

# Curriculum Vitae

**Dr. Nalin Kant Sharda**, Senior Member IEEE, Member ACM, Member IFITT  
Associate Professor, Computer Science and Multimedia  
School of Engineering and Science  
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## Qualifications

- Doctor of Philosophy, Elec. Eng., Indian Institute of Technology (IIT), Delhi, India. 1984
- Bachelor of Technology, Electrical Engineering, 1st Div., IIT Delhi. 1974

## Positions held

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  
Associate Professor, Computer Science and Multimedia, Victoria University. (Current) 1998 –  
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:** Innovative applications of computing systems, Novel Human Computer Interaction methods and Usability testing, Advancing Computing Pedagogy. Networked Multimedia Systems and Applied Informatics including e-Learning, e-Tourism, e-Water. Multimedia Authoring Systems and their application to e-Learning and Virtual Reality.

**Supporting Research Areas:** Semantic Web Technologies, Wireless Multimedia Transmission, Parallel and Distributed Systems, Computer Networks. Understating Student needs and motivations, Innovations in Computing Pedagogy.

## Summary of Teaching

**Subjects developed and taught:** Research Methodology, Ethics in Information Technology and Research, Networked Multimedia Systems, Introduction to Multimedia, Computer Architecture, Computer Networks, Web-Based Learning, Parallel Processing, Computer Aided Engineering, Multi-processor Systems.

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

1 Textbook: *Multimedia Information Networking*, Prentice Hall, 1999, 17 Book Chapters, 16 Journal /LNCS Publications, 50 Conference Publications, 28 Paper / Magazine Articles, 6 Laboratory Manuals, 19 Technical Reports, 31+ International Presentations as Seminars / Short Courses / Workshops / Keynote addresses, 10 Theses Examined, 23+ Conference Committees, 13+ Journal Editorial Boards Memberships. Senior Member of the Institute of Electrical and Electronic Engineers (IEEE), Member of the Association for Computing Machinery (ACM), Member of the International Federation for Information Technology in Tourism (IFITT).  
*Nominated as the Fellow of ACM in 2005.*

## List of Publications, Presentations

### Textbook

1. Nalin Sharda, *Multimedia Information Networking*, Prentice Hall, 1999.

### Book Chapters/ Edited Books/ Manuals:

1. 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.
2. N. Sharda and M. Georgievski, *Codecs for Mobile Multimedia Transmission*, *ibid.*
3. M. Ponnada and N. Sharda, *Transmitting Multimedia Content over 4G Mobile Systems*, *ibid.*
4. M. Georgievski and N. Sharda, *Delivering Quality of Service over Mobile Systems*, *ibid.*
5. 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.
6. M. Ponnada, R. Jakkilinki, N. Sharda, *Tourism Recommender Systems: Current Technology and Future Directions*, *ibid.*
7. 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.
8. N. Sharda, *Multimedia Authoring*, in Encyclopaedia of Multimedia, Furht, Borko (Ed.), Springer, 2006.
9. N. Sharda, *Multimedia Design*, in Encyclopaedia of Multimedia, *ibid.*
10. N. Sharda, *Multimedia Production*, in Encyclopaedia of Multimedia, *ibid.*
11. N. Sharda, *Multimedia Project Planning*, in Encyclopaedia of Multimedia, *ibid.*
12. Sam Hsu, Nalin Sharda, and Oge Marques, *Internet-Based Distance Learning*, Handbook of Internet Computing, CRC Press, 2000.
13. N. Sharda, *Multimedia Networks*, Handbook of Multimedia Computing, CRC Press, 1999.
14. N. Sharda and A. Tam (Editors), *Parallel and Real-Time Systems, Proceedings of the PART'97 conference*, Springer-Verlag, 1997.
15. N. Sharda (Chair Editorial Board), *Parallel and Real-Time Systems, Proceedings of the PART'94 conference*, 1994.
16. N. Sharda, *Information Networking*, 1995. Victoria University. ISBN 0-646-24612-7.
17. N. Sharda, *Practical Data Communications*, 1993. Victoria University. ISBN 1-86272-3044.

### Journal / LNCS Publications:

1. Nalin Sharda, *Digital Storytelling: The Creative and Innovative Ingredient for eLearning*, ACM eLearn Journal, Invited paper, Accepted, due early 2009.
2. Nalin Sharda and Mohan Ponnada, *Tourism Blog Visualiser for Better Tour Planning*, Journal of Vacation Marketing, April 2008, ISSN 1356-7667.
3. 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.)
4. 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. (LNCS), Vol. 4181, Springer-Verlag.
5. 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.
6. Roopa Jakkilinki, Imran Ahmed, and Nalin Sharda, *MUDPY Ontology: An Innovative Tool for Multimedia Project Development*, *ibid.*
7. 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.
8. Nalin Sharda, *Multimedia: The Art, Science and Technology of Creating Meaning*, Readers' Remarks, IEEE MultiMedia, April-June 2004.
9. Nalin Sharda, *Meta-learning with Semantic-web Technologies*, Learning Technology, Volume 5, Issue 4, October 2003, IEEE Computer Society Learning Technology Task Force.
10. 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. (LNCS) Vol. 2783, Springer-Verlag.
11. 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.
12. N. Sharda, *Multimedia Networks: Fundamentals and Future Directions*, Communications of the Association for Information Systems, Volume 1, Article 10, February, 1999.

13. 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.
14. 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.
15. 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.
16. 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. Nalin Sharda, *Workshop Process for Authoring Educational Multimedia Using Movement Oriented Design (MOD)*, ACM Multimedia 2008, Vancouver, BC, Canada; October 27 - November 1, 2008.
2. 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.
3. 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.
4. 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.
5. 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.
6. Nalin Sharda, *Authoring Educational Multimedia Content Using Learning Styles and Story Telling Principles*, *ibid*.
7. Nalin Sharda and Mohan Ponnada, *Tourism Blog Visualiser for Better Tour Planning*, First Annual Conference on Blogs in Tourism, Kitzbuhel, Austria, 12 July 2007. To be published in the Journal of Vacation Marketing.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. Mladen Georgievski, Nalin Sharda, KK Lim, *Mapping the TRAQS Quality of Service Model to the m-Apps Middleware*, *ibid*.
17. 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.
18. 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.
19. 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.
20. 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.
21. Roopa Jakkilinki and Nalin Sharda, *MUDPY Ontology: An Innovative Tool for Multimedia Project Development*, *ibid*.

22. 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.
23. 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.
24. 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.
25. 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.
26. 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. Lect. Notes in Comp. Sc. 2783, Springer-Verlag.
27. 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.
28. 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.
29. 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.
30. 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.
31. 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.
32. N. Sharda, *Multimedia Information Networking*, AIS'98, Association for Information Systems -Americas Conference, August 14-16, 1998, Baltimore, USA.
33. 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.
34. 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.
35. 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.
36. 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.
37. 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.
38. 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.
39. 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.
40. 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.
41. 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.
42. N. Sharda, *Simulation Modeling of a Three Dimensional Parallel Processing System*, Simulation Conference 14, San Diego, California, USA, September 18-20, 1989.
43. 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.
44. 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.
45. 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.
46. 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.
47. 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.
48. N. Sharda, N. K. Jain, R. Mulchandani and R. Arockiasamy, *Microprocessor Based Instrumentation*. Symposium on Industrial Control and Instrumentation, Jaipur, India, Dec. 15, 1978.

49. 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.
50. 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. **Advancing User Experience Research: Towards the next phase of human computer interaction:**
  - Seminar: Dalhousie University, Halifax, Canada, 30 Octobe, 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.
2. **Using Creativity and Innovation for Advancing Digital Media Systems**
  - Seminar: Tata Consultancy Services (TCS), Gurgaon, India, 19 November 2007.
3. **Creativity and Innovation in e-Learning through Digital Storytelling**
  - Seminar: Graduate School of e-Learning, TU Darmstadt, Germany 14 November 2007.
4. **Creativity and Innovation: The Key to Advancing Professional Training**
  - Seminar: Professional Training Facts 2007 Conference, Fraunhofer IZS, Stuttgart, Germany 13 November 2007.
5. **Advancing Movement Oriented Design (MOD)**
  - Workshop: Informatik 5, RWTH Aachen University, Germany, 5 November 2007.
6. **Creating Experience-on-Demand with Systematic Content Capture, Creation, and Consumption**
  - Seminar: Informatik 5, RWTH Aachen University, Germany, 23 August 2007.
7. **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.
8. **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.
9. **Tourism Blog Visualiser for Better Tour Planning**
  - Research Seminars: First Annual Conference on Blogs in Tourism, Kitzbuhel, Austria, 12 July 2007.
10. **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.
11. **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. *Applying Movement Oriented Design to Create Educational Stories*
  - Paper presentation: e-Learning Symposium, Storey Hall, RMIT University, Melbourne, Australia, 3-5 December 2006.
12. **Developing Intelligent Visual Travel Recommender Systems**
  - Seminar: Centre for Hospitality and Tourism Research, Victoria University, 20 Geelong Road, Footscray, 27 November 2006. Presentation
13. **High Flyers Think Tank 2006**
  - Workshop: Innovative technical solutions for water management in Australia. University of Adelaide, South Australia, Monday 30 October 2006.
14. **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.
15. **Introduction to Quality of Service Delivery in Mobile Multimedia Systems.**
  - Tutorial: Enterprise Networking and Services Conference, EntNet 2006, Sept. 11-13, 2006, Vancouver, BC.
16. **Creating Mobile e-Learning Experience-on-Demand.**
  - Lecture: RWTH Aachen University of Technology, Germany, 11 May 2006. Presentation | Notes

17. **Enhancing Learning Outcomes using Educational Stories Developed with Movement Oriented Design (MOD)**
  - 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.
18. **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.
19. **Is Middleware the Killer Application for Mobile Business?**
  - Industry Talk: The Fourth International Conference on Mobile Business, July 11-13, 2005, Sydney, Australia.
20. **Mobile Multimedia Information Transmission**
  - Tutorial: International Conference on Internet and Multimedia Systems and Applications, EuroIMSA2005, Grindelwald, Switzerland, 22 February 2005.
21. **Project and Research Methodology**
  - Short Course: Jaypee University of Information Technology, IIIT Campus, Noida, India, 22-24 December 2004
22. **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.
23. **MUDPY Ontology: An Innovative Tool for Multimedia Project Development**
  - Distinguished lecture: RWTH Aachen University of Technology, Germany, 7 October 2004.
24. **Multimedia Design Fundamentals and Methodologies**
  - Short Course: Jaypee University of Information Technology, IIIT Campus, Noida, India, 26-30 July 2004.
25. **Scientific Research Methodology**
  - Short Course: Jaypee University of Information Technology, IIIT Campus, Noida, India, 20-24 July 2004.
26. **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.
27. **Building a Software Bridge between Australia and India**
  - Seminar: IndiaSoft2004 Conference, Taj Palace Hotel, New Delhi, 10-12 February, 2004.
  - Industry-Institute Synergy for Knowledge Supremacy, 30 Jan, 2004, Bristol Hotel, Delhi.
28. **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.
29. **Enhancing Learning Outcomes with Projects**
  - Seminar: Learning Matters Symposium, Victoria University, 4 December 2003.
30. **The WWW of Ontology: What, Why and hoW**
  - Seminar: Victoria University, Australia, 10 Oct. 2003.
31. **A Holistic Quality of Service Model**
  - Seminar: School of Computer Science and Mathematics, Victoria University, Australia, 20 May 2003.

## **Thesis Examined**

1. 2008 LaTrobe University, Masters Thesis.
2. 2007 University of Tasmania, Masters Thesis.
3. 2007 University of Tasmania, Masters Thesis.
4. 2006 LaTrobe University, Masters Thesis.
5. 2005 LaTrobe University, Masters Thesis.
6. 2004 University of Pretoria, South Africa, Ph.D. Thesis.
7. 2004 RMIT University, Australia, Masters Thesis.
8. 2004 LaTrobe University, Masters Thesis.
9. 1999 RMIT University, Masters thesis.
10. 1998 LaTrobe University, Masters Thesis.

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

1. 2008 International Journal of Informing Science.
2. 2008 The Ninth ACIS Int. Conference on SE, AI, Networking, and Parallel/Distributed Computing
3. 2007 International Conference on Embedded Systems, Mobile Communication and Computing
4. 2007 IEEE/ACIS International Conference on Computer and Information Science
5. 2007 IEEE International Digital EcoSystems Technologies Conference, Cairns, Australia.
6. 2007 International Conference on Internet and Multimedia Systems and Applications, Hawaii.
7. 2007 IEEE/ACIS International Conference on Computer and Information Science, Melbourne.
8. 2006 International Conference on Internet and Multimedia Systems and Applications, Hawaii.
9. 2005 International Conference on Internet and Multimedia Systems and Applications, Switzerland.
10. 2004 First World Congress on Lateral-Computing, Bangalore, India.
11. 2004 International Research Conference on Innovations in Information Technology Dubai.
12. 2004 Sixth Asia Pacific Web Conference, Hangzhou, China.
13. 2004 Tenth International Multi-Media Modelling Conference, Brisbane.
14. 2002-2008 Informing Science & IT Education Joint Conference:
15. 2000 International Conference on Information Technology, USA, IEEE Computer Society.
16. 1999-2008 International Conference on Internet and Multimedia Systems and Applications. IMSA.
17. 1998 IEEE ADCOMP (Advanced Computing) Conference, Pune, India.
18. 1996 First International Conference on Visual Information Systems, VISUAL'96.
19. 1996 Nineteenth Australian Computer Science Conference, ACSC96.
20. 1995 IEEE International Conf. on Algorithms and Architectures for Parallel Processing, Brisbane.
21. 1994-2000 Australasian Parallel and Real-Time Conference, PART'94 to PART2000.
22. 1993 IEEE International Symposium on Parallel and Distributed Computing, Brisbane.

## **Journal and Book Editorial contributions**

1. 2008 Editor-in-Chief, Tourism Informatics: Visual Travel Recommender Systems, Social Communities and User Interface Design, Research book, publisher: IGI Global, due Mid 2009.
2. 2008 Editorial Board member, International Journal of Informing Science.
3. 2007 Editorial Board member, Encyclopedia of Multimedia
4. 2007 Editorial Board member, Encyclopedia of Wireless and Mobile Communications,
5. 2007- Referee: IEEE Transactions on Multimedia.
6. 2007- Referee: The International Journal of Learning.
7. 2000- Editorial board member: International Journal of Computers and Applications, ACTA Press.
8. 2000- Editorial board member: International Journal of Multimedia Tools and Applications, Kluwer.
9. 2004 Editor: Special Series on Multimedia Communications, Informing Science Journal.
10. 2000- Editor: Networked Multimedia area in the Informing Science journal.
11. 1997 Editor: Fourth Australasian Conference on Parallel and Real-Time Systems, PART 97.
12. 1996 Referee: International Journal of Computer and Telecommunications Networking.
13. 1994 Editor: Australasian Conference on Parallel and Real-Time Systems, PART 94.

## **Articles**

1. Artificial Intelligence, Chaos Theory and The Bhagavad-Gita -2, BT, January 2004.
2. Artificial Intelligence, Chaos Theory and The Bhagavad-Gita -1, BT, 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. N. Sharda, *Networked Multimedia*, Online Symposium for Electronics Engineers. October 2000.  
<http://www.techonline.com/osee/>.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. N. Sharda, *A Proposal for Networking the Computer Science Program Laboratories*, Computer Science Program, Murdoch University, 1989.
8. N. Sharda, *A Proposal for Implementing the SRI-NIC Internet Address*, Computer Science Program, Murdoch University, 1989.
9. N. Sharda, *A Proposal For Running The Course 'Computer Studies Project (M407): A Discussion Paper*, Computer Science Program, Murdoch University, 551989.
10. N. Sharda, *A Three Dimensional Computing Structure: Architecture, Applications and Programming*, Technical Report No: SHARDA 19880500, Computer Science Program, Murdoch University, Western Australia, 1988.
11. 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.
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19. 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**

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**

1. TV Water Saver Heroes competition, Runner up, Department of Sustainability and Environment, 2005.
2. Short screenplay: *The Last Plunge*. Second prize, Glen Eira Literary Awards. 2003.
3. Screenplay: *Breaking Free*, \$5000 script development grant, Australian Film Commission (AFC). 2002.
4. Short screenplay: *Birthday Present*, Commended, Glen Eira Literary Awards. 2002.
5. Multimedia stage play: *GRIPE - Conference of God's Representatives for Intellectual Property Enterprise*. Highly Commended, Fellowship of Australian Writers Literary Awards. 2002.
6. Screenplay: *Locked Hearts*, based on The Red Convertible short story. 2001
7. Short story: *The Red Convertible*, Anthology edited by Mitzi Szereto, Cleis Press, San Francisco. 2001.
8. Short story: *Breaking Free*, Commended, Glen Eira Literary Awards. 2001.

## **Research Supervision**

- Mladen Georgievski, Quality of Service in Multimedia Communications, 2007, Ph.D., Principal supervisor
- Wang Ping, Investigations on Streaming Multimedia Systems, 2000, Visiting Scholar, Principal supervisor
- Ivan Jutrisa, Reliable Satellite Broadcast Communication, 1999 Ph.D. Principal supervisor
- Herwig Rehatschek, Application of ATM to Networked Multimedia, 1996 Visiting Scholar, , Principal supervisor
- Savitri Bevinakoppa, Digital Image Compression on Parallel Computers, 1997, Ph.D., Principal supervisor
- Rod White, Parallel Topologies Applied to Digital Transforms, 1995, M.Sc. by Research, Principal supervisor
- 35 M.Sc. Coursework Students in Networking, Multimedia, Semantic Web Technology 1990, Principal supervisor

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

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

## **Research Collaborations**

- 2007- RWTH Aachen University, Germany Germany, Education and Research
- 2006- World Centre for Digital Media Entertainment, Canada, Education
- 2006- Electronic Commerce Competence Center (EC-3), Vienna, Austria, Research
- 2005- Mr. KK Lim, CEO, iNavigate, Kuala Lumpur, Malaysia, Industry
- 2005- Dr. Till Becker, Fraunhofer IAO - University of Stuttgart IAT, Germany, Research
- 2004- Dr. Ralf Klamma, and Mr. Marc Spaniol, Aachen University, Germany, Research
- 2004- Dr. Herwig Rehatschek, Joanneum Research, Graz Austria, Research
- 2004-2005 Dr Yaj Maduri, Vice Chancellor, Jaypee Univ. of Info. Tech. India, Education
- 1998-2000 Prof. Sam Hsu, Dept. of CSE., Florida Atlantic University, USA, Education
- 1999-2000 Prof. Aura Ganz, Elec. & Comp. Eng., Univ. of Massachusetts, USA, Education
- 1999 Prof. Remigijus Gustas, Dept. of IS, Karlstad University, Sweden, Education
- 1995-1997 Bureau of Meteorology and Optus Communications, Research
- 1994-1996 Dr. Vijay Bhatkar, Director, Centre for Dev. of Advanced Computing, India, Industry
- 1993-1995 Prof. Les Berry, Head, CSE Dept., RMIT University, Research and Education
- 1991-1994 Prof. Ramamohanarao Kotagiri, The University of Melbourne. Research
- 1991-1995 Mr. Andre Yakovleff, Defence Science and Technology Organisation, Research

## Student Feedback 2005

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.