**SUPER**PUBLICATIONS

* [Theses](#_Theses)
* [Journal papers and books](#_Journal_Papers_and)
* [Full Refereed Conference Papers](#_Full_Refereed_Conference)

## Theses

**2010** H. Georgiou, PhD Thesis - **Doing Positive Work: On student understanding of thermodynamics** (School of Physics, University of Sydney)

**2011** M. Hill, Honours thesis – **Growth in students representational ability while at university.**

**2011** G. Nguyen, Honours thesis- **An investigation into student's understanding of the scientific process and the nature of science, and the effects of first year university on these conceptions** (School of Physics, University of Sydney)

**2010** M. West, Honours thesis – **Scientific literacy in tertiary physics students** (School of Physics, University of Sydney)

**2010** N. Kuan, MTeach/Honours Thesis - **Integrating Link Maps into Multimedia: An Investigation** (School of Physics, University of Sydney)

**2010** C. Lindstrom, PhD Thesis - **Link Maps and Map Meetings: A theoretical and experimental case for stronger scaffolding in first year university physics education** (School of Physics, University of Sydney)

**2009** H. Georgiou, Honours Thesis - **An Exploration of Tertiary students' Conceptions of Familiar Thermodynamic Processes** (School of Physics, University of Sydney)

**2008** D. A. Muller, PhD Thesis - **Designing Effective Multimedia for Physics Education** (School of Physics, University of Sydney)

**2006** C. Lindstrom, Honours Thesis - **Using Link Maps to help novices navigate through the rough seas of first year physics** (School of Physics, University of Sydney)

**2004** A. Roberts, Honours Thesis - **Transfer of Mathematics Skills and Knowledge with First Year Science Students** (School of Physics, University of Sydney)

**2004** P. R. Fletcher, PhD Thesis - **How Tertiary Level Physics Students Learn and Conceptualise Quantum Mechanics** (School of Physics, University of Sydney)

**1999** K. Hogg, PhD Thesis - **How Students Learn Physical Optics** (School of Physics, University of Sydney)

**1999** A. Millar, Honours Thesis - **A Study of Student Conceptual Construction in Physical Optics** (School of Physics, University of Sydney)

**1998** A. Gray, Honours Thesis - **Developing a Prototype Thermal Concept Inventory** (School of Physics, University of Sydney)

**1997** P. R. Fletcher, Master of Science Thesis - **How Students Learn Quantum Mechanics** (School of Physics, University of Sydney)

**1994** E. M. Henderson, Honours Thesis - Conceptual Development in Thermal Physics (School of Physics, University of Sydney)

## Journal Papers and Books

**2016** Hill, M., Sharma, M. D. and Xu, Y. (accepted) **Pre-lecture online learning modules in university physics: Student participation, perceptions and performance**, *Eur. J. Phys.*

**2016** Yeung, A., Raju, S. and Sharma, M., D., (2016) **Online lecture recordings and lecture attendance: Investigating student preferences in a large first year psychology course**, *Journal of Learning Design* 9(1), 55-71

**2016** Sujarittham, T., Emarat, N., Arayathanitkul, K., Sharma, M. D., Johnston, I., and Tanamatayarat J., (2016) **Developing specialized guided worksheets for active learning in physics lectures**, *Eur. J. Phys.* 37 025701

**2015** Gordon, T., Sharma, M. D. and Georgiou, H. (2015) **Shifting towards inquiry-oriented learning in a high school outreach program**, *International Journal of Innovation in Science and Mathematics Education* 23(6), 63-74

**2015** Hill, M., Sharma, M. D. (2015) **Variation in students’ representational fluency at university: A cross-sectional measure of scientific representational fluency of physics students using the RFS**, *EJMSTE* doi: 10.12973/eurasia.2015.1427a

**2015** Burgess, C., Yeung, A. and Sharma, M. D. (2015) **Integrating assessment to promote engagement in an introductory chemistry laboratory**, *International Journal of Innovation in Science and Mathematics Education*, 23 (2), 74-91.

**2015** Hill, M., Sharma, M. D. (2015) **Research-based worksheets on using multiple representations in science classrooms**, *Teaching Science*, 61 (3) 37-46.

**2015** Hill, M., Sharma, M. D., Johnston, H., (2015) **How online learning modules can improve the representational fluency and conceptual understanding of university physics students**, *Eur. J. Phys.* 36(4), 1-20. 36 045019.

**2015** Barrie, S. C., Bucat, R. B., Buntine, M. A., Burke da Silva, K., Crisp, G. T., George, A. V., Jamie, I. M., Kable, S. H., Lim, K. F., Pyke, S. M., Read, J. R., Sharma M. D., and Yeung A. A. (2015) **Development, Evaluation and Use of a Student Experience Survey in Undergraduate Science Laboratories: The Advancing Science by Enhancing Learning in the Laboratory Student Laboratory Learning Experience Survey**, *International Journal of Science Education* 37 (11) 1795-1814.

**2015** Matthews, K.E., Crampton, A., Hill, M., Johnson, E.D., Sharma, M.D. and Varsavsky, C., (2015) **Social network perspectives reveal strength of academic developers as weak ties**, *International Journal for Academic Development*, 20 (3) 238-251.

**2015** Crook, S. J., Sharma, M. D., & Wilson, R. (2015). **Comparison of technology use between biology and physics teachers in a 1:1 laptop environment**. *Contemporary Issues in Technology and Teacher Education*, 15(2).

**2015** Bartimote-Aufflick, K., Bridgeman, A., Walker, R., Sharma, M.D. and Smith, L. (2015) **The study, evaluation, and improvement of university student self-efficacy**, *Studies in Higher Education*, DOI: 10.1080/03075079.2014.999319.

**2015** Crook, S.J., Sharma, M. D. and Wilson, R., (2015) **An Evaluation of the Impact of 1:1 Laptops on Student Attainment in Senior High School Sciences**, *International Journal of Science Education*, 37(2), 272-293.

**2015** Georgiou, H., and Sharma, M. D. (2015) **Does using active learning in thermodynamics lectures improve students’ conceptual understanding and learning experiences?** *European Journal of Physics*, 36(1), 015020.

**2014** Sheppard, CJR., Kou, S. S., Lin, J., Sharma, M. D. Barbastathis, G. (2014) **Temporal reshaping of two-dimensional pulses**, *Optics Express*, 22(26), DOI: 10.1364/OE.22.032016

**2014** Hill, M., Sharma, M.D., O'Byrne, J., and Airey, J. (2014) **Developing and Evaluating a Survey for Representational Fluency in Science**, *International Journal of Innovation in Science and Mathematics Education*, 22(5), 22-42.

**2014** Georgiou, H., Maton, K. and Sharma, M. D. (2014) **Recovering knowledge for science education research: Exploring the ‘Icarus effect’ in student work**, *Canadian Journal of Science, Mathematics, and Technology Education*, 14(3), 252–268.

**2014** Sharma, M.D., Mendez, A., Sefton, I.M., Khachan, J. (2014) **Student evaluation of research projects in a first-year physics laboratory**. *European Journal of Physics*, 35, (2), 025004.

**2013** Wattanakasiwich, P., Taleab, P., Sharma, M. D. and Johnston, I. D. (2013) **Construction and implementation of a conceptual survey in thermodynamics**, *Int. J. of Innovation in Science and Mathematics Education*, 21(1), 29-53, 2013.

**2013** Crook, S. J., Sharma, M. D. (2013) **Bloom-ing Heck! The Activities of Australian Science Teachers and Students Two Years into a 1:1 Laptop Program Across 14 High Schools**, *Int. J. of Innovation in Science and Mathematics Education*, 21 (1), 54-69, 2013.

**2013** Crook, S.J., Sharma, M. D., Wilson, R., Muller, D.A. (2013). **Seeing Eye-to-Eye on ICT: Science Student and Teacher Perceptions of Laptop Use across 14 Australian schools**, *Australasian Journal of Educational Technology*, 29(1), 82-95.

**2013** Gokalp, M. S., Sharma, M.D., Johnston, I. and Sharma, M.I. (2013) **Implementing WebQuest based instruction on Newton’s second law**, *Teaching Science*, 59 (2), 11 to 19.

**2013** Sharma, M.D., Stewart, C., Wilson, R. and Gökalp, M. S. (2013) **Student Approaches to Learning in Physics – Validity and Exploration Using Adapted SPQ**, *International Journal of Environmental and Science Education*, 8(2), 241-253, DOI:10.12973/ijese.2013.203a.

**2013** Sharma, M.D., Stewart, C., Wilson, R. and Gökalp, M. S. (2013) **Can a Syllabus Change Impact on Students’ Perceptions of Science? Fragmented and Cohesive Conceptions of Physics**, *Eurasia Journal of Mathematics, Science and Technology Education*, 9(1), 33-44.

**2012** Urone, P., Hinrichs, R., Dirks, K., Sharma, M. (2012) *College Physics, Rice University OpenStax Physics book* ISBN-10 1938168003 ISBN-13 978-1-938168-00-0 http://openstaxcollege.org/textbooks/college-physics

**2012**Wattanakasiwich, P., Khamcharean, C., Taleab, P and Sharma, MD (2012), **Interactive lecture demonstration in thermodynamics**, *Latin-American Journal of Physics Education*, 6(4), 507-514.

**2012**Will Rifkin, Manjula Sharma, Andrea Crampton, Brian Yates, Kelly Matthews, Stephanie Beames, Cristina Varsavsky, Elizabeth Johnson, Susan Jones, Marjan Zadnik and Simon Pyke (2012), **Learning to Lead Change: SaMnet’s action-learning projects**, *Australian Journal of Education in Chemistry*, Issue 72, 9-15. http://www.raci.org.au/sitebuilder/divisions/knowledge/asset/files/38/ausjecissue\_72\_2012.pdf

**2012** Georgiou, H. and Sharma, M. D. (2012) **University students’ understanding of thermal physics in everyday contexts**, *International Journal of Science and Mathematics Education* 10(5), 1119-1142.

**2012** Wilson, R., Georgakis, S. and Sharma, MD. (2012) **Approaches to learning in first year university physics**, *Journal of Social Sciences*, 8, 216-222, DOI: 10.3844/jssp.2012.216.222

**2011** Yeung, A., Pyke, S. M., Sharma, M.D., Barrie, S. C., Buntine, M. A., Burke Da Silva, K., Kable, S. H and Lim K. F. (2011) **The Advancing Science by Enhancing Learning in the Laboratory (ASELL) Project: The first Australian multidisciplinary workshop**, *International Journal of Innovation in Science and Mathematics Education*, 19(2), 51-72.

**2011** Lindstrøm, C and Sharma, M. D. (2011) **Self-Efficacy of First Year University Physics Students: Do Gender and Prior Formal Instruction in Physics Matter?**, *International Journal of Innovation in Science and Mathematics Education*, 19(2), 1-19.

**2011** Huntula, J., Sharma, M. D., Johnston, I. and Chitaree, R. (2011) **A framework for laboratory pre-work based on the concepts, tools and techniques questioning method**, *European Journal of Physics*, 32(5), 1419-1430.

**2011** Sharma, M. D. and Bewes, J. (2011) **Self-monitoring: Confidence, academic achievement and gender differences in physics**, *Journal of Learning Design*, 14(3), 1-13.

**2011** Tongchai, A., Sharma, M. D., Johnston, I. D., Arayathanitkul, K. and Soankwan, C. (2011) **Consistency of students' conceptions of wave propagation: Findings from a conceptual survey in mechanical waves**, *Phys. Rev. ST Phys. Educ. Res*. 7(2), 020101. URL: http://link.aps.org/doi/10.1103/PhysRevSTPER.7.020101.

**2011** Lindstrøm, C and Sharma, M. D. (2011) **Teaching physics novices at university: A case for stronger scaffolding**, *Phys. Rev. ST Phys. Educ. Res*. 7(1), 010109. URL: http://link.aps.org/doi/10.1103/PhysRevSTPER.7.010109

**2010** Georgiou, H and Sharma, M.D.
**A report on a preliminary diagnostic for identifying thermal physics conceptions of tertiary students**, *International Journal of Innovation in Science and Mathematics Education*, 18(2), 32-51.

**2010** Lindstrom, C and Sharma, M.D.
**Development of a Physics Goal Orientation Survey**, *International Journal of Innovation in Science and Mathematics Education*, 18(2), 10-20.

**2010** Sharma, M.D., Johnston, I. D., Johnston, H, Varvell, K., Robertson, G., Hopkins, A., Stewart, C. Cooper, I. and Thornton, R.
**Use of interactive lecture demonstrations: A ten year study**, [*Phys. Rev. ST Phys. Educ. Res*](http://link.aps.org/doi/10.1103/PhysRevSTPER.6.020119), 6(2), 020119.

**2010** Bhathal, R., Sharma, M. D. and Mendez, A.
**Educational analysis of a first year engineering physics experiment on standing waves: based on the ACELL approach**, *European Journal of Physics*, **31**, 3-35.

**2009** Roberts, A. L., Sharma, M. D., Britton, S. and New, P. B.
**Identification and use of theoretical frameworks for a qualitative understanding of mathematics transfer**, *CAL-Laborate International*, **17**, 26-40.

**2009** Sharma, M. D., Swan, G., Mills, D. Pollard, J., Mendez, A. and O’Byrne, J.
**Physics learning and teaching in Australian universities**, *CAL- laborate International*, **17**, 1-14.

**2009** Tanahoung, C., Chitaree, R, Soankwan, C., Sharma, M. D. and Johnston, I. D.
**The effect of interactive lecture demonstrations on students conceptual understanding of heat and temperature concepts: A study from Thailand**, *Research in Science & Technological Education*, **27**(1)61-74

**2009** Wuttiprom, S., Sharma, M. D., Johnston, I. D., Chitaree, R. and Soankwan, C.
**Development and use of a conceptual survey in introductory quantum physics**, *International Journal of Science Education*, **31**(5), 631-654

**2009** Lindstrøm, C. and Sharma, M. D.
[**Link maps and map meetings: Scaffolding student learning**](http://link.aps.org/doi/10.1103/PhysRevSTPER.5.010102), *Phys. Rev. ST Phys. Educ. Res.*, **5**(1), 010102

**2009** Tongchai, A., Sharma, M. D., Johnston, I. D., Arayathanikul, K. and Soankwan, C., (in press)
**Developing, evaluating and demonstrating the use of a conceptual survey in mechanical waves**, *International Journal of Science Education*

**2009** Mayo, A., Sharma, M. D. and Muller, D. A., (in press)
**Qualitative differences between learning environments using videos in small groups and whole Class discussions: A preliminary study in physics**, *Research in Science Education*

**2008** Lee, K., Sharma, M. D. and Muller, D.
**Incorporating active learning with videos: A case study from physics**, *Teaching Science*, **54**(4), 45-47

**2008** Richardson, A., Sharma, M. D. and Khachan, J.,
**What are students learning in practicals? A cross sectional study in university physics laboratories**, *CAL-laborate International*, **16**, 20-27

**2008** Roberts, A. L., Sharma, M. D., Sefton, I. M. and Khachan, J.
**Differences in two evaluations of answers to a conceptual physics question: A preliminary analysis,** *CAL-laborate International*, **16**, 28-38

**2008** Sharma, M. D. and McShane, K.
**A methodological framework for understanding and describing discipline-based scholarship of teaching in higher education through design-based research**, *Higher Education Research and Development*, **27**(3), 257-270

**2008** Muller, D. A., Bewes, J., Sharma, M. D. and Reimann, P.
**Saying the wrong thing: Improving learning with multimedia by including misconceptions**, *Journal of Computer Assisted Learning*, **24**(2), 144-155

**2008** Muller, D. A., Lee, K. J. and Sharma, M. D.
**Coherence or interest: Which is most important in online multimedia learning?**, *Australasian Journal of Educational Technology*, **24**(2), 211-221

**2008** Muller, D. A., Sharma, M. D. and Reimann, P.,
**Raising cognitive load with linear multimedia to promote conceptual change**, *Science Education*, **92**(2), 278-296

**2008** Sharma, M. D., Pollard, J., Mendez, A., Mills, D., O’Byrne, J., Scott, D., Hagon, S., Gribble, J., Kirkup, L., Livett, M., Low, D., Merchant, A., Rayner, A., Swan, G., Zadnick, M. and Zealey, W.
**What does a physics undergraduate education give you? A perspective from Australian physics**, *European Journal of Physics*, **29**, 59-72

**2008** Mendez, A., Pollard, J., Sharma, M. D., Mills, D. R., Gribble, S. J., Hagon, S., Kirkup, L., Livett, M., Low, D., Merchant, A., O’Byrne, J., Rayner, A., Swan, G., Zadnick, M. and Zealey, W.
**Australian physics Bachelors and Honours graduates in industry: Where are they? How well prepared are they?**, *Australian Physics*, **45**(1) 21-24

**2007** Johnston, H. M., Hopkins, A. M., Varvell, K. E., Sharma M. D. and Thornton, R.
**The research-teaching nexus in physics: Scholarship into teaching and learning**, *Australian Physics*, **44**(2), 66-70

**2007** Muller, D. A., Sharma, M. D., Eklund, J. and Reimann, P.
**Conceptual change through vicarious learning in an authentic physics setting**, *Instructional Science*, **35**(6), 519-533

**2007** Roberts, A. L., Sharma, M. D., Britton, S. and New, P. B.
**An index to measure the ability of first year science students to transfer mathematics**, *International Journal of Mathematical Education in Science & Technology*, 38(4), 429-448

**2007** Sefton, I. M. and Sharma, M. D.
**Assessment of Understanding in Physics: A case study**,
In A. Brew & J. Sachs, *Transforming a University: The Scholarship of Teaching and Learning in Practice*, University of Sydney Press, 81-92

**2007** Britton, S., New, P. and Sharma. M. D.
**Investigating students’ ability to transfer mathematics**,
In A. Brew & J. Sachs, *Transforming a University: The Scholarship of Teaching and Learning in Practice*, University of Sydney Press, 127-140

**2006** Pollard, J., Sharma, M. D., Mills, D., Swan, G., Mendez, A.
**Physics Education for Australia**, *Australian Physics*, **43**(1), 20 - 26

**2005** Mendez, A., Feteris, S., Kirkup, L., Livett, M., Low, D., Merchant, A., Mills, D., Pollard, J., Rayner, A., Sharma, M., Swan, G., Wilson, K., and Zadnik, M. Eds.
Snapshots - Good Learning and Teaching in Physics, ISBN: 0-7326-2064-3

**2005** D. Muller and M. D. Sharma,
**Determining the factors affecting student perceptions of a popular science video**, *Australasian Journal of Educational Technology*, **21**(4), 491-509

**2005** M. D. Sharma, I. M. Sefton, M. Cole, A. Whymark, R. M. Millar and A. Smith
**Effects of re-using a conceptual exam question in physics**, *Research in Science Education*, **35**, 447-469

**2005** M. D. Sharma, A. Mendez, and J. O'Byrne,
**The Relationship Between Attendance in Student-Centred Physics Tutorials and Performance in University Examinations**, *International Journal of Science Education*, **27**(11) 1375-1389

**2005** M. D. Sharma, D. Mills, A. Mendez, and J. Pollard, Eds,
**Learning Outcomes and Curriculum Development in Physics: A Report on Tertiary Physics Teaching and Learning in Australia commissioned by the AUTC**
ISBN: 0-7326-2063-5

**2005** M. D. Sharma, J. Khachan, B. Chan and J. O'Byrne
**An investigation of the effectiveness of electronic classroom communication systems in large lecture classes**, *Australasian Journal of Educational Technology*, **21**, 137-154

**2005** S. Britton, P. New, M. D. Sharma and D. Yardley
**A case study of the transfer of mathematics skills by university students**, *International Journal of Mathematical Education in Science and Technology*, **36**, 1-13

**2004** M. D. Sharma, R. Millar, A. Smith and I. Sefton
**Students’ understandings of gravity in an orbiting space-ship**, *Research in Science Education*, **34**, 267-289

**2002** K. Wilson, M. D. Sharma and R. Millar
**Workshop Tutorials for Physics: Mechanics, Properties of Matter and Thermal Physics**, *UniServe Science: Sydney, Australia*, 296 pages, ISBN: 1 86487 499 6

**2002** K. Wilson, M. D. Sharma and R. Millar
**Workshop Tutorials for Physics: Electricity & Magnetism, Waves & Optics and Quantum, Atomic and Nuclear Physics**, *UniServe Science: Sydney, Australia*, 304 pages, ISBN: 1 86487 500 3

**2002** K. Wilson, M. D. Sharma and R. Millar
**Workshop Tutorials for Physics: Activities**, *UniServe Science: Sydney, Australia*, 268 pages, ISBN: 1 86487 501 1

**2002** G. N. Gibson and I. D. Johnston,
**New Themes and Audiences for the Physics of Music**,
*Physics Today*, **55**(1), Reprinted in: Parity, 17, (11), Tokyo, 11–19

**1999** M. D. Sharma, R. Millar and S. Seth
**Workshop Tutorials: Accommodating student centred learning in large first year university physics classes**,
*Int. J. Sci. Ed*, **21**, 839-853

**1998** I. D. Johnston, K. Crawford and P. R. Fletcher
**How Students Learn Quantum Mechanics**, *International Journal of Science Education*, **20**(4), 427–446

**1997** I. D. Johnston
**The Place of Information Technology in the Teaching of Physics Majors**,*The Changing Role of Physics Departments in Modern Universities*, in E.F. Redish and J.S. Rigden (eds), (AIP, NY), 342–356

**1996** I. D. Johnston, I. J. Cooper, P. W. Fekete, P. R. Fletcher, M. A. Oldfield, B. A. McInnes, R. M. Millar, I. M., Sefton, M. D. Sharma and P. J. Walker
**Physics Education Research: Education or Research?**, *The Australian and New Zealand Physicist*, 33, 9-13

**1996** I. D. Johnson
**Photon States Made Easy: A Computational Approach to Quantum Radiation Theory**, *American Journal of Physics*, **64**(3), 245–255

**1995** P. J. Walker & I. D. Johnston
**Computer Modelling of Spontaneous Charge Distribution**,
*Computers in Physics*, **9**(1), 42–45

**1995** B. McInnes, P. Walker and P. Fekete
**Diagnostic Tools for Improving Concept Development**, *Committee for the Advancement of University Teaching: 1995*

**1993** I. D. Johnston
**Standing Waves in Air Columns: Will Computers Reshape Physics Courses?**, *American Journal of Physics*, **61**(11), 996–1004

**1993** I. D. Johnston and R. C. McPhedran
**Computational Physics in the Undergraduate Curriculum**,
*The Australian & New Zealand Physicist*, **30**(4), 67–73, Reprinted in: *Assoc. of Asia Pacific Phys. Soc. Bull.*, **30**(2), 28–33

**1992** I. D. Johnston and D. Segal
**Electrons in a Crystal Lattice: a Simple Computer Model**,
*American Journal of Physics*, **60**(7), 600–607

## Full Refereed Conference Papers

**2009** Georgiou, H., Sharma, M. D., O’Byrne, J., Sefton, I., and McInnes, B.
**University students’ conceptions about familiar thermodynamics processes and the implications for instruction.** *Proceedings of Motivating Science Undergraduates Conference*, UniServe Science, Sydney, pg 51 – 57.

**2009** Kuan, N., Sharma, M. D., Lindstrom, C., and Muller, D. **Embedding research principles into multimedia teaching and learning tools.** *Proceedings of Motivating Science Undergraduates Conference*, UniServe Science, Sydney, pg 167 – 172.

**2008** Kirkup, L., Mendez, A., Sharma, M. D. and O’Byrne, J.
**A semester of physics: What difference does it make to non-physics majors?** *Proceedings of the 18th Australian Institute of Physics Congress*, Adelaide, pg 131-134, ISBN 1 876346 57 4.

**2008** O’Byrne, J., Mendez, A., Sharma, M. D, Kirkup, L. and Scott, D.
**Physics graduates in the workforce: Does physics education help?** *Proceedings of the 18th Australian Institute of Physics Congress*, Adelaide, pg 143-146, ISBN 1 876346 57 4.

**2008** Wilson, K., Mendez, A., Mills, D., Sharma, M. D. and Kirkup, L.
**Improving undergraduate laboratory work in physics: Outcomes of the ‘Forging New Directions in Physics Education in Australian Universities’ Project.** *Proceedings of the 18th Australian Institute of Physics Congress*, Adelaide, pg 155-159, ISBN 1 876346 57 4.

**2008** Kirkup, L., Mendez, A., Scott, D., Sharma, M. D. and O'Byrne, J. and Quinton, J.
**Do students' experiences of a service subject correspond to their expectations?**, *Proceedings of Visualisation and Concept Development Conferencee*, UniServe Science, Sydney, 35-40

**2008** Wilson, K., Mills, D., Sharma, M. D., Kirkup, L., Mendez, A. and Scott, D.
**ACELL for Physics?**, *Proceedings of Visualisation and Concept Development Conference*, UniServe Science, Sydney, 133-138

**2008** Tongchai, A., Sharma, M. D., Johnston, I. D. and Arayathanitkul, K.
**Students' conceptual knowledge of mechanical waves across different backgrounds and cultures**, *Proceedings of Visualisation and Concept Development Conference*, UniServe Science, Sydney, 121-126

**2008** Lindstrøm C. and Sharma, M. D.
**Initial development of a Physics Goal Orientation survey using factor analysis**, *Proceedings of Visualisation and Concept Development Conference*, UniServe Science, Sydney, 60-66

**2007** Muller, D. A. and Sharma, M. D.,
**Tackling misconceptions in introductory physics using multimedia presentations**, *Proceedings of Science Learning and Teaching Research Conference*, UniServe Science, Sydney, 58-63

**2007** Au, T. and Sharma, M. D.
**Student performance in high school physics: does high school matter?**, *Proceedings of Science Learning and Teaching Research Conference*, UniServe Science, Sydney, 4-8

**2007** Kirkup, L., Sharma, M. D. and Scott, D.
**Teaching physics to non- physics majors: models extant in Australian Universities**, *Proceedings of Science Learning and Teaching Research Conference*, UniServe Science, Sydney, 46-51

**2007** Nelan, C., Dooley, P. and Sharma, M. D.,
**Medical Physics KickStart: designing a senior high school physics workshop**, *Proceedings of Science Learning and Teaching Research Conference*, UniServe Science, Sydney, 64-69

**2007** Sefton, I. M. and Sharma, M. D.
**Evolution of an assessment project**, **Proceedings of Science Learning and Teaching Research Conference**, UniServe Science, Sydney, 95-100

**2006** Wuttiprom, S., Chitaree, R., Soankwan, C., Sharma, M. D. and Johnston, I. D.
**Developing a prototype conceptual survey in fundamental quantum physics**, *Proceedings of Assessment in Science Teaching and Learning Conference*, UniServe Science, Sydney, 133-138

**2006** Bewes, J. and Sharma, M. D.
**A preliminary study on how accuracy relates to student self reports of confidence on a conceptual physics test**, *Proceedings of Assessment in Science Teaching and Learning Conference*, UniServe Science, Sydney, 16-20

**2006** Tanahoung, C., Sharma, M. D., Johnston, I., Chitaree, R. and Soankwan, C.
[**Surveying Sydney introductory physics students’ understandings of heat and temperature**](http://www.aip.org.au/Congress2006/634.pdf), *Proceedings of the 17th Australian Institute of Physics Congress*, Brisbane

**2006** Wuttiprom, S., Sharma, M. D., Johnston, I., Chitaree, R. and Soankwan, C.
[**Preliminary results from a new quantum mechanics conceptual survey**](http://www.aip.org.au/Congress2006/330.pdf), *Proceedings of the 17th Australian Institute of Physics Congress*, Brisbane, ISBN 0-9598064-7-4

**2005** A. L. Roberts, M. D. Sharma, S. Britton, P. New
**Mathematics transfer of first year science students**,
*Proceedings of the 16 Australian Institute of Physics Congress*, Canberra, 4 pages on CD, ISBN 0-9598064-8-2

**2005** D. A. Muller, M. D. Sharma
**Video physics education: Falling cats and terminal velocity**, *Proceedings of the 16 Australian Institute of Physics Congress*, Canberra, 4 pages on CD, ISBN 0-9598064-8-2

**2004** A. Mendez, M. Sharma B. James, D. Mills, J. Pollard, L. Kirkup, M. Livett, R. Newbury, M. Zadnik, and J. Prosser
**AUTC Physics Project: Learning outcomes and curriculum development**, *Proceedings of Scholarly Inquiry into Science Teaching and Learning Conference*, UniServe Science, Sydney, 24-29, ISBN 1 86487 665 4

**2004** M. D. Sharma, C. Stewart and M. Prosser
**On the use of phenomenography in the analysis of qualitative data**, *2003 Physics Education Research Conference*, American Institute of Physics Conference Proceedings, Madison, Wisconsin, **720**, 41-44, ISBN 0-7354-0200-0

**2003** M. D. Sharma, I. Cooper, C. Stewart
**Enhancing cross faculty teaching using web-based activities**, *Advanced in Technology-Based Education: Toward a Knowledge-Based Society, Proceedings of the 2nd International Conference on Multimedia and Information & Communication Technologies in Education*, Badajoz, Spain, 1309-1313, ISBN 84-96212-09-2

**2002** M. D. Sharma, J. Khachan, B. Chan, C. Stewart, K. Hogg and J. O'Byrne
**A classroom communication system for large first year physics classes**, *Proceedings of the 15th Australian Institute of Physics Congress*, Sydney, 247-249, ISBN 0-9598064-4-X

**2002** A. Whymark, C. Stewart, M. D. Sharma and M. Prosser
**Does the new HSC physics syllabus let students think differently about their physics knowledge differently?**, *Proceedings of the 15th Australian Institute of Physics Congress*, Sydney, 265-267, ISBN 0-9598064-4-X

**2002** A. Leung, A. Whymark, C. Stewart, M. D. Sharma and M. Prosser
**The use of qualitative analysis to measure changes in student perception of physics as a result of changes in HSC syllabus**, *Proceedings of the 15th Australian Institute of Physics Congress*, Sydney, 262-264, ISBN 0-9598064-4-X

**2002** K. Wilson, M. D. Sharma and R. Millar
**Using hands-on activities in tutorials**, *Proceedings of the 15th Australian Institute of Physics Congress*, Sydney, 256-258, ISBN 0-9598064-4-X

**2002** M. D. Sharma, M. Cole, A. Whymark, R. Millar and A. Smith
**On the repeated use of well designed conceptual problems in summative assessment tasks**, *Proceedings of the 15th Australian Institute of Physics Congress*, Sydney, 259-261, ISBN 0-9598064-4-X

**2002** C. Stewart, M. D. Sharma and M. Prosser
**Just how different are they? Learning physics in the wake of the NSW HSC syllabus changeover**, *Proceedings of the 15th Australian Institute of Physics Congress*, Sydney, 223-225, ISBN 0-9598064-4-X

**2002** K. Hogg, J. O'Byrne R. Cross, R. Millar and M. D. Sharma
**Development of a new approach to teaching sports mechanics**, *Proceedings of the 15th Australian Institute of Physics Congress*, Sydney 2002, 244-246, ISBN 0-9598064-4-X

**2002** K. Wilson, T. Peseta, M. D. Sharma and R. Millar
**Evaluation of a research based teaching development in first year physics**, *Proceedings of Research and Development into University Science Teaching and Learning Conference*, UniServe Science, Sydney, 63-68

**2001** P. New, S. Britton, M. D. Sharma and A. Brew,
**Researching the transferability of mathematical skills**, *Proceedings of Research and Development into University Science Teaching and Learning Conference*, UniServe Science, Sydney, 53-57

**2000** I. D. Johnston and R. M. Millar
**Is There a Right Way to Teach Physics?**, *Proceedings: Evaluating the New Technologies Workshop, UniServe Science*, 37–40

**1998** I.D. Johnston and M. Peat
**Use of the Web for University Science Teaching in Australia**, *Proceedings: Computer Aided Learning and Instruction in Science and Engineering*, CALISCE ‘98, Göteborg, Sweden, 161–167