.*”
- **1994:** MSc in Physics, Sofia University, Sofia, Bulgaria.
 - **first degree:** Quantum Electronics and Laser Techniques.
Thesis title: “*Nonlinear effects in interactions of optical beams and pulses.*”
 - **second degree:** Teacher in physics.
- **1985 - 1989:** High school education, School of Mathematics, Plovdiv, Bulgaria.

3 Professional experience

- *January 2015 - present:* **Professor**, Nonlinear Physics Centre, Research School of Physics and Engineering, The Australian National University, Canberra, Australia.
- *January 2011 - December 2014:* **Associate Professor**, Nonlinear Physics Centre, Research School of Physics and Engineering, The Australian National University, Canberra, Australia.
- *January 2010 - December 2014:* **ARC Queen Elizabeth II Fellow**, Nonlinear Physics Centre, Research School of Physics and Engineering, The Australian National University, Canberra, Australia.
- *January 2009 - December 2009:* **Fellow**, Nonlinear Physics Centre, Research School of Physics and Engineering, The Australian National University, Canberra, Australia.
- *January 2004 - 2008:* **ARC Australian Research Fellow**, Nonlinear Physics Centre, Research School of Physical Sciences and Engineering, The Australian National University, Canberra, Australia.
- *March 2007:* **Invited Professor**, Laboratoire Matriaux Optiques, Photonique et Systèmes (LMOPS), University of Metz, France.
- *June 2005:* **Visiting Academic**, Quantum Optics Research Lab, San Francisco State University, San Francisco, California, USA.
- *September 2003:* **Visiting Academic**, Nonlinear Photonics Group, Institute of Applied Physics, Westfälische Wilhelms-Universität, Münster, Germany.
- *July 2002 - December 2003:* **Research Fellow**, Nonlinear Physics Group, Research School of Physical Sciences and Engineering, The Australian National University, Canberra, Australia.
- *January 2002:* **Visiting Fellow**, Laboratory of Photonics, Universitat Politècnica de Catalunya, Barcelona, Spain.
- *April 2001 - July 2002:* **Marie Curie Postdoctoral Fellow**, Laser Centre, Free University of Amsterdam, Amsterdam, The Netherlands.

- *August 2000 - February 2001: Visiting Fellow*, Research School of Physical Sciences and Engineering, The Australian National University, Canberra, Australia.
- *October 1999 - December 1999: Visiting Scientist*, Atomic physics group, Free University of Amsterdam, Amsterdam, The Netherlands.
- *March 1999 - April 2001: Research Associate*, Department of Quantum Electronics, Faculty of Physics, Sofia University, Sofia, Bulgaria.
- *October 1997 - May 1998: Visiting Scientist*, Atomic physics group, Free University of Amsterdam, Amsterdam, The Netherlands.
- *May 1996 - July 1996: Visiting Scientist*, Institute of Experimental Physics, Technical University Graz, Graz, Austria.

4 Awards and honours

- 2013:** Abbe Professor of Photonics from Friedreich Schiller University, Jena, Germany (September).
2009: Queen Elizabeth II Fellowship from the Australian Research Council, Australia.
2009: International Scientific Collaboration Award, Australian Academy of Science.
2005: International Scientific Collaboration Award, Australian Academy of Science.
2004: International Scientific Collaboration Award, Australian Academy of Science.
2003: Australian Research Fellowship from the Australian Research Council, Australia.
2001: Marie Curie Individual Fellowship of the European Commission, Improving Human Research Potential and the Socio-economic Knowledge Base.
1999: Academic award of Sofia University for best young scientist in 1998, Sofia, Bulgaria.
1997: Scholarship of NUFFIC foundation for exchange scientists, The Netherlands.
1996: Scholarship of Österreichischen Akademischen Austauschdienstes, Austria.
1994: National academic award for excellent achievements in education from the National Academic Foundation, Bulgaria.
1993/94: Scholarship of foundation 'Eureka', Bulgaria for excellent achievements in education.
1992/93: Scholarship of foundation 'Eureka', Bulgaria for excellent achievements in education.
1989: Honorable Mention in 20th International Physics Olympiad, Warsaw, Poland.

5 Professional activities and affiliations

- *Professional memberships:* Australian Optical Society, Optical Society of America, and The Australian Research Council Nanotechnology Network (ARCNN). ResearchID: A-3759-2008 ORCID: 0000-0002-4508-8646
- *Editorial activities*
 2015-current: Editorial Board Member, NPG Scientific Data,
 2012-current: Editorial Board Member, NPG Scientific Reports,
 2010-current: Editorial Board Member, International Journal of Optics,
 2011-current: Editorial Board Member, Advances in Applied Physics,
 2008: Editorial Board Member, Advances in Nonlinear Optics.
- *Journal reviewer* for a large number of international journals, including Nature Photonics, Nature Nanotechnology, Nature Communications, Advanced Materials, Physical Review Letters, and Nano Letters.
- *Grant application reviewer*
2007, 2008, 2010–2016: Discovery Projects, Australian Research Council, Australia.
2011–2016: Future Fellowships, Australian Research Council, Australia.
2011–2016: Discovery Early Career Researcher Award, Australian Research Council, Australia.
2016: Killam Research Fellowships by the Canada Council for the Arts, Canada.
2007, 2008, 2012, 2013, 2015: reviewer for Qatar National Research Fund, Qatar.
2015, 2016, 2017: Individual Research Grants by Israel Science Foundation (ISF), Israel.
2014: Research Foundation Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen), Belgium.
2013, 2014: Danish Council for Independent Research, Denmark

- 2012:** Romanian National Research Council, exploratory research, postdoctoral research, and young research teams proposals, Romania.
- 2012:** Fundação para a Ciência e a Tecnologia (FCT), Portugal.
- 2011:** U.S.-Israel Binational Science Foundation, Israel.
- 2008:** DEST/ISL Australia-India collaborative grants, Australian Academy of Science, Australia.
- *Thesis examiner*
 - 2017:** thesis examiner for the PhD thesis of Fernando Diaz, “On Hybrid Plasmonic Waveguides for Integrated Nonlinear Optics,” University of Sydney, Sydney, Australia.
 - 2014:** thesis examiner for the PhD thesis of I. Fernandez-Corbaton, “Helicity and duality symmetry in light matter interactions: theory and applications,” Macquarie University, Sydney, Australia.
 - 2009:** thesis examiner for Honours thesis of J. Bewsher, “Signatures of quantum chaos: a quantum exploration of the kicked anharmonic oscillator,” Australian National University.
 - 2007:** thesis examiner for Honours thesis of J. Bartholomew, “Spectroscopic properties of rare earth ions,” Australian National University.
 - 2007:** thesis examiner for Honours thesis of D. Huy Luong, “Parametric coherence imaging of plasma,” Australian National University.
 - 2001:** thesis examiner for the PhD thesis of I. Veltchev, “Stimulated Brillouin scattering pulse compression and high-order harmonic generation: applications to precision XUV laser spectroscopy,” Free University of Amsterdam, Amsterdam, The Netherlands.
 - *Grants:* I have held 31 research grants, attracting research funding of ~ 6 M as a principle/sole investigator.
 - 2017-2018:** D.N. Neshev, E.A. Ostrovskaya, A. Sukhorukov, W.M. Lee and M. Rahmani, “Ultra Fast Laser Facility for Exploring Nanoscale Light Matter Interactions,” 17MEC39, AU\$76,000.
 - 2017-2018:** D.N. Neshev and I. Staude, “Nonlinear and tunable dielectric metasurfaces,” Universities Australia Germany Joint Research Co-operation Scheme, AU\$19,600.
 - 2017-2019:** D. Powel, D.N. Neshev, I. V. Shadrivov, H. Hattori; T. Spielmann and Y. Kivshar, “Beam steering by Huygens metasurfaces for sensing applications,” ARC LP160100253, AU\$305,000.
 - 2017:** M. Fuhrer, P. Stoddart, E. Ostrovskaya, H. Hattori, D. Neshev, J. Davis, K. Kalantar-zadeh, A. Schiffrin, Y. Kivshar, V. Bansal, S. Juodkazis, L. Spiccia, U. Bach, M. Gu, “Facility for exploring light-matter interactions in space, time and energy,” ARC LE170100072, AU\$600,000.
 - 2015-2016:** A. Sukhorukov, D.N. Neshev, Y. Lu, H.H. Tan, S. Madden, “Single-photon infra-red detection facility for next generation quantum devices,” 15MEC28, AU\$75,000.
 - 2015-2016:** D.N. Neshev, E. Ostrovskaya, A. Truscott, W. Lee, I. Shadrivov, “Ultrafast laser system for time-resolved imaging and nonlinear nano-photonics,” 15MEC20, AU\$175,000.
 - 2015-2017:** D. Neshev, M. Decker, C. Rockstuhl, M. Noginov, “Efficient, directional and spin-controlled nanoscale light sources,” ARC DP150103733, AU\$414,900.
 - 2015-2017:** D. Powell, D.N. Neshev, M. Lapine, A. Alu, “Enhanced interaction of electromagnetics and mechanics in structured media,” ARC DP150103611, AU\$434,300.
 - 2014-2015:** H. Hattori and D.N. Neshev, “Terahertz beam steering based on tunable nano-antennas,” AOARD-14-4003 US\$8,000.
 - 2014-2016:** de Angelis *et al.*, “NANOPHI - Europe-Asia-Pacific Exchange Programme In Nanophotonics - Strand 2,” Erasmus Mundus Action 2, €850,800.
 - 2013-2014:** D.N. Neshev and T. Pertsch, “Ultrafast optics of nano-plasmonic systems,” Group of Eight Australia Germany Joint Research Co-operation Scheme, AU\$20,000.
 - 2012:** D.N. Neshev, I. Staude, L. Fu, D. Macdonald, M. Decker, A. Minovich, S. Mookapati, Y. Liu, C. Jagadish, Y. Kivshar, H.H. Tan, I. Shadrivov, D. Powell, H. Hattori, I. McKerracher, “Enabling micro-resolution spectroscopy capabilities for next generation infra-red devices,” 12MEC16, ANU, AU\$140,000.

- 2012:** A. Mitchell, D. McCulloch, J. Friend, K. Kalantar-zadeh, L. Yeo, Li, Sriram, Bhaskaran, D.N. Neshev, “Thin film processing cluster: precise synthesis and nano-patterning of functional coatings,” ARC Linkage Infrastructure projects, LE120100004, AU\$470,000.
- 2011:** D.N. Neshev, B. Luther-Davies, S. Madden, H.H. Tan, A. Minovich, T. White, I. Shadrivov, “Ultra-fast photonics test-bed facility,” 11MEC18, ANU, AU\$74,000.
- 2011-2013:** D. Powell, D.N. Neshev, I. Shadrivov, N. Engheta, “Functional metamaterials based on chiral structures,” ARC Discovery projects, DP110100087, AU\$475,000.
- 2011-2017:** B. Eggleton, *et al.*, Centre for Ultrahigh Bandwidth Devices for Optical Systems, ARC Centres of Excellence project, CE110001018, AU\$23,800,000 (over seven years).
- 2010-2011:** Neshev and Schiek, “Signal Processing in Quadratic Nonlinear Waveguides,” Australia-Germany Researcher Mobility Call, RI 17.3, AU\$15,675.
- 2010:** Kivshar, Neshev, Tan, Fu, Bradby, Williams, Hattori, Elliman, Luther-Davies, Catchpole, A. Mitchell, Sellars, and Moran, “Nanoscale optical microscopy facility,” ARC Linkage Infrastructure projects, LE100100048, AU\$340,000.
- 2010-2011:** Neshev and Pertsch, “Nonlinear effects in novel photonic nanostructures and metamaterials,” Go8-DAAD, AU\$18,000.
- 2010-2014:** Neshev, “Nanoscale nonlinear optics,” ARC Discovery projects, DP1093767, AU\$555,000.
- 2009:** Mitchell, Kalantar-zadeh, Holland, Partridge, Kostovski, Nguyen, Stoddart, Eggleton, Monat, Grillet, Karnutsch, Rosengarten, and Neshev, “Nanophotonic and microfluidic integration facility: a platform for optofluidics,” ARC Linkage Infrastructure projects, LE0989726, AU\$250,000.
- 2009:** Neshev, “Nonlinear nanophotonics, plasmonics, and metamaterials,” AAS travel grant, AU\$8,500.
- 2008-2009:** Neshev and Wolfersberger, “Control of light in periodic photonic structures: from waveguides to cavities,” DEST/FAST project, FR080023, AU\$20,000.
- 2008:** Jagadish, Tan, Williams, Luther-Davies, Senden, Craig, Elliman, Wong-Leung, Fu, Bradby, Gao, Li, Ashrafi, Hattori, Faraone, Dell, Parish, Kivshar, Neshev, Chen, Rode, Madden, Grant, “Micro and nanostructure optical characterisation facility,” ARC Linkage Infrastructure projects, LE0882816, AU\$500,000.
- 2007:** Neshev, Krolikowski, Fischer, “Low cost fiber-based system for characterisation of short pulses,” ANU Linkage pilot grant, AU\$6,000.
- 2007-2009:** Mitchell and Neshev, “Active Control of Light for Nonlinear Photonic Devices,” ARC Discovery projects, DP0770027, AU\$375,000.
- 2006:** Jagadish, Williams, Luther-Davies, Kivshar, Tan, Fu, Gao, Neshev, Faraone, Dell, Nener, Musca, Parish, Eggleton, Sterke, McPhedran, Moss, Grillet, Kane, Withford, Goldys, Dawes, Esselle, Lu, Rubinsztein-Dunlop, Zou, Rakic, Meredith, Vale, Madden, Choi, Craig, Wong-Leung, Buda, Krolikowski, “National Nanolithography Facility,” ARC Linkage Infrastructure projects, LE0667994, AU\$1,000,000.
- 2006:** Neshev, Kivshar, and Dreischuh, “Singular optics of polychromatic light,” ARC Linkage International projects, LX0666552, AU\$51,000.
- 2005:** Neshev, “Nonlinear propagation of light in two-dimensional photonic lattices,” AAS travel grant, AU\$8,600.
- 2004-2008:** Neshev and Sukorukov, “Control of light in nonlinear periodic structures,” ARC Discovery projects, DP0449457, AU\$816,828.
- 2004:** Neshev, “Optical signal processing by spatial soliton arrays and nonlinear periodic structures,” AAS travel grant, AU\$7,000.
- 2001-2002:** Marie Curie Individual Fellowship, “A table-top XUV-laser for high-resolution optical lithography,” €140,900 (AU\$250,000).
- *Conference committees*
 - 2016:** Technical committee member for AIP Congress, Brisbane, Australia
 - 2016:** Chair of the technical sub-committee “Nonlinear Nanophotonics, Plasmonics, and Metamaterials,” for Nonlinear Photonics, Sydney, Australia
 - 2016:** Technical committee member for CLEO, San Jose, USA

- 2015:** Technical committee member for SPIE Micro-Nano, Sydney, Australia
- 2015:** Technical committee member for CLEO, San Jose, USA
- 2014:** Chair of the Optics committee for the AIP Congress, Canberra, Australia
- 2014:** Technical committee member for SPIE Photonics Europe, Brussels, Belgium
- 2014:** Technical committee member for OECC, Melbourne, Australia
- 2014:** Technical committee member for CLEO, San Jose, USA
- 2013:** Technical committee member for Optics & Photonics Taiwan, International Conference 2013 (OPTIC 2013), Zhongli, Taiwan
- 2013:** Technical committee member for SPIE Micro-Nano, Melbourne, Australia
- 2013:** Chair sub-committee for ANZ Conference on Optics and Photonics, Perth, Australia
- 2013:** Technical committee member for ICONO-LAT, Moscow, Russia
- 2012:** Technical committee member for EOS Annual Meeting, Aberdeen, Scotland, UK
- 2011:** Technical committee member for CLEO Pacific Rim, Sydney, Australia
- 2009:** Technical committee member for the ACOFT conference, Adelaide, Australia
- 2006:** Technical committee member for the ACOFT conference, Melbourne, Australia
- *Conference/workshop organiser*
 - 2016:** Symposium organiser “Nonlinear phenomena in optics and nanophotonics,” together with Z. Chen, Nonlinear waves – Theory and Applications”, Beijing, China (June 25-28, 2016).
 - 2015:** Symposium organiser “Optical Metamaterials - From New Plasmonic Materials to Metasurface Devices,” together with J. Yao, X. Yin, and A. Boltasseva, MRS Fall meeting, Boston, MA, USA (November 29 - December 4, 2015).
 - 2015:** Focus session organiser “Optical properties of resonant dielectric and plasmonic nanostructures,” together with I. Staude, PIERS 2015, Prague, Czech Republic (26-9 July, 2015).
 - 2014:** Session organiser “Functional Chiral Metamaterials,” together with I. Shadrivov and M. Lapine at PIERS 2014, Guangzhou, China (25-28 August 2014).
 - 2013:** Mini workshop organiser “Adiabatic techniques in photonics,” Canberra, Australia (2 September 2013).
 - 2012:** Symposium organiser “Recent Advances in Optical, Acoustic, and Other Emerging Metamaterials,” together with N. Fang, K. Bertoldi and R. Oulton, MRS Fall meeting, Boston, MA, USA (25-30 November 2012).
 - 2011:** Workshop organiser “Metamaterials for cloaking: fundamental curiosity or breakthrough technology?” together with R. McPhedran, Sydney, Australia (28 August 2011). *Cover story:* Nature Photon. **5**, 650-651 (2011).
- *Selected outreach activities*
 - 2013,** Interview for New Scientist on how “Light can break Newton’s third law”
 - 2012,** February: Talk at the DSTO Metamaterials workshop aiming to inform DSTO officials in the potential applications of metamaterials
 - 2012,** October: Talk at IP Australia about the recent development in optical nanomaterials
 - 2009** February: Took a significant part in the organisation and the evaluation of a competition for best popular article written by a student for Cosmos (New Scientist) magazine.
- *Service to the community*
 - 2012-present:** Member of the Council and Secretary of the Australian Optical Society, Australia
 - 2012-present:** Deputy Head of Department, NLPC, RSPE, ANU
 - 2014-ongoing:** Member of the ANFF access committee, ACT-node
 - 2013-2015:** Member of Director’s Colloquium Committee at RSPE, ANU
 - 2011-2012:** Chair of Director’s Colloquium Committee at RSPE, ANU
 - 2011-2014:** Project leader of the Functional Metamaterials project at the ARC CoE CUDOS. Requires the coordination of more than 30 researchers and demands the completion of about 15 milestones per year
 - 2014, 2011:** Chair of Academic Selection Panel, RSPE, ANU.

6 Publications

- *Publications:* Published three book chapters, **201** articles in refereed international journals, **12**

articles in review and note-type journals, and **217** full-text refereed conference proceedings. These publications have received more than **6034** citations and an **h-index = 40** by Scopus data (h=46 by Google Scholar).

- *Invited presentations:* 44 invited and keynote talks, including talks at top ranked conferences such as CLEO, LEOS, NLO, CLEO Pacific Rim, SPIE Optics and Photonics.
 1. **SPIE Photonics West**, “Nonlinear dielectric metasurfaces for frequency conversion,” San Francisco, California, USA (28 January - 2 February 2017), invited talk.
 2. **SPIE Photonics West**, “Dielectric metasurfaces for shaping of classical and quantum light,” San Francisco, California, USA (28 January - 2 February 2017), invited talk.
 3. **Third Bulgarian National Congress of Physics**, “Optical dielectric metasurfaces - fundamentals and applications,” Sofia, Bulgaria (29 Sept.-2 October 2016), invited talk.
 4. **ACP-CUDOS Workshop**, “Dielectric metasurfaces - fundamentals and applications,” Jena, Germany (26 September 2016), invited talk.
 5. **Royal Society Meetings - New horizons for nanophotonics**, “Dielectric Huygens metasurfaces - fundamentals and applications,” UK (23-24 May 2016), invited talk.
 6. **Australian Workshop on the Angular Momentum of Light**, “Shaping beams with Huygens metasurfaces efficient angular momentum generation”, Sydney, Australia (22 April 2016), invited talk.
 7. **Photonica**, “Dielectric metasurfaces with optically induced magnetic response: control wavefronts and nonlinearities,” Belgrade, Serbia (24–28 August 2015), keynote talk.
 8. **Meta’15, the 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics**, “Nonlinear metasurfaces with magnetic response,” New York, USA (4–7 August 2015), invited talk.
 9. **Meta’15, the 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics**, “Spin-polarization properties of optical metasurfaces: Control of light transmission and emission,” New York, USA (4–7 August 2015), invited talk.
 10. **CIOP2015**, “All-dielectric metasurfaces: control wavefronts, emission and nonlinearities,” Nanjing, China (12–15 July 2015), keynote talk.
 11. **ICMAT2015**, “All-dielectric metasurfaces with magnetic response,” Singapore (28 June – 3 July 2015), invited talk.
 12. **IWEM-VI, The Sixth International Workshop on Electromagnetic Metamaterials**, “All-dielectric metasurfaces with magnetic response: control of scattering, emission and nonlinearities,” Santa Fe, NM, USA (22-23 September 2014), invited talk.
 13. **CAMEL 10, Control of Quantum Dynamics of Atoms, Molecules and Ensembles by Light**, “Generation of entangled photons in nonlinear adiabatic waveguiding structures,” Nessebar, Bulgaria (23-27 June 2014), invited talk.
 14. **META’14, the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics**, “Spatially selective broadband emission enhancement of quantum dots,” Singapore (20-23 May 2014), invited talk.
 15. **META’14, the 5th International Conference on Metamaterials, Photonic Crystals and Plasmonics**, “Tunable and nonlinear metamaterials based on liquid crystals,” Singapore (20-23 May 2014), invited talk.
 16. **SPIE - Photonics West**, “Generation, manipulation and applications of Airy plasmons,” San Francisco, California, USA (1-6 February 2014), invited talk.
 17. **IEEE Photonics Conference**, “Control of quantum-dot emission in photonic metamaterials,” Seattle, USA (8-12 September 2013), invited talk.
 18. **ICONO/LAT**, “Manipulation of quantum-dot emission in magnetic metamaterials,” Moscow, Russia (18-22 June 2013), invited talk.
 19. **PIERS 2013**, “Quantum-dot metamaterials,” Taipei, Taiwan (25-28 March 2013), invited talk.
 20. **Asia Communications and Photonics Conference**, “Tunable Metamaterials,” Guangzhou, China (7-10 November 2012), invited talk.
 21. **SPIE Optics and Photonics, Metamaterials: Fundamentals and Applications**, “Tun-

- able and Nonlinear Metamaterials based on liquid crystals and QDs,” San Diego, CA, USA (12-16 August 2012), invited talk.
22. **Optical MEMS and Nanophotonics**, “Functional metamaterials and plasmonic structures,” Banf, Canada (6-9 August 2012), invited talk.
 23. **2012 CMOS Emerging Technologies Meeting**, “Non-diffracting plasmon beams: Steering Surface Plasmons on a Chip,” Vancouver, Canada (18-20 July 2012), invited talk.
 24. **Physics Colloquium**, “Transforming light with optical metamaterials,” University of Melbourne, Melbourne, Australia (12 June 2012).
 25. **Physics Colloquium**, “Transforming light with optical metamaterials,” Macquarie University, Sydney, Australia (29 March 2012).
 26. **IQEC/CLEO Pacific Rim 2011**, “Light control in plasmonic structures and metamaterials,” Sydney, Australia (28 August - 1 September 2011), invited talk.
 27. **8th Asia-pacific Workshop on Near-field Optics, Nanophotonics & Related Techniques**, “Nondiffracting surface plasmon beams: steering plasmons on a chip,” Adelaide, Australia (25-26 August 2011), invited talk.
 28. **Integrated Photonics Research, Silicon and Nano Photonics (IPR)**, “Moulding light in plasmonic and metamaterial structures,” Toronto, Canada (12-15 June 2011), invited talk.
 29. **Australia-Germany international workshop**: “Controlling light in plasmonic and metamaterial structures,” Australian National University (31 March - 1 April 2011), invited talk.
 30. **Physics Colloquium**, “Nonlinear nanophotonics: What can nanostructures do for nonlinear optics?” University of Sydney, Sydney, Australia (9 August 2010).
 31. **2nd International workshop on nonlinear optics and novel phenomena**, “Multi-colour nonlinear beam manipulation in coupled optical waveguides,” Tianjin, China (30 June - 1 July 2010), invited talk.
 32. **Nonlinear waves - Theory and applications**, “Multi-colour nonlinear beam manipulation in coupled optical waveguides,” Beijing, China (26-29 June 2010), invited talk.
 33. **Dissipative Solitons 2009**, “Modulational instability and solitons in a periodic dissipative feedback system,” Adelaide, Australia (29 November - 3 December 2009), invited talk.
 34. **Conference on ultra-fast and nonlinear optics - UFNO**, “Supercontinuum generation by optical vortices,” Burgas, Bulgaria (14-18 September 2009), invited talk.
 35. **International conference on composites/nano engineering ICCE-17**, “Nanoscale nonlinear optics,” Honolulu, Hawaii, USA (26 July - 1 August 2009), invited talk.
 36. **IEEE/LEOS winter topicals meeting**, “Nonlinear control of light in periodic photonic structures: from waveguides to cavities,” Innsbruck, Austria (12-14 January 2009), invited talk.
 37. **Australia-Japan Workshop on Nanophotonics**, “Nonlinear nanostructures for light manipulation,” Canberra, Australia (9-10 December 2008), invited talk.
 38. **Laser Optics**, “Observation of polychromatic optical solitons generated by a supercontinuum light,” St. Petersburg, Russia (23-28 June 2008), invited talk.
 39. **Heraeus Seminar - Discrete optics and beyond**, “Polychromatic effects of nonlinear light localisation in periodic structures,” Bad Honnef, Germany (19-22 May 2008), invited talk.
 40. **Nonlinear Optics: materials, fundamentals and applications**, “Spatial-spectral shaping of supercontinuum radiation in nonlinear waveguide arrays,” Kona, Hawaii (30 July- 3 August 2007), invited talk.
 41. **14 International School on Quantum Electronics: Laser Physics And Applications**, “Optical lattices as nonlinear photonic crystals,” Sunny Beach, Bulgaria (18-22 September 2006), invited talk.
 42. **International Conference on Micro and Nano photonics - RomOpto**, “Light propagation in nonlinear photonic crystals,” Sibiu, Romania (28-31 August 2006), invited talk.
 43. **LEOS 2005 Annual Meeting**, “Optically-Induced Lattices as Tunable Nonlinear Photonic Crystals,” Sydney, Australia (23-27 October 2005), invited talk.
 44. **CLEO/IQEC**, “Photonics in optically-induced lattices,” San Francisco, USA (16-21 May 2004), invited talk.

- *Patents*: Filed two Australian provisional patent applications. One was converted to an international patent application (PCT stage).

7 Research interests

My key research interests span over several branches of optics, including nonlinear periodic structures, singular optics, plasmonics, and photonic metamaterials.

8 Teaching activities

- *Undergraduate teaching*:
 - 2015–2017**: “Optical Physics” (third year): course convenor and teaching 8 lectures, 2 tutorials, 3 student talks.
 - 2013, 2014**: “Optical Physics” (third year) teaching 8 lectures, 2 tutorials, 3 student talks.
 - 2011, 2012**: “Optical Physics” (third year) teaching 8 lectures, 2 tutorials.
 - 2010, 2011**: “Introduction to Nonlinear Physics” (honours course) 8 lectures and 2 tutorials.
 - 2008**: “Nonlinear waveguide materials” and “Microphotonics, Biophotonics and Nanophotonics” (third year) teaching 10 lectures and 2 tutorials.
- *Supervision*: Supervised a large number of students, including **44** students at a postgraduate level: **34** PhD (17 full time and 17 for an average of 6 months) and **10** MSc (6 full time and 4 for an average of 3 months), as well as **17** students at undergraduate (Honours and BSc) level. Currently I supervise six PhD students (three as a principal supervisor and three as a scientific advisor). I am also the principle supervisor of three postdoctoral research fellows.