

# DR. NALIN K. SHARDA

Doctor of Philosophy, Indian Institute of Technology (IIT), Delhi, India.

Bachelor of Technology, Electrical Engineering, 1st Div., IIT Delhi, India.

## Current:

Member ACS  
Senior Member IEEE

## Past:

Member ACM  
Member MirandaNet  
Distinguished Lecturer IEEE Education Society  
Distinguished Lecturer European Union's Pro-Learn Program

## Community:

Past President NRISA.ORG

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## DR. NALIN K. SHARDA

Citizen of Australia and Overseas Citizen of India  
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### Qualifications

- Doctor of Philosophy, Indian Institute of Technology (IIT), Delhi, India. 1984
- Bachelor of Technology, Electrical Engineering, 1st Div., IIT Delhi, India. 1974
- Certificate IV in Project Management 2009
- Certificate IV in Finance 2015

### Positions held

#### **Visiting, Adjunct, Pro-bono:**

Honorary AA Professor, Victoria University. 2014 – 2019  
Erasmus Mundus Visiting Research Professor, Aachen University, Germany. Aug. – Nov. 2007  
Adjunct Professor, Jaypee University of Information Technology, India. 2004 – 2006  
Visiting Professor, University of Karlstad, Sweden. February 1999  
Visiting Professor, Florida Atlantic University, USA. Aug. – Dec. 1998  
Pro-bono Lecturer, University of the Third Age (U3A), Darebin, Victoria, Australia 2011 – 2014

#### **Full-time:**

Associate Professor, Melbourne Institute of Technology. 2017 – 2019  
Associate Professor, Victoria University. 1998 – 2014  
Senior Lecturer, Dept. of Computer and Math. Sciences, Victoria University. 1990 – 1997  
Lecturer, Computer Science, Murdoch University. 1988 – 1990  
Lecturer, Computer Engineering, Curtin University. 1985 – 1988  
Systems Engineer, Anderson Digital Equipment, Perth. 1984 – 1985  
Design Engineer, Instrument Design Development Center, IIT Delhi. (Part-time RS) 1977 – 1984  
Research Scholar (RS), Full-Time, Dept., of Elec. Eng., IIT Delhi. 1976 – 1977  
Field Engineer and Base Manager, Schlumberger Seaco Inc. 1974 – 1976

### Summary of Research

#### **Main Research Areas: Scholarship of Teaching and Learning. Innovative Pedagogies:**

Scholarship of Teaching and Learning, Digital Storytelling, Game-based learning, Drama-based learning; Sustainable Living: Virtual Power Plant Modelling; Networked Multimedia Systems and applications: e-Learning, e-Tourism, e-Water; Novel Human Computer Interaction methods and Usability testing; Semantic Web Technologies.

### Summary of Teaching

**Subjects developed and taught:** Professional Practice (including Business Setup), Project Management, People Management, Advanced Network Systems, Wireless Sensor Networks, Networked Multimedia Systems, Introduction to Multimedia, Research Methodology, Web-Based Learning, Ethics in Information Technology and Research, Computer Architecture, Computer Networks, Parallel Processing, Computer Aided Engineering, Multi-processor Systems.

### Summary of Publications / Seminars Presentations / Thesis Examined / Memberships

1 Textbook: **Multimedia Information Networking**, Prentice Hall, 1999, 1 Research Book on Tourism Informatics, 22 Book Chapters, 17 Journal /LNCS Publications, 58 Conference Publications, 28 Paper / Magazine Articles, 6 Laboratory Manuals, 19 Technical Reports, 30+ International Presentations as Seminars / Short Courses / Workshops / Keynote addresses, 10+ Theses Examined, 20+ Conference Committees, 13+ Journal Editorial Boards Memberships. Member of the Mathematics Community of Practice, Victoria University. Member of Australian Computer Society (ACS). **Senior Life Member** of the Institute of Electrical and Electronic Engineers (IEEE). **Distinguished Lecturer IEEE Education Society**. Member of the Association for Computing Machinery (ACM), *Nominated as the Fellow of ACM*.

## List of Publications, Presentations

### Books

1. Nalin Sharda (Ed.), *Tourism Informatics: Visual Travel Recommender Systems, Social Communities, and User Interface Design*, Information Science Reference, IGI Global, 2010.
2. Nalin Sharda, *Multimedia Information Networking*, Prentice Hall, 1999.

### Book Chapters/ Edited Books/ Manuals:

1. Sharda, Nalin (2012) *Multimedia Transmission over Wireless Sensor Networks*, in Visual Information Processing in Wireless Sensor Networks: Technology, Trends, and Applications Ed. Li-Minn Ang and Kah Phooi Seng. IGI Global, Hershey, PA, USA. pp. 116-132.
2. Sharda, Nalin (2012) *Transforming eMaintenance into iMaintenance with Mobile Communications Technologies and Handheld Devices*, in Mobile Technology Consumption: Opportunities and Challenges Ed. Barbara L. Ciaramitaro. IGI Global, Hershey, PA, USA, pp.182-199 .
3. Smeda, N., Dakich, E., & Sharda, N. (2012). *Digital Storytelling with Web 2.0 Tools for Collaborative Learning*. In A. Okada, T. Connolly & P. Scott (Eds.), *Collaborative Learning 2.0: Open Educational Resources* (pp. 145-163): IGI Global.
4. N. Sharda, *Using Storytelling as the Pedagogical Model for Web-Based Learning in Communities of Practice*, in *Web-Based Learning Solutions for Communities of Practice: Developing Virtual Environments for Social and Pedagogical Advancement*, Nikos Karacapilidis (Ed.), Information Science Reference, IGI Global, 2010.
5. N. Sharda, *Building Visual Travel Recommender Systems and Tourism Communities for Effective User Experience*, in *Tourism Informatics: Visual Travel Recommender Systems, Social Communities, and User Interface Design*, Nalin Sharda (Ed.), Information Science Reference, IGI Global, 2010, pp. 1-21.
6. N. Sharda and M. Ponnada, *Ontology Based Approach for Web Content Re-purposing for Mobile Devices*, in *Encyclopedia of Wireless and Mobile Communications*, Borko Furht (Ed.), CRC Press, 2008.
7. N. Sharda and M. Georgievski, *Codecs for Mobile Multimedia Transmission*, *ibid*.
8. M. Ponnada and N. Sharda, *Transmitting Multimedia Content over 4G Mobile Systems*, *ibid*.
9. M. Georgievski and N. Sharda, *Delivering Quality of Service over Mobile Systems*, *ibid*.
10. R. Jakkilinki, N. Sharda, *A Framework for Creating Ontology-Based e-Tourism Applications*, in *Information and Communication Technologies in Support of the Tourism Industry*, W. Pease, M. Rowe, M. Cooper (Eds.), Idea Group Inc., 2007.
11. M. Ponnada, R. Jakkilinki, N. Sharda, *Tourism Recommender Systems: Current Technology and Future Directions*, *ibid*.
12. N. Sharda, *Quality of Service Issues in Mobile Multimedia Transmission*, in *Mobile Multimedia Communications: Concepts, Applications and Challenges*, G. Karmakar and L. Dooley (Eds.), Idea Group Inc., 2007.
13. N. Sharda, *Multimedia Authoring*, in *Encyclopaedia of Multimedia*, Furht, Borko (Ed.), Springer, 2006.
14. N. Sharda, *Multimedia Design*, in *Encyclopaedia of Multimedia*, *ibid*.
15. N. Sharda, *Multimedia Production*, in *Encyclopaedia of Multimedia*, *ibid*.
16. N. Sharda, *Multimedia Project Planning*, in *Encyclopaedia of Multimedia*, *ibid*.
17. Sam Hsu, Nalin Sharda, and Oge Marques, *Internet-Based Distance Learning*, *Handbook of Internet Computing*, CRC Press, 2000.
18. N. Sharda, *Multimedia Networks*, *Handbook of Multimedia Computing*, CRC Press, 1999.
19. N. Sharda and A. Tam (Editors), *Parallel and Real-Time Systems, Proceedings of the PART'97 conference*, Springer-Verlag, 1997.
20. N. Sharda (Chair Editorial Board), *Parallel and Real-Time Systems, Proceedings of the PART'94 conference*, 1994.
21. N. Sharda, *Information Networking*, 1995. Victoria University. ISBN 0-646-24612-7.
22. N. Sharda, *Practical Data Communications*, 1993. Victoria University. ISBN 1-86272-3044.

### Journal / LNCS Publications:

1. K.Pillai, H.King, C.Ozansoy, N.Sharda, "Methodology and Framework to Construct and Integrate Digital Habitat Ecosystem Architecture", *International Journal of Information and Communication Technology Research (IJICTR)*, 2012, pp. 276-284.
2. Nalin Sharda, *Digital Storytelling: The Creative and Innovative Ingredient for eLearning*, *ACM eLearn Journal*, Invited paper, 2009.
3. Nalin Sharda and Mohan Ponnada, *Tourism Blog Visualiser for Better Tour Planning*, *Journal of Vacation Marketing*, April 2008, ISSN 1356-7667.
4. Nalin Sharda, *Applying Movement Oriented Design to Create Educational Stories*, *International Journal of Learning*, Vol.13, Issue 12, pp.177-184, 2007. (Presented at e-Learning Symposium, RMIT University, Melbourne, Australia, 3-5 December 2006.)

5. Marc Spaniol, Ralf Klamma, Nalin Sharda, Matthias Jarke, *Web-based Learning with Non-linear Multimedia Stories*, 5th International Conference on Web-based Learning (ICWL 2006), July 19-21, 2006, Penang, Malaysia. Proceedings of ICWL 2006, Lecture Notes in Comp. Sc. (LNSC), Vol. 4181, Springer-Verlag.
6. Mladen Georgievski and Nalin Sharda, *Re-Engineering the Usability Testing Process for Live Multimedia Systems*, Journal of Enterprise Information Management, Volume: 19, Issue: 2, 2006.
7. Roopa Jakkilinki, Imran Ahmed, and Nalin Sharda, *MUDPY Ontology: An Innovative Tool for Multimedia Project Development*, *ibid*.
8. Nalin Sharda, *Movement Oriented Design: A New Paradigm for Multimedia Design*, International Journal of Lateral Computing (IJLC), Vol. 1, No. 1, May 2005, pp. 7-14. Presented as a keynote address at the First World Congress on Lateral Computing, 2004.
9. Nalin Sharda, *Multimedia: The Art, Science and Technology of Creating Meaning*, Readers' Remarks, IEEE MultiMedia, April-June 2004.
10. Nalin Sharda, *Meta-learning with Semantic-web Technologies*, Learning Technology, Volume 5, Issue 4, October 2003, IEEE Computer Society Learning Technology Task Force.
11. N. Sharda, A. Hanumanula, *Streaming Audio and Video in Web-based Learning: A Comparative Study of Three Systems*, The 2nd International Conference on Web-based Learning, ICWL2003, August 18-20, 2003, Melbourne, Australia. Lecture Notes in Comp. Sc. (LNSC) Vol. 2783, Springer-Verlag.
12. Nalin Sharda, *Holistic Quality of Service Models: The Missing Link in Synchronous Communication Based Education Systems*, Learning Technology, Volume 5, Issue 3, July 2003, IEEE Computer Society Learning Technology Task Force.
13. N. Sharda, *Multimedia Networks: Fundamentals and Future Directions*, Communications of the Association for Information Systems, Volume 1, Article 10, February, 1999.
14. Jutrisa, N. Sharda and P. Cerone, *Performance Analysis of a Reliable Satellite Broadcast Transmission Protocol*, ITA - Information, Telecommunications, Automata Journal, Vol.15, No 1-3, 1997. Presented at ConTEL'97, Zagreb, Croatia, June 18-20, 1997.
15. N. Sharda, R. Fatri and M. Abid, *Applying Deductive Database Technology to Network Management*, ACM SIGCOMM Computer Communications Review, Vol. 27, No 1, Jan 1997.
16. N. Sharda, R. Mulchandani, and R. Arockiasamy, *Microprocessor Control of Cycloconverter: Techniques for Implementation and Testing*, IEEE Transactions on Industrial Electronics, Vol. IE-33, pp 281-291, Aug. 1986.
17. N. Sharda, Shashi Kumar, and R. Mulchandani, *Memory and Monitor Extension of SDK-85*, Indian Journal of Technical Education, Vol. 6, No. 3, 1980.

### **Refereed Conference Publications:**

1. Sharda, Nalin. K., Enhancing STEM Students' Engagement and Learning Outcomes with Innovative Pedagogy, Proceedings of the International Conference on Future of Education 2018 (Edu' 18), 26 – 27 June, 2018, Colombo, Sri Lanka. ISSN (2424 – 6735).
2. Nalin Sharda, Educational Drama (EduRama): *An innovative Pedagogical Model for Enhancing Learners' Interest in Mathematics*, The Future of Mathematics Education in a Connected World", Montenegro, Sept. 21–26, 2014.
3. M. Zaeri, N. Sharda, and A. Zahedi. *A Five Layer Model for Simulating a Virtual Power Plant Plant*, IEEE Innovative Smart Grid Technologies - Asia (ISGT Asia 2014). Kuala Lumpur, May 20 – 23, 2014.
4. Najat Smeda, Eva Dakich & Nalin Sharda (2013), *The Effectiveness of Digital Storytelling in the Classrooms: A Case Study*, IEEE 13th International Conference on Advanced Learning Technologies, Beijing, China, 15-18 July 2013.
5. Smeda, N., Dakich, E., & Sharda, N. (2012) *Transforming Pedagogies through Digital Storytelling: Framework and Methodology*. 2nd Annual International Conference on Education & e-Learning (EeL 2012) Bali, Indonesia, 2012.
6. Najat Smeda, Eva Dakich & Nalin Sharda (2010). *Developing a Framework for Advancing e-learning through Digital Storytelling*, in IADIS International Conference e-learning 2010, Ed. Miguel Baptista Nunes and Maggie McPherson. IADIS International Conference, e-Learning 2010 Freiburg, Germany, 26 - 29 July 2010, 169-176.
7. Nalin Sharda, *Integrated Water Management: Models for Integrating Rainwater, Greywater and Freshwater Use in Australian Homes with Digital Ecosystems*, OzWater '10 Conference, Brisbane Convention and Exhibition Centre, Brisbane, Queensland from 8-10 March, 2010.
8. Nalin Sharda, *A High-level Model for an Intelligent System to Maximise the Utilisation of Harvested Rainwater*, OzWater '09 Conference, Melbourne, 16-18 March 2009.
9. Nalin Sharda, *Multimedia and Communication Technologies in Digital Ecosystems*, Seventh International Conference on Information, Communications and Signal Processing, Macau, 7-10 Dec 2009.
10. Nalin Sharda, *Workshop Process for Authoring Educational Multimedia Using Movement Oriented Design (MOD)*, ACM Multimedia 2008, Vancouver, BC, Canada; October 27 - November 1, 2008.
11. Nalin Sharda, *Creating Ambient Multimedia Experience On-Demand*, Semantic Ambient Media Experience Workshop (SAME 2008) in conjunction with ACM Multimedia 2008, Vancouver, BC, Canada; October 27 - November 1, 2008.

12. Nalin Sharda, *Designing, Using and Evaluating Educational Games: Challenges, Some Solutions and Future Research*, First International Workshop on Story-Telling and Educational Games (STEG '08) in conjunction with EC-TEL 2008: Third European Conference on Technology Enhanced Learning, 17-19 September 2008, Maastricht, The Netherlands.
13. Sudarshan Venkataiah, Nalin Sharda, and Mohan Ponnada, *A Comparative Study of Continuous and Discrete Visualisation of Tourism Information*, ENTER 2008 Conference, Innsbruck, Austria, Organised by International Federation for Information Technology and Travel & Tourism (IFITT), 23 - 25 January, 2008.
14. Nalin Sharda, *Creating Innovative New Media Programs: Need, Challenges, and Development Framework*, ACM Workshop on Educational Multimedia and Multimedia Education (in conjunction with ACM Multimedia 2007), 28 September 2007, Augsburg, Germany.
15. Nalin Sharda, *Authoring Educational Multimedia Content Using Learning Styles and Story Telling Principles*, ACM Workshop on Educational Multimedia and Multimedia Education (in conjunction with ACM Multimedia 2007), 28 September 2007, Augsburg, Germany.
16. Nalin Sharda and Mohan Ponnada, *Tourism Blog Visualiser for Better Tour Planning*, First Annual Conference on Blogs in Tourism, Kitzbuhel, Austria, 12 July 2007. Invited to be published in the Journal of Vacation Marketing.
17. Mohan Ponnada and Nalin Sharda, *Model of a Semantic Web Search Engine for Multimedia Content Retrieval*, ICIS 2007, 6th IEEE/ACIS International Conference on Computer and Information Science, Melbourne, July 11-13, 2007.
18. Nalin Sharda, *The Role of Mobile Multimedia Systems in Digital Business Ecosystems*, IEEE-DEST 2007: IEEE International Digital EcoSystems Technologies Conference, Cairns, Australia, 21-23 Feb. 2007.
19. Roopa Jakkilinki, Mladen Georgievski, and Nalin Sharda, *Connecting Destinations with Ontology-Based e-Tourism Planner*, ENTER 2007: 14th annual conference of IFITT, the International Federation for IT & Travel and Tourism. Ljubljana, Slovenia, 24 to 26 January 2007.
20. Mohan Ponnada and Nalin Sharda, *A High level model for developing Intelligent Visual Travel Recommender Systems*, ENTER 2007: 14th annual conference of IFITT, the International Federation for IT & Travel and Tourism. Ljubljana, Slovenia, 24 to 26 January 2007.
21. Marc Spaniol, Ralf Klamma, Nalin Sharda, Matthias Jarke, *Web-based Learning with Non-linear Multimedia Stories*, 5th International Conference on Web-based Learning (ICWL 2006), July 19-21, 2006, Penang, Malaysia. Springer LNCS.
22. Kimber, J., Georgievski, M., Sharda, N., *Developing a Visualisation Tool for Tour Planning*, IFITT Global Travel & Tourism Technology and eBusiness Conference, Lausanne, Switzerland, ENTER 2006: 18 - 20 January, 2006.
23. Mladen Georgievski, Nalin Sharda, *Implementation and Usability of User Interfaces for Quality of Service Management*, Tencon'05: Annual technical conference of IEEE Region 10, 21 - 24 November 2005, Australia.
24. Roopa Jakkilinki and Nalin Sharda, Mladen Georgievski, *Developing Ontology for the Multimedia Design and Planning Pyramid (MUDPY)*, MMU International Symposium on Information and Communications Technologies, Malaysia, 24-25 Nov., 2005.
25. Mladen Georgievski, Nalin Sharda, KK Lim, *Mapping the TRAQS Quality of Service Model to the m-Apps Middleware*, *ibid*.
26. Jayden Kimber, Mladen Georgievski and Nalin Sharda, *Developing Usability Testing Systems and Procedures for Mobile Tourism Services*, Annual Conference on Information Technology in the Hospitality Industry, HITA 2005. Hospitality Information Technology Association, June 19-20, 2005, Los Angeles, USA.
27. Nalin Sharda and Nayanathara Hosur Ramesh, *Task Modelling for a Multimedia Authoring System Based on The Movement Oriented Design Methodology*, Proceedings of the International Conference on Internet and Multimedia Systems and Applications, EuroIMSA2005, Grindelwald, Switzerland, 21-23 February 2005, pp. 389-394.
28. Nalin Sharda, *Movement Oriented Design: A New Paradigm for Multimedia Design*, Keynote address at the First World Congress on Lateral Computing, WCLC 2004, December 18th, 2004, National Science Seminar Complex, Indian Institute of Science, Bangalore, India.
29. Mladen Georgievski and Nalin Sharda, *Re-Engineering the Usability Testing Process for Live Multimedia Systems*, The 2004 International Research Conference on Innovations in Information Technology, IIT2004, Oct 4-6, 2004, Dubai, UAE. Also published in the Journal of Enterprise Information Management.
30. Roopa Jakkilinki and Nalin Sharda, *MUDPY Ontology: An Innovative Tool for Multimedia Project Development*, *ibid*.
31. Sanjay Goel and Nalin Sharda, *What do engineers want? Examining engineering education through Bloom's taxonomy*, 15th Annual Conference for the Australasian Association for Engineering Education, AaeE 2004, 27th - 29th September 2004, Toowoomba, Australia.
32. Nalin Sharda, *Creating Meaningful Multimedia with The Multimedia Design and Planning Pyramid*, The 10<sup>th</sup> International Multi-Media Modelling Conference, MMM2004, January 5-7, 2004, Brisbane, Australia.
33. Mladen Georgievski, Nalin Sharda, *Task Modelling for a Holistic Quality of Service Model - TRAQS*, IEEE India Council Annual Convention and Exhibition 2003, ACE2003, Dec 12-14, 2003, Pune, India.
34. Mladen Georgievski, Nalin Sharda, *Usability Analysis for a Holistic QoS Model-TRAQS*, 24th IEEE International Real-Time Systems Symposium, RTSS2003, Dec 3-5, Cancun, Mexico.

35. N. Sharda, A. Hanumanula, *Streaming Audio and Video in Web-based Learning: A Comparative Study of Three Systems*, 2nd International Conference on Web-based Learning, ICWL2003, August 18-20, 2003, Melbourne, Australia. Lect. Notes in Comp. Sc. 2783, Springer-Verlag.
36. M. Georgievski, N. Sharda, *A Taxonomy of QoS Parameters and Applications for Multimedia Communications*, International Conference on Internet and Multimedia Systems and Applications, IMSA2003, Aug 13-15, 2003, Kaua'i, Hawaii, USA.
37. N. Sharda, M. Georgievski, *A Holistic Quality of Service Model for Multimedia Communications*, International Conference on Internet and Multimedia Systems and Applications, IMSA2002, Aug 12-14, 2002, Hawaii, USA.
38. M. Georgievski, N. Sharda, *Modelling Video on Demand Over an ATM Network*, SCI'02, World Multi-conference on Systems, Cybernetics and Informatics, July 14-18, 2002, Orlando, Florida, USA.
39. N. Sharda, *Networked Multimedia Systems Courses: Evolution, Current Courses, and Future Directions*, IEEE International Conference on Information Coding and Computing ITCC 2000, 26-30 March 2000, Las Vegas, USA.
40. N. Sharda, S. Gangisetty, K. Adusumilli, and S. Hsu, *Application of Video Conferencing to Distance Education: A case study with the ClassPoint Software*, SCI'99, World Multi-conference on Systems, Cybernetics and Informatics, July 12-16, 1999, Orlando, Florida, USA.
41. N. Sharda, *Multimedia Information Networking*, AIS'98, Association for Information Systems -Americas Conference, August 14-16, 1998, Baltimore, USA.
42. N. Sharda, *Multimedia Networks: Past, Present and Future Technologies*, SCI'98, World Multi-conference on Systems, Cybernetics and Informatics, July 12-16, 1998, Orlando, Florida, USA.
43. N. Sharda, A. Tam and R. Fatri, *FoCaS: A Formal Classification and Specification Scheme for Parallel Systems*, Proceedings of the Third Australasian Conference on Parallel and Real-Time Systems, PART'96, pp. 65-68, Griffith University, Queensland, 30 September - 1 October, 1996.
44. I. Jutrisa, N. Sharda and P. Cerone, *Implementation Options for Reliable Satellite Broadcast Transmission*, Australian Telecommunication Networks & Applications Conference", pp. 553 - 558, Sydney, 11 - 13 December 1995.
45. S. Bevinakoppa, N. Sharda and H. Sharda, *Parallel Implementation of DCT-based Digital Image Compression on a PARAM System*, Proceedings of the Second Australasian Conference on Parallel and Real-Time Systems - PART'95, pp 401 - 407, Fremantle, Western Australia, 28-29 September, 1995.
46. S. Bevinakoppa, N. Sharda and H. Sharda, *Implementation of the JPEG Image Compression Algorithm on the Shiva Parallel Processor*, IWPP '94: International Workshop on Parallel Processing, Bangalore, India, 26-30 Dec., 1994.
47. R. White, C. Osborne and N. Sharda, *A Parallel Algorithm for the Calculation of Kronecker Products / Sums on Hypercube Processor Topologies*. IWPP '94: International Workshop on Parallel Processing, Dec 26-30, 1994, Bangalore, India.
48. S. Bevinakoppa, N. Sharda, H. Sharda, *Performance Study of JPEG Algorithm on Different Parallel Architectures*, PART'94, Australasian Workshop on Parallel and Real Time systems, 7-8 July, 1994. Melbourne.
49. S. Jit Singh, N. Sharda, *Design and Implementation of PARSIM: An Architecture Specification Language*, PCAT-93, Parallel Computing and Transputers conference, 3-4 Nov, 1993, Brisbane.
50. S. Bevinakoppa, H. Sharda, J. Hulskamp and N. Sharda, *Digital Image Compression on a Network of Transputers*, Transputer and Parallel Applications Conference, TAPA-92, Melbourne, Nov 4-5, 1992.
51. N. Sharda, *Simulation Modeling of a Three Dimensional Parallel Processing System*, Simulation Conference 14, San Diego, California, USA, September 18-20, 1989.
52. N. Sharda and D. P. Hodgson, *Designing A Course In Computer Architecture For An External Studies Program*, Pacific Regional Conference on Electrical Engineering Education. University of Technology, Sydney, 12-15 Dec. 1988.
53. N. Sharda, S. Kumar and R. Arockiasamy, *A Microprocessor Implementation of Cosine-wave Crossing Method for Cycloconverter Triggering*, Proceedings of International Conference on Microprocessor Applications to Industrial Control, Jadavpur University, India, pp 125-132, Feb. 14-16, 1981.
54. R. Arockiasamy, N. Sharda, and Shashi Kumar, *Microprocessor Based Trigger Generator for Phase Controlled Cycloconverter*, Fifth International Symposium on Mini and Microcomputers. Mexico, April 13-15, 1981.
55. N. Sharda and R. Arockiasamy, *Applications of Microprocessors to Drive Speed Control*, All India Seminar on Microprocessor Systems and Applications, The Institute of Engineers, Bangalore, India, April 1980.
56. N. Sharda and R. Mulchandani, *A Low-cost Microprocessor Development-Cum-Target system*, Word of Microprocessors, Symposium held at CSIO, Chandigarh, India, Sept. 24-25 1981.
57. N. Sharda, N. K. Jain, R. Mulchandani and R. Arockiasamy, *Microprocessor Based Instrumentation*. Symposium on Industrial Control and Instrumentation, Jaipur, India, Dec. 15, 1978.
58. N. Sharda, N. K. Jain, R. Mulchandani and R. Arockiasamy, *Trends in Solid State Control of Drives*, Symposium on Industrial Control and Instrumentation, Jaipur, India, Dec. 15, 1978.
59. R. Arockiasamy, N. Sharda and M. Ayyadurai, *Requirements and Choice of A. C. Power Supplies for Electronic Equipment*, Conference on Industrial Instrumentation, Allagappa College of Engineering and Technology, Karaikudi, Tamil Nadu, India, Feb. 1978.

## **Seminars / Short Courses / Tutorials / Workshops / Keynote address / Research Meetings:**

1. **Incorporating Creativity and Innovation in Engineering Education.**
  - Seminar: Glocal University (Saharanpur, UP, India), New Delhi, India, 7 Jan 2013. Creativity and Innovation: The Key to Advancement and Social Wellbeing.
  - IEEE-LPU Official launch: Lovely Professional University, Punjab, India, 30 Jan 2011.
  - Guest Lecture: IEEE-PEER Lecture Series, IIT Kharagpur, India, 6 Dec 2010.
  - Inaugural Lecture: IEEE Student Professional Awareness Conferences(S-PAC) & Alumni Fest-2010, Khulna University of Engineering & Technology (KUET), Khulna, Bangladesh, December 3-5, 2010. iMaintenance: A new paradigm for advancing eMaintenance with Digital Ecosystems and Cloud Computing
  - Seminar: Central Queensland University, Gladstone, Queensland, 11 March 2010. Integrating Rainwater, Greywater and Freshwater Use in the Australian Homes by using Digital Ecosystems.
  - Seminar: Institute for Sustainability and Innovation, Victoria University Australia, July 2009.
2. **Advancing User Experience Research: Towards the next phase of human computer interaction:**
  - Seminar: Dalhousie University, Halifax, Canada, 30 October, 2008.
  - Keynote Address: Third Innovative Conference on Embedded Systems, Mobile Communication and Computing, August 11-14, 2008, Infosys, Mysore, India.
  - Seminar: Macquarie University, Sydney, Australia 4 August 2008.
  - Seminar: International University in Germany, Campus 2, Bruchsal, Germany, 5 June 2008.
3. **Using Creativity and Innovation for Advancing Digital Media Systems**
  - Seminar: Tata Consultancy Services (TCS), Gurgaon, India, 19 November 2007.
4. **Creativity and Innovation in e-Learning through Digital Storytelling**
  - Seminar: Graduate School of e-Learning, TU Darmstadt, Germany 14 November 2007.
5. **Creativity and Innovation: The Key to Advancing Professional Training**
  - Seminar: Professional Training Facts 2007 Conference, Fraunhofer IZS, Stuttgart, Germany 13 November 2007.
6. **Advancing Movement Oriented Design (MOD)**
  - Workshop: Informatik 5, RWTH Aachen University, Germany, 5 November 2007.
7. **Creating Experience-on-Demand with Systematic Content Capture, Creation, and Consumption**
  - Seminar: Informatik 5, RWTH Aachen University, Germany, 23 August 2007.
8. **Research Project Methodology**
  - Short Course: Chaitanya College of Engineering, Visakhapatnam, Andhra Pradesh, India, 6 August 2007.
  - Short Course: Godavari Institute of Engineering and Technology, Rajahmundry, Andhra Pradesh, India, 8 August 2007.
9. **Creativity and Innovation: The Key to ICT Advancement and Social Wellbeing**
  - KeyNote Address: International Conference on Embedded Systems, Mobile Communication and Computing, ICEMC2 2007, 3-5 August 2007, PESIT, Bangalore.
  - Seminar: Chaitanya College of Engineering, Visakhapatnam, Andhra Pradesh, India, 5 August 2007.
  - Seminar: Godavari Institute of Engineering and Technology, Rajahmundry, Andhra Pradesh, India, 7 August 2007.
10. **Tourism Blog Visualiser for Better Tour Planning**
  - Research Seminars: First Annual Conference on Blogs in Tourism, Kitzbuhel, Austria, 12 July 2007.
11. **Creating Mobile Multimedia Experiences: Future Opportunities and Challenges in e-Learning and e-Tourism.**
  - Seminar: Creative Lapland 2007, From Story to Experience, Rovaniemi, Finland, April 12th-14th 2007.
12. **Creating Mobile Multimedia Experiences: Future Opportunities and Challenges**
  - Seminar: RMIT University, 20 July 2007.
  - Seminar: Indian Institute of Technology, Roorkee, India (IIT-R), 1 Feb 2007.
  - Seminar: The International Institute of Information Technology (I2IT), Pune, India, 21 Feb 2006.
  - Seminar: Maharashtra Institute of Technology (MIT), Maharashtra Academy of Engineering & Education Research (MAEER), Pune, India, 20 Feb 2006.
  - Keynote address: International Conference on Embedded Systems, Mobile Communication and Computing, August 4th-5th, 2006, Bangalore India.
13. **Applying Movement Oriented Design to Create Educational Stories**
  - Paper presentation: e-Learning Symposium, Storey Hall, RMIT University, Melbourne, Australia, 3-5 December 2006.
14. **Developing Intelligent Visual Travel Recommender Systems**
  - Seminar: Centre for Hospitality and Tourism Research, Victoria University, 20 Geelong Road, Footscray, 27 November 2006. Presentation



15. **High Flyers Think Tank 2006**
  - Workshop: Innovative technical solutions for water management in Australia. University of Adelaide, South Australia, Monday 30 October 2006.
16. **Movement Oriented Design: Why, What and How of A New Paradigm for Multimedia Systems Design.**
  - Seminar: ETC: Australia. Entertainment Technology Centre of Carnegie Mellon University in Adelaide. 30 October, 2006.
  - Seminar: World Centre for Digital Media, Great Northern Way Campus, Vancouver, BC, Sept. 11, 2006.
17. **Introduction to Quality of Service Delivery in Mobile Multimedia Systems.**
  - Tutorial: Enterprise Networking and Services Conference, EntNet 2006, Sept. 11-13, 2006, Vancouver, BC.
18. **Creating Mobile e-Learning Experience-on-Demand.**
  - Lecture: RWTH Aachen University of Technology, Germany, 11 May 2006. Presentation | Notes
19. **Enhancing Learning Outcomes using Educational Stories Developed with Movement Oriented Design**
  - Workshop: RWTH Aachen University of Technology, Germany, 11 May 2006.
  - Keynote address: World Congress on Lateral Computing (WCLC 2005), 16-18 December 2005, Bangalore, India.
20. **Research Opportunities and Challenges in Tourism ICT Systems, Seminar:**
  - University of Management and Technology (UMT), Lahore, Pakistan. 27 September 2005.
  - Mohammad Ali Jinnah University, Karachi, Pakistan. 26 September 2005.
  - Centre for Hospitality and Tourism Research, Victoria University, Australia. 21 July 2005.
  - Sustainable Tourism CRC, Sunshine Convention Centre, Victoria University, Sunshine Campus, Victoria, 1 October 2004.
21. **Is Middleware the Killer Application for Mobile Business?**
  - Industry Talk: The Fourth International Conference on Mobile Business, July 11-13, 2005, Sydney, Australia.
22. **Mobile Multimedia Information Transmission**
  - Tutorial: International Conference on Internet and Multimedia Systems and Applications, EuroIMSA2005, Grindelwald, Switzerland, 22 February 2005.
23. **Project and Research Methodology**
  - Short Course: Jaypee University of Information Technology, JIIT Campus, Noida, India, 22-24 December 2004
24. **Movement Oriented Design: A New Paradigm for Multimedia Systems Design**
  - Seminar: Florida Atlantic University, Boca Raton, Florida, USA, 24 June 2005.
  - Collaboration meetings: Fraunhofer IAO - University of Stuttgart IAT, Germany, 18 Feb. 2005.
  - Keynote address: World Congress on Lateral Computing (WCLC 2004), 18 December, 2004.
  - Seminar: Edith Cowan University, Perth, Western Australia, 05 November 2004.
  - Seminar: Poona University, Pune, India, 30 October 2004.
  - Workshop: RWTH Aachen University of Technology, Germany, 8 October 2004.
  - Workshop: The 2004 International Research Conference on Innovations in Information Technology, IIT2004, Dubai, UAE, 6 October 2004.
25. **MUDPY Ontology: An Innovative Tool for Multimedia Project Development**
  - Distinguished lecture: RWTH Aachen University of Technology, Germany, 7 October 2004.
26. **Multimedia Design Fundamentals and Methodologies**
  - Short Course: Jaypee University of Information Technology, JIIT Campus, Noida, India, 26-30 July 2004.
27. **Scientific Research Methodology**
  - Short Course: Jaypee University of Information Technology, JIIT Campus, 20-24 July 2004.
28. **Creating Meaningful Multimedia**
  - Seminar: City University of New York, 17 Feb. 2004.
  - Institute of Info. Systems & Info. Management, Joanneum Research, Graz, Austria, 13 Feb. 2004.
29. **Building a Software Bridge between Australia and India**
  - Seminar: IndiaSoft2004 Conference, Taj Palace Hotel, New Delhi, 10-12 February, 2004.
  - Workshop: Industry-Institute Synergy for Knowledge Supremacy, 30 Jan, 2004, Bristol Hotel, Delhi.
30. **Networked Multimedia Systems**
  - Seminar: Mahatma Gandhi Mission's College of Eng. and Technology, Noida, India, 11 Feb., 2004.
  - Short Course: Jaypee University of Information Technology, Noida, India, 2-6 February, 2004.
31. **Enhancing Learning Outcomes with Projects**
  - Seminar: Learning Matters Symposium, Victoria University, 4 December 2003.
32. **The WWW of Ontology: What, Why and hoW**
  - Seminar: Victoria University, Australia, 10 Oct. 2003.
33. **A Holistic Quality of Service Model**
  - Seminar: School of Computer Science and Mathematics, Victoria University, Australia, 20 May 2003.

### **Thesis Examined**

1. 2012 University of the South Pacific, Fiji, M.Sc. Thesis.
2. 2010 LaTrobe University, PhD Thesis.
3. 2008 LaTrobe University, Masters Thesis.
4. 2007 University of Tasmania, Masters Thesis.
5. 2007 University of Tasmania, Masters Thesis.
6. 2006 LaTrobe University, Masters Thesis.
7. 2005 LaTrobe University, Masters Thesis.
8. 2004 University of Pretoria, South Africa, Ph.D. Thesis.
9. 2004 RMIT University, Australia, Masters Thesis.
10. 2004 LaTrobe University, Masters Thesis.
11. 1999 RMIT University, Masters thesis.
12. 1998 LaTrobe University, Masters Thesis.

### **Chair / Program committee member / Session chair and editor for conferences**

1. 2013 Ninth International Conference on Information, Communications, and Signal Processing (ICICS 2013) 10-13 December, 2013.
2. 2011 Eighth International Conference on Information, Communications, and Signal Processing (ICICS 2011) 13-16 December, 2011.
3. 2009 IEEE/ACIS International Conference on Computer and Information Science, Shanghai, China.
4. 2009 International Conference on Web-based Learning, Aachen, Germany.
5. 2009 International Conference on Internet and Multimedia Systems and Applications, Hawaii, USA.
6. 2008 Technical Symposium on Computer Science Education, Portland, Oregon USA.
7. 2008 IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing, Phuket, Thailand.
8. 2008 The Ninth ACIS Int. Conference on SE, AI, Networking, and Parallel/Distributed Computing
9. 2008 International Conference on Internet and Multimedia Systems and Applications, Hawaii, USA.
10. 2007 International Conference on Embedded Systems, Mobile Communication and Computing
11. 2007 IEEE/ACIS International Conference on Computer and Information Science
12. 2007 IEEE International Digital EcoSystems Technologies Conference, Cairns, Australia.
13. 2007 International Conference on Internet and Multimedia Systems and Applications, Hawaii, USA.
14. 2007 IEEE/ACIS International Conference on Computer and Information Science, Melbourne, Australia.
15. 2006 International Conference on Internet and Multimedia Systems and Applications, Innsbruck, Austria.
16. 2005 International Conference on Internet and Multimedia Systems and Applications, Grindelwald, Switzerland.
17. 2004 First World Congress on Lateral-Computing, Bangalore, India.
18. 2004 International Research Conference on Innovations in Information Technology, Dubai.
19. 2004 Sixth Asia Pacific Web Conference, Hangzhou, China.
20. 2004 Tenth International Multi-Media Modelling Conference, Brisbane.
21. 2004 International Conference on Internet and Multimedia Systems and Applications, Grindelwald, Switzerland.
22. 2002-2008 Informing Science & IT Education Joint Conference
23. 2000 International Conference on Information Technology, USA, IEEE Computer Society.
24. 1999 International Conference on Internet and Multimedia Systems and Applications. IMSA.
25. 1998 IEEE ADCOMP (Advanced Computing) Conference, Pune, India.
26. 1996 First International Conference on Visual Information Systems, VISUAL'96.
27. 1996 Nineteenth Australian Computer Science Conference, ACSC96.
28. 1995 IEEE International Conf. on Algorithms and Architectures for Parallel Processing, Brisbane.
29. 1994-2000 Chair, Australasian Parallel and Real-Time Conference, PART'94 to PART2000.
30. 1993 IEEE International Symposium on Parallel and Distributed Computing, Brisbane.

### **Journal and Book Editorial contributions**

1. 2013/14 Editor, Innovative Pedagogies for Lifelong Learning, forthcoming research book, IGI Global.
2. 2010 Editor, Tourism Informatics: Visual Travel Recommender Systems, Social Communities and User Interface Design, Research book, IGI Global, 2010.
3. 2008 International Journal of Informing Science.
4. 2008 Editorial Board member, International Journal of Informing Science.
5. 2007 Editorial Board member, Encyclopedia of Multimedia
6. 2007 Editorial Board member, Encyclopedia of Wireless and Mobile Communications,
7. 2007- Referee: IEEE Transactions on Multimedia.
8. 2007- Referee: The International Journal of Learning.
9. 2000- Editorial board member: International Journal of Computers and Applications, ACTA Press.

10. 2000- Editorial board member: International Journal of Multimedia Tools and Applications, Springer.
11. 2004 Editor: Special Series on Multimedia Communications, Informing Science Journal.
12. 2000- Editor: Networked Multimedia area in the Informing Science journal.
13. 1997 Editor: Fourth Australasian Conference on Parallel and Real-Time Systems, PART 97.
14. 1996 Referee: International Journal of Computer and Telecommunications Networking.
15. 1994 Editor: Australasian Conference on Parallel and Real-Time Systems, PART 94.

### **Articles**

1. Artificial Intelligence, Chaos Theory and The Bhagavad-Gita -2, Bharat Times, January 2004.
2. Artificial Intelligence, Chaos Theory and The Bhagavad-Gita -1, Bharat Times, December 2003.
3. Meta-Learning on the Web, Bharat Times (BT), November 2003.
4. How Andhra Pradesh did IT, Bharat Times, July 2003.
5. Multimedia: History, Challenges and Possibilities, Bharat Times, June 2003.
6. Data Mining, Bharat Times, April 2003.
7. Data Warehousing, Bharat Times, March 2003.
8. Future of Information Technology, Bharat Times, January 2003.
9. Programming Languages -2, Bharat Times, November 2002.
10. Multimedia over the Internet - 1, Bharat Times, October 2002.
11. Programming Languages -1, Bharat Times, July 2002.
12. Learning on the Semantic Web, Bharat Times, June 2002.
13. Broadband Internet Connections, Bharat Times, May 2002.
14. Simputer: India's Computer for the World, Bharat Times, April 2002.
15. Computer Security-1, Bharat Times, March 2002.
16. Application Software-1: Common Packages, Bharat Times, February 2002.
17. Windows XP: To Upgrade or Not To Upgrade, Bharat Times, January 2002.
18. Computer Software-1: An Overview, Bharat Times, December 2001.
19. Computer Applications -2: Multimedia Applications, Bharat Times, November 2001.
20. Computer Applications-1: General Application, Bharat Times, October 2001.
21. Computer Architecture-2: Beyond Silicon Computing, Bharat Times, September 2001.
22. Computer Architecture-1, Bharat Times, August 2001.
23. Understanding Information Technology: Overview-2, Bharat Times, Melbourne, July 2001.
24. Understanding Information Technology: Overview-1, Bharat Times, Melbourne, June 2001.
25. Finding Your First I T Job, Bharat Times, Melbourne, May 2001.
26. I T and Its Many Faces, Bharat Times, Melbourne, April 2001.
27. Take Charge: Advice to New International Students, Bharat Times, Melbourne, March 2001.
28. Bhagvat Geeta and the Science of Multimedia Information Networking, Australian Campus Review, March 1997.

### **Laboratory Manuals**

1. Nalin Sharda, *Experiments in Data Communications*, Victoria University of Technology, 1991-1995.
2. Nalin Sharda and D. P. Hodgson, *Digital Logic Exercises*, Computer Science Program, Murdoch University, 1989. Part of the external study guide for Computer Architecture (M216).
3. Nalin Sharda, *Data Communications and Local Area Networking Experiments*, Computer Science Program, Murdoch University, 1988.
4. Nalin Sharda, *Assembly Language Programming Experiments for 8086/8088 on the IBM-PC*, School of Electrical and Computer Systems Engineering, Curtin University of Technology, 1987.
5. Nalin Sharda, *Interfacing Microcomputers: Experiments based on the SDK-85*, School of Electrical and Computer Systems Engineering, Western Australian Institute of Technology, 1985.
6. Nalin Sharda, *Power Electronics Experiments*, Curriculum Development Workshop, Department of Electrical Engineering, Indian Institute of Technology, Delhi, 1983.

### **Monographs and Technical Reports**

1. Nalin Sharda et al., *Intelligent Visual Travel Recommender Systems Models for eTourism Websites*, CRC for Sustainable Tourism, Australia, 2008.
2. Nalin Sharda et al., *Leading-edge Developments in Tourism ICT and related Underlying Technologies*, CRC for Sustainable Tourism, Australia, 2006.
3. N. Sharda, *Networked Multimedia*, Online Symposium for Electronics Engineers. October 2000. <http://www.techonline.com/osee/>.
4. N. Sharda, *The Future of Computing Discipline at Victoria University of Technology*, A Discussion Paper in response to the Faculty of Science Review, June 1995, Victoria University.
5. R. Fatri, N. Sharda, *Aditi deductive Database System and its Applications*, Technical Report 44 COMP 14, October 94, Dept. of Computer and Mathematical Sciences, Victoria University.

6. R. Sharda, S. Bevinakoppa, H. Sharda, *Parallel Implementation of Digital Image Compression Based on the JPEG Standard*, Technical Report 32 COMP 6, Nov 1993, Dept. of Computer and Mathematical Sciences, Victoria University.
7. S. J. Singh, Nalin Sharda, *PARSIM: A Language for Simulating Reconfigurable Parallel Processing Systems*, Technical Report 28 COMP 5, June 1993, Dept. of Computer and Mathematical Sciences, Victoria University.
8. R. White, C. Osborne and N. Sharda, *Parallel Implementation of the Walsh Hadamard Transform on T800 Transputer networks*, Technical Report No 17 COMP 1, Nov 1991, Dept. of Computer and Mathematical Sciences, Victoria University.
9. N. Sharda, *A Proposal for Networking the Computer Science Program Laboratories*, Computer Science Program, Murdoch University, 1989.
10. N. Sharda, *A Proposal for Implementing the SRI-NIC Internet Address*, Computer Science Program, Murdoch University, 1989.
11. N. Sharda, *A Proposal For Running The Course 'Computer Studies Project (M407): A Discussion Paper*, Computer Science Program, Murdoch University, 551989.
12. N. Sharda, *A Three Dimensional Computing Structure: Architecture, Applications and Programming*, Technical Report No: SHARDA 19880500, Computer Science Program, Murdoch University, Western Australia, 1988.
13. R. Mulchandani, N. Sharda, and I. P. Singh, *MDTS-85, Microprocessor Development-Cum-Target System, Hardware Manual*. Technical Report, IDD Center, IIT Delhi, Jan. '85.
14. R. Mulchandani, N. Sharda, and I. P. Singh, *Resident System Software for MDTS-85*. Technical Report, IDD center, IIT Delhi, Jan. '85.
15. N. Sharda and R. Mulchandani, *Cycloconverter Trigger Programs CT00*, IDDC, IIT Delhi, Oct. 1983.
16. N. Sharda and R. Mulchandani, *Resident Assembler for 8085*. Instrument Design Development center, IIT Delhi, Oct. 1982.
17. N. Sharda, and R. Mulchandani, *SDK-85 Monitor Extensions ME04*, IDDC, IIT Delhi, 1981.
18. N. Sharda, and R. Mulchandani, *SDK-85 Monitor Extensions ME03*, IDDC, IIT Delhi, 1981.
19. N. Sharda, *SDK-85 Monitor Extension ME02*, IDD center, IIT Delhi, 1980.
20. N. Sharda, *SDK-85 Monitor Extension ME01*, IDD center, IIT Delhi, 1980.
21. N. Sharda, *Users' Manual for Microprocessor Trainer Based on the Intel SBC/80-04 Single Board Computer*, IDD center, IIT Delhi, 1979.

### **Media Coverage of Projects (selected)**

1. 2005 June *From spa star to rain man*, Staff Newsletter, Victoria University.
2. 2005 March *Making Meaningful Multimedia*, Staff Newsletter, Victoria University.
3. 2002 Dec. *Computer teacher gets grant to write for the big Screen*. Nexus, Victoria University.
4. 2002 Aug. *Write on track over success*, The Mail, Melbourne.
5. 1994 June *Joint team aims to drag and drop us into supercomputer age*. Campus Review.
6. 1994 July *RMIT, VUT target Asian super-computing alliance*, Australian R&D Review.
7. 1993 April *Supercomputing Research Boosted*. The Financial Review.

### **Creative & Literary Works and Awards (selected)**

1. Collection of 5 Hindi Poems, included in anthology titled "Deshantar Ki Kavitaen" (Poems from Abroad), Sahitya (Literary) Academy, New Delhi, India. 2013. Launched at the Book Show, New Delhi. 4-6 Feb 2013.
2. Collection of 3 Hindi Poems, included bilingual (Hindi and Urdu) anthology titled "Guldasta" (Bouquet), Bhartiya Vidya Bhavan, Australia, ([www.bhavanaustralia.org](http://www.bhavanaustralia.org)). 2010. Launched by Premier of Victoria, Australia. 4 Nov 2010. (<http://www.sahityasangam.org>)
3. TV Water Saver Heroes competition, Runner up, Department of Sustainability and Environment, 2005.
4. Short screenplay: *The Last Plunge*. Second prize, Glen Eira Literary Awards. 2003.
5. Screenplay: *Breaking Free*, \$5000 script development grant, Australian Film Commission (AFC), 2002.
6. Short screenplay: *Birthday Present*, Commended, Glen Eira Literary Awards, 2002.
7. Multimedia stage play: *GRIPE - Conference of God's Representatives for Intellectual Property Enterprise*. Highly Commended, Fellowship of Australian Writers Literary Awards, 2002.
8. Screenplay: *Locked Hearts*, based on The Red Convertible short story, 2001
9. Short story: *The Red Convertible*, Anthology edited by Mitzi Szereto, Cleis Press, San Francisco. 2001.
10. Short story: *Breaking Free*, Commended, Glen Eira Literary Awards. 2001.

### **Social, Cultural and Leadership activities**

1. Past President, Northern Region Indian Seniors Organisation (NRISA), Victoria, Australia. (NRISA.org)
2. Pro-bono Lecturer, Computing for All, University of the Third Age (U3A), Darebin, Victoria, Australia. (<http://home.vicnet.net.au/~darebinu3a/home>)
3. Co-ordinator, Sahitya Sandhya (Literary Confluence, Melbourne, Australia. (SahityaSangam.org)

### **Research Supervision as Principal Supervisor**

1. Mrs. Laila Hasan Salem, Application of Digital Storytelling in University Education for STEM Courses, 2014, PhD
2. Mrs. Mahtab Zaeri, Investigation of a Hybrid Control Scheme for the Optimised Operation of a Virtual Power Plant, 2011-2014, PhD.
3. Mrs. Najat Smeda, Application of Digital Storytelling to Constructivist Learning, -2014, Ph.D.
4. Mr. Mladen Georgievski, Quality of Service in Multimedia Communications, -2007, Ph.D.
5. Mr. Wang Ping, Investigations on Streaming Multimedia Systems, -2000, Visiting Scholar,
6. Mr. Ivan Jutrisa, Reliable Satellite Broadcast Communication, -1999 Ph.D.
7. Mr. Herwig Rehatschek, Application of ATM to Networked Multimedia, -1996 Visiting Scholar,
8. Mrs. Savitri Bevinakoppa, Digital Image Compression on Parallel Computers, -1997, Ph.D.
9. Mr. Rod White, Parallel Topologies Applied to Digital Transforms, -1995, M.Sc. by Research.
10. 35 M.Sc. Coursework Theses in e-Learning, Networking, Multimedia, Semantic Web Technology.

### **Research Funding** *ST-CRC = Sustainable Tourism CRC, WQRA = Water Quality Research Association*

1. Investigations of Techniques for Maximising the Utilisation of Harvested Rain Water using a Digital Ecosystem; Victoria University, 2009, \$14,746, Chief Investigator.
2. Digital Ecosystem for Harvested Rainwater 2008-09 WQRA \$5,000, Chief Investigator.
3. Ontology and Application Generator for Tourism Systems 2005-07 ST- CRC, \$80,000, Chief Investigator.
4. Demonstrating Potential of Travel Recommender Systems 2005-07 ST- CRC, \$79,000, Chief Investigator.
5. Leading Edge Developments in Tourism ICT Technologies 2004-05 ST- CRC, \$40,000, Chief Investigator.
6. Postgraduate Project Laboratory, Minor works 2003 Vic. Uni., \$69,835, Chief Investigator.
7. Script Development Grant, Australian Film Commission 2002 AFC, \$5,000, Chief Investigator.
8. Super Integration with Asia, Foreign Affairs and Trade 1994-95 DFAT, \$31,500, Chief Investigator.
9. Applications of Shiva Parallel Processor, Def. Sc.&Tech. Org. 1992-93 DSTO, \$62,000, Chief Investigator.
10. Special Research Grant. Australian Research Council 1988-89 ARC, \$9,000, Chief Investigator.

### **Research and Education Collaborations**

1. 2012- Dr. Shailey Minocha, The Open University, UK, Educational Research.
2. 2012- Assoc. Prof. Ahmad Zahedi, James Cook University, Queensland, Australia. Research.
3. 2007- Prof. M. Jarke, RWTH Aachen University, Germany, Education and Research
4. 2006- World Centre for Digital Media Entertainment, Canada, Education
5. 2006- Electronic Commerce Competence Center (EC-3), Vienna, Austria, Research
6. 2005- Mr. KK Lim, CEO, iNavigate, Kuala Lumpur, Malaysia, Industry
7. 2005- Dr. Till Becker, Fraunhofer IAO - University of Stuttgart IAT, Germany, Research
8. 2004- Dr. Ralf Klamma, and Mr. Marc Spaniol, RWTH Aachen University, Germany, Research
9. 2004- Dr. Herwig Rehatschek, Joanneum Research, Graz Austria, Research
10. 2004-2005 Dr Yaj Maduri, Vice Chancellor, Jaypee Univ. of Info. Tech. India, Education and Research
11. 1998-2000 Prof. Sam Hsu, Dept. of CSE., Florida Atlantic University, USA, Education and Research
12. 1999-2000 Prof. Aura Ganz, Elec. & Comp. Eng., Univ. of Massachusetts, USA, Education and Research
13. 1999 Prof. Remigijus Gustas, Dept. of IS, Karlstad University, Sweden, Education
14. 1995-1997 Bureau of Meteorology and Optus Communications, Research
15. 1994-1996 Dr. Vijay Bhatkar, Director, Centre for Dev. of Advanced Computing, India, Industry and Research
16. 1993-1995 Prof. Les Berry, Head, CSE Dept., RMIT University, Research and Education
17. 1991-1994 Prof. Ramamohanarao Kotagiri, The University of Melbourne. Research
18. 1991-1995 Mr. Andre Yakovleff, Defence Science and Technology Organisation, Research

**Student Feedback**

Q. No.	Student Evaluation of Teaching (SET) of Networked Multimedia subject, scored out of 5.0	RCM 5822	RCM 3111
1	With this teacher, I usually have a clear idea of where I am going and what is expected of me.	4.7	4.7
2	This teacher motivates me to do my best work.	5.0	4.7
3	This teacher is willing to put time into commenting on my work.	5.0	4.3
4	This teacher makes a real effort to understand difficulties I am having with my work.	4.7	4.7
5	This teacher normally gives me helpful feedback on how I am going.	5.0	4.5
6	This teacher is extremely good at explaining things.	4.7	5.0
7	<b>This teacher works hard to make the subject interesting.</b>	<b>5.0</b>	<b>5.0</b>
8	<b>This teacher really understands the content of this subject.</b>	<b>5.0</b>	<b>5.0</b>
9	This teacher uses student ideas and comments to improve their teaching.	4.7	4.0
10	<b>Overall, how would you rate the quality of teaching provided by this teacher in this subject?</b>	<b>5.0</b>	<b>5.0</b>

**Student Comments:****Victoria University, Australia:**

- I love this unit.
- Well-presented lectures.
- The practical project is great.
- I enjoyed attending your classes.
- I am very proud to be your student.
- Your subject and lectures are very interesting.
- Whatever I have learnt about multimedia has come from your lectures.
- You are one of the best lecturers that I have come across during my short time at VU

**Florida Atlantic University, USA:**

- Very good metaphors from reality that describe difficult techniques.
- I appreciate your sincere interest in making sure you are being understood.

**Karlstad University, Sweden:**

- Good and inspiring lessons.
- It's been fun – Best Lectures I've ever attended.
- Very good course! I hope you will come back to Sweden.

## Research Statement

Research and creativity permeate all aspects of my life. The main areas of my research over the last four decades have included **Scholarship of Teaching and Learning**, Power Electronics, Parallel Processing, Multimedia, Networked Multimedia and their applications; furthermore, I delve into various scholarly as well as creative areas of knowledge, and look for nexus between them. My research into multimedia authoring has combined knowledge and skills in Computer Science, creative writing, and e-Learning.

The outcomes of my research are internationally recognised. I have been invited to present seminars, keynote addresses and workshops in Austria, Australia, Bangladesh, China, Dubai, Malaysia, Germany, India, Japan, Pakistan, Singapore, Sweden and USA. Research models developed by me have had high international impact leading to research collaborations.

My research projects were funded by Australia's Sustainable Tourism Collaborative Research Centre, these projects investigated the application of Information and Communication Technologies (ICT) to the development of intelligent e-Tourism systems.

## Research History

I earned my Doctorate degree from the Indian Institute of Technology (IIT), Delhi. My Thesis entitled: *Microprocessor control of Three Phase Cycloconverter* developed new techniques for real-time triggering of Thyristors to generate low frequency power from the mains input. This was the first research project world-wide to tackle this hard real-time problem with early microprocessor: the Intel 8085. One of the outcomes of this research was the realisation that parallel processing techniques are required to address such hard real-time problems.

Thus, my research in the late 80s and early 90s focused on parallel processing; tackling even more challenging problems such as image processing. I took the leading role in initiating research in parallel processing, establishing a parallel computer laboratory at VU, and supervised the first set of research student in my department.

Furthermore, I have taken a pioneering role in developing research in Multimedia and Networked Multimedia areas. Through my Movement Oriented Design paradigm has demonstrated leadership in research and creativity at international level. It is particularly significant in its assimilation of knowledge from the Arts, Sciences and Technology disciplines to create a new model of narrative that can be used for authoring and analyse multimedia systems. I am recognised internationally as a leader in these areas, as demonstrated by my nomination as a Fellow of ACM and being designated as *Distinguished Lecturer* by the IEEE Education Society and EU's ProLearn program.

I have supervised over 30 M.Sc. and 6 Ph.D. students. I am constantly looking for new areas of research. Some years ago, I have introduced the area of Usability Studies research in my School and supervised a PhD project in the same.

The impact of these external engagement activities has been to widen the circle of influence for my research activities, particularly taking in the European Union funded research programs such as PROLEARN. To enhance the impact of my external engagement I have continuously strived to enhance the level of interaction in more influential technical forums. I am a regular reviewer of journal and conference papers.

My current research included methods for enhancing student experience and engagement through innovative learning and teaching paradigms, such as: Digital Storytelling, Game-based and Drama-based Learning. My research combines aspects of pedagogy and multimedia networking technology required to provide the desired user experience. Selected publications include:

- Educational Drama (EduRama): An innovative Pedagogical Model for Enhancing Learners' Interest in Mathematics, "The Future of Mathematics Education in a Connected World", Montenegro, Sept. 21–26, 2014.
- The Effectiveness of Digital Storytelling in the Classrooms: A Case Study, 13th IEEE International Conference on Advanced Learning Technologies, Beijing, July 15-18, 2013.

## Teaching Statement

All aspects of my teaching are underpinned by my desire to enhance the educational outcomes of my students, leading to betterment of their lives. Constant improvement in pedagogy is my mission. In his testimonial, Victoria University (VU) Teaching Award winner Dr. Alasdair McAndrew stated, *“I believe my teaching has received a great lift from Nalin’s example.”*

### Student-Centred

My students are at the core of my teaching practice; their needs and aspirations drive the development of my teaching methodology and ongoing improvements that I incorporate in the same. I have taken student feedback regularly and used this feedback to update, modify and enhance course contents as well as delivery methodology. For example, in early 1990s I re-developed subject contents and delivery methodology for Computer Engineering oriented subjects, such as Parallel Processing and Data communications, to make them particularly suitable for Computer Science students at VU.

More recently, I have pioneered the development of content for newer areas such as Multimedia Information Networking, and modernised not only the content, but also the pedagogy that incorporates Problem Based Learning (PBL) to better prepare my students for the real-world.

### Problem-Based Learning

In the early 1990s I wrote the Practical Data Communications book that was used for the practical work in Data Communications subjects. This book gave students well-structured laboratory exercises to practically demonstrate the theory aspects of the course. Subsequently, my text book *Multimedia Information Networking*, Prentice Hall, has been used internationally, including at Florida Atlantic University and for an NFS project by Prof. Aura Ganz, at the University of Massachusetts.

However, with fast changing technology, and the demand for self-motivated graduates, I modelled the practical component of my Multimedia and Networked Multimedia subjects around the PBL paradigm. Students are asked to consider a real-life scenario, find a relevant problem, design experiments, collate data, and draw conclusions about the possible solutions. In this process they also learn to write good project proposals and reports. Students choose their own problems; while they are encouraged to work with others, each student is responsible for solving a problem.

### Real-World relevance

To make the learning process relevant to the real-world, students are encouraged to find an industry client or consider their tutor as a client, to whom they must deliver the promised outcomes, in time, and with best possible presentation. With this process, students learn how to identify a real-life problem, find the solution to the same and deliver it to their client with utmost professionalism. Over the years I have fine-tuned the methodology through which good project management aspects are introduced to the students.

### Teaching History

On gaining my B.Tech. Degree, I began my career as a Field Engineer, and soon became Base Manager with Schlumberger Seaco Inc., a multinational company involved in oil exploration. However, my love for scholarship and learning drew me back to the academic world to do a Ph.D. and follow a research and teaching career. Nonetheless, this industrial experience has been instrumental in adding industry focus to my teaching and research efforts. Before joining Victoria University, I taught at Curtin and Murdoch Universities in Western Australia. I have been invited as Visiting and Adjunct Professor at Florida Atlantic University–USA, Karlstad University–Sweden, Aachen University–Germany, and Jaypee University of Technology–India. At each of these universities I have delivered new courses, which were much appreciated by the students, attracting comments such as, *“Very good course, I hope you will come back to Sweden.”*