

**Dr. Tarun K. Sen**

*Chief Operating Officer, Entigence Corporation, 2010 -  
Associate Dean and Professor of Accounting & Information Systems, Virginia Tech 1985-2010*

**EDUCATION**

- Ph.D. (1985) The University of Iowa, College of Business Administration  
Major: Management Information Systems  
Minor: Computer Science  
Dissertation: *The Effects of Query Response Presentation on Decision Processes*
- M.B.A. (1979) Indian Institute of Management, Bangalore, India  
Major: Marketing  
Minor: Management Information Systems
- B. Tech (1977) Indian Institute of Technology, Kanpur, India  
Major: Mechanical Engineering

**EMPLOYMENT HISTORY**

*Academic Appointments*

- Professor of Accounting and Information Systems (Tenured), Pamplin College of Business, Virginia Tech 1999-2010
- Associate Dean, Graduate and International Programs and Director MBA Programs, Pamplin College of Business, Virginia Tech (2003-06)
- Associate Professor, Department of Accounting and Information Systems, Virginia Tech (1991-99)
- Assistant Professor, Department of Accounting, Virginia Tech (1985-91)
- Teaching Assistant/Research Assistant, Management Sciences Department, University of Iowa (1981-85)

*Corporate Appointments*

- Chief Operating Officer, Entigence Corporation, Vienna, VA (2010-)
- Co-Founder and Director, Entigence Corporation (2002-)
- Co-Founder and Director, Entigence Solutions India Pvt. Ltd. (2010-)
- Materials Management Officer, The Calcutta Electric Supply Corp., India (1979 - 81)
- Programmer Analyst, Tata Motors, India (1979)

**ADMINISTRATIVE ACCOMPLISHMENTS IN ACADEMIA**

- Associate Dean of Graduate and International Programs and Director of the MBA Program at Virginia Tech
- Initiated, designed and launched the Pamplin Executive MBA program in 2003 in the Washington DC area. The program is in its 13<sup>th</sup> year and generates over a million dollars a cohort.
- Initiated, designed and launched the Professional MBA program in Roanoke, Hampton Roads and Blacksburg in 2006
- Initiated, designed and launched the Master of Information Technology program in Mumbai India in 2003, including responsibilities for setting and managing enrollment strategies and targets and managing advertising effectiveness: Virginia Tech's first hybrid degree program outside the US. This led to several other initiatives for Virginia Tech in India.

- Instrumental in developing and delivering one of the first online programs at Virginia Tech – the Master of Information Technology in 1999, now ranked the No. 2 Online Program in the country by US News and World Report.
- Directed the Virginia Tech MBA program, which was #36 in the US and #58 worldwide during my tenure.
- Provided leadership to the College's MBA Advisory board and the College's Advisory Board and was responsible for fund raising for the MBA and International Programs for the College.
- Extensively promoted study abroad programs that resulted in several new global relationships for the college and a record number of Pamplin Business students got international exposure. Administered programs for over 300 students in France, Switzerland, UK, Spain, China, Hong Kong, Japan, South Africa, India, Italy.
- Fostered the development of Joint International Programs with Institut National des Telecommunications Paris, Burgundy School of Business-Dijon, SP Jain Institute of Management and Research and Thunderbird University.
- Responsible for MBA and International programs' budgeting and ranking (such as US News and World Report, Financial Times).
- Assisted the Dean in AACSB reaccreditation renewal and was responsible for the reporting requirements for graduate and international programs for the College.
- Obtained approval from SACS (the university's regional accreditation body) and SCHEV (the university's state statutory authority) for the Master of Information Technology program in India.

### **SCHOLARLY ACHIEVEMENTS**

As a tenured professor of accounting and information systems at the Pamplin College of Business at Virginia Tech since 1985:

- Authored over 30 publications, presented at 25+ national and international conferences, workshops, and forums.
- PI on various federally and privately funded grants and contracts, responsible for managing budgets and expenditures and compliance reporting to sponsors.
- Served as member or chair on 30+ university and international committees.
- Developed and taught 15 courses, and supervised several doctoral students during my academic career.
- Ph.D. in Management Information Systems was on the intersection of information systems, operations research, and organizational behavior. My research continues to be applied and interdisciplinary in nature and is widely published in journals across multiple disciplines.
- While in academia at Virginia Tech developed various decision support systems including a contamination management system for the Department of Energy, a performance management system for Virginia Department of Social Services, and a graph based model management system for managing mathematical models for a broad spectrum of applications.
- Participated in a USAID led workforce capacity expansion project in Information Technology in Armenia. These efforts resulted in an award of an honorary professorship at the Russian Armenian University in Yerevan.
- Promoted academia-industry collaboration through experience that spans verticals across consulting, academia, administration, and entrepreneurship including management and technology consulting, international business, information systems, research and analysis, and quantitative modeling.

## **CORPORATE LEADERSHIP**

As Chief Operating Officer at Entigence Corporation:

- Serve on the Board of Directors since 2002
- Assumed the role of Chief Operating Officer in 2010 with primary responsibility for business strategy, marketing, and finance for Entigence Corporation.
- Lead the development of the performance management practice at Entigence Corporation.
- Helped grow the company from 6 employees to 27 employees between the US and India.
- Co-founded Entigence in Bangalore, India to provide technology support to US operations. This evolved into a highly specialized R&D center capable of developing cloud-based enterprise systems solutions using advanced technologies. Entigence India also provides technology solutions for business data analytics for US clients.
- Set financial metrics and targets, plan budgets, conduct forecasting and monitor progress towards targets and provide recommendations for business strategy.
- Designed and marketed Entigence Corporation's faculty performance management system for universities called Lyterati - a visionary system leading the path to developing enterprise level systems for faculty information and related administrative processes, like annual reporting, promotion and tenure, and maintaining faculty web profiles.
- Oversaw the deployment of Lyterati at the enterprise level at several universities. Provided strategy for the transition from document-based data tracking and administrative processes for faculty information to searchable and reportable transactional information, a much-needed challenging initiative that universities in the US are increasingly adopting. Worked extensively with Provosts (Faculty Affairs), Deans, Department Chairs, and Faculty at several universities to assist in the launching of this disruptive initiative.
- Provided metrics-driven advisory services to C-Level executives in industry to develop strategies for performance management.
- At a Fortune 500 company with revenues of 30B dollars helped design and implement a performance management scorecard for a Sr. VP of an international division who managed the merchant networks.
- For the Chief Operating Officer at a large university helped design and implement a performance management scorecard for all operations under the COO.
- At a for-profit university, helped design the outcomes assessment strategy and implement it.

## **ACCOMPLISHMENTS AS A RESEARCH SCHOLAR**

### **Research Publications**

1. Sen Tarun K. and Parviz Ghandforoush, Radical and Incremental Innovation Preferences in Information Technology: An Empirical Study in an Emerging Economy Journal of Technology Management & Innovation, vol.6 no.4 2011.
2. Parviz Ghandforoush and Tarun K. Sen, A DSS to Manage Platelet Production Supply Chain for Regional Blood Centers. Decision Support Systems, 50(1): 32-42 (2010).
3. Ghandforoush Parviz, Tarun K. Sen, David P. Tegarden, and Ramaswamy R., "Designing Systems Using Business Components: A Case Study in Call Center Automation," International Journal of Electronic Customer Relationship Management, Vol. 4, No. 2, 2010, pp. 161-179.
4. Sen Rummy and Tarun K. Sen, "Steering in Choppy Waters Using Strategic Controls," CFO Connect, Feb 2009, pp. 19-22.
5. Sen Rummy and Tarun Sen, "CFO Dashboards: Strategic Information at Your Fingertips," CFO Connect, June 2008, pp. 25-29.
6. Sen Rummy and Tarun K. Sen, "A Meta Modeling Approach to Designing e-Warehousing Systems," Journal of Organizational Computing and Electronic Commerce, 2005, Vol. 15, No. 4, pp. 295-316.
7. Sen Tarun K., Parviz Ghandforoush, and Charles T. Stivason, "Improving Prediction of Neural Networks: A Study of Two Financial Prediction Tasks," Journal of Applied Mathematics and Decision Sciences, 2004, Vol. 8, No. 4, pp. 219-233.
8. Dutta, Amitava and Tarun K. Sen, "A Business Component-based Approach to e-Business Process Design," in Handbook of e-Business, (eds. P.B. Lowry, J.O. Cherrington, and R.R. Watson) CRC Press, 2002, pp. 443-456.
9. Val, Vendrzyk, Rummy Sen, and Tarun K. Sen, "Accountant's Perceptions in Assessing the Quality of Data Warehouses," Management Accounting Quarterly, Spring 2001, pp. 28-33.
10. Sen, Rummy, Tarun K. Sen, and Val Vendrzyk, "An Assessment and Evaluation of Data Warehouse Quality." Journal of Data Warehousing, 2000, Vol. 5, No. 3, , pp. 31-41.
11. Sen, Tarun K., Laurence J. Moore, and Tracy Hess, "An Organizational Decision Support System for Managing the DOE Hazardous Waste Cleanup Program." Decision Support Systems, 2000, Vol. 29, pp. 89-109.
12. Ghandforoush Parviz, Tarun K. Sen, and Michael Wander, "A Decision Support System for Electric Utilities: Compliance with Clean Air Act," Decision Support Systems, 1999, Vol 26, pp 261-273.
13. Chari, Kaushal and Tarun K. Sen "An Implementation of a Graph-Based Modeling System for Structured Modeling (GBMS/SM)," Decision Support Systems, 1998, Vol. 22, pp. 103-120.
14. Maher, John J. and Tarun K. Sen, "Predicting Bond Ratings Using Neural Networks: A Comparison with Logistic Regression," International Journal of Intelligent Systems in Accounting, Finance, and Management, 1997, Vol. 6, pages 59-72.
15. Sen, T.K. and K. Chari. (Vol. 25, No. 2, 1997) "A Graphical Modeling System: Applications in Organizational Model Management," Omega International Journal of Management Science, 1997, Vol. 25, No. 2, pp. 241-253.
16. Kaushal, Chari and Tarun K. Sen., "An Integrated Modeling System for Structured Modeling Using Model Graphs," INFORMS Journal on Computing, pages, 1997, Vol. 27, No. 4, pp. 397-416.
17. Sen, Tarun K., Robert Oliver, and Nilanjan Sen. "Predicting Corporate Mergers," Neural Networks in the Capital Markets, ed. A.N. Refenes, 1995, Wiley Publications, pp. 325-340.

18. Sen, Tarun K. and Andrew M. Gibbs. "An Evaluation of the Corporate Takeover Model Using Neural Networks," International Journal of Intelligent Systems in Accounting, Finance, and Management, 1994, Vol.3, pp. 279-292.
19. Sen, Tarun. "Diagrammatic Knowledge Representation," IEEE Transactions on Systems, Man, and Cybernetics, 1992, Vol. 22, No. 4, pp. 826-830.
20. Hicks, James O. Jr., Sam A. Hicks, and Tarun K. Sen, "Learning Spreadsheets: Human Instruction vs. Computer-Based Instruction," Behaviour and Information Technology, 1991, Vol. 10, No. 6, pp. 491-500.
21. Baldwin, A. A., D. Baldwin, and T. K. Sen, "The Evolution and Problems of Model Management Research," Omega International Journal of Management Science, 1991, Vol. 19, No. 6, pp. 511-528.
22. Saftner, Donald V., James O. Hicks Jr., and Tarun K. Sen, "Structured Techniques: Systems Productivity Aids Useful to the Accountant," The Ohio CPA Journal, 1991, Vol. 50, No. 2, pp. 41-42.
23. Sen, Tarun and Warren J. Boe, "Confidence and Accuracy in Judgements Using Computer Displayed Information," Behaviour & Information Technology, 1991, Vol. 10, No. 1, pp. 53-64.
24. Jagannathan, Raj and Tarun Sen, "Storing Crossmatched Blood: A Perishable Inventory Model With Prior Allocation," Management Science, 1999, Vol. 37, No. 3, pp. 251-266.
25. Sen, Tarun and Warren J. Boe. "A Study on Graphical Presentation Formats and Information Processing Using Query Tracing," IEEE Transactions on Systems, Man, and Cybernetics, 1990, Vol. 20, No. 1, pages 252-257.
26. Sen, Tarun and James A. Yardley "Are Chargeback Systems Effective? An Information Processing Study," The Journal of Information Systems, 1989, Vol. 3, No. 2, pp. 92-104.

### **Conference Publications**

1. Sen Tarun K., David Tegarden and Reza Barkhi. "Business Component-based Design for Enterprise Systems," Information Resource Management Association Conference Proceedings, Philadelphia, May, 2003.
2. Moore, Laurence J. and Tarun K. Sen. (October 1997) "Issues in DSS Development for the DOE Hazardous Waste Cleanup Program," Proceedings of the S.E. INFORMS Conference, Myrtle Beach, S.C.
3. Sen, Tarun K. and Kaushal Chari. (May, 1996) "Modeling in GBMS/SM," Proceedings of the First INFORMS Conference on Information Systems and Technology, Washington D.C., H. Pirkul and M. Shaw (eds.), pages 90-97.
4. Sen, Tarun K. and Charles T. Stivason. (1994) "Explaining Capital Market Phenomena Using Neural Networks," Workshop on Neural Networks in the Capital Markets, Sponsored by London Business School and Caltech, Pasadena, 15 pages.

### **Work in Progress**

1. Roop Mahajan, Hara Misra, and Tarun K. Sen "Translational Education in an Innovation Focused Economy: A Curricular Framework for Professional Schools."
2. Tarun Sen "Enterprise Systems for Faculty Information in Universities: The Time is Now."
3. Tarun Sen, "Architecture for Multi-Tenanted Cloud Based Enterprise Systems: Lyterati a Case Study."
4. Tarun Sen, "A Framework for Social Marketing Analytics: A Case Study Using Universities"

### **Presentations and Published Proceedings**

1. Tarun Sen and Romy Sen, "Lyterati: A University Faculty Information System", Presented Lyterati to several universities including George Washington University, Case Western Reserve University, Brown University, Harvard University, Princeton University, Santa Clara University, University of Maryland, Brandeis University, American University, Howard University, Lehigh University, The New School among others, 2012-2015.
2. Tarun Sen, "Lyterati", ConnectPreneur Winter Forum, December 10, 2015, Falls Church, Va.
3. Tarun Sen, "Lyterati: An Enterprise Faculty Information System," Association of Institutional Research Forum, 2014, Orlando, FL.
4. Romy Sen and Tarun Sen, "Lyterati, a Platform for Academic Performance Management and Integrated Reporting for Senior Administration," Higher Education Data Warehousing Conference, 2012, University of Texas, Austin.
5. Tarun Sen, "The Impact of Globalization on Higher Education in Business," Consortium of Indian Industries (CII) Seminar, August 2007, Calcutta, India.
6. Tarun Sen, "Impact of Globalization on Higher Education in Business", Virginia, USA – Essex County, UK Economic Development Forum, June 2007, Invited Presentation.
7. Parviz Ghandforoush, Tarun K. Sen and Ramachandran Ramaswamy (2001), "A Components-Based Approach to Designing Customer Relationship Management Systems", INFORMS Conference, Miami.
8. Parviz Ghandforoush and Tarun K. Sen. (2000) "Design of an e-Business Portal for Transportation Planning," INFORMS Conference, San Antonio.
9. Sen, Tarun K. and Laurence J. Moore. (1998) "Quality Assurance of Data Warehouses," INFORMS Conference, Seattle.
10. Altizer, Melesa, Tarun K. Sen, and David Tegarden. (1996) "Gender Differences in Decision Making," Association for Information Systems Conference Proceedings, Phoenix.
11. Sen, Tarun K. and Kaushal Chari. (1995) "A Prototype for a Graphical Structured Modeling System," INFORMS International Conference, Singapore, (invited paper presentation), Abstract Published in Bulletin.
12. Chari, Kaushal and Tarun K. Sen. (1994) "A Graphical Structured Modeling System," DSI National Meeting, Hawaii.
13. Chari, Kaushal and Tarun K. Sen. (1994) "A Graphical Structured Modeling System," TIMS/ORSA Joint National Meeting, Boston, Abstract Published in TIMS/ORSA Bulletin No. 37.
14. Sen, Tarun K., Robert J. Oliver, and Nilanjan Sen. (1992) "Predicting Takeover Targets: A Comparative Study of Neural Networks and Logistic Regression," TIMS/ORSA Joint National Meeting, Orlando, Abstract Published in TIMS/ORSA Bulletin No. 33, Abstract No. WB 4.4, page 123.
15. Sen, Tarun K., Amelia A. Baldwin, and Dirk Baldwin. (1990) "The Evolution and Problems of Model Management Systems Research," TIMS/ORSA Joint National Meeting, Las Vegas, Abstract Published in TIMS/ORSA Bulletin No. 29, Abstract No. MA 5.4, page 2.
16. Hicks, Sam A. and Tarun K. Sen. (1988) "Computer Graphics," Accounting and Auditing Conference, Blacksburg and Virginia Beach.
17. Sen, Tarun K. (1988) "Diagrammatic Knowledge Representation," ORSA/TIMS, Joint National Meeting, Washington D.C., Abstract Published in ORSA/TIMS Bulletin No. 25, Abstract No. WB 24.2, page 254, (invited paper).
18. Hicks, James O. Jr. and Tarun K. Sen. (1986) "Impact of Computer Based Tutorials on Learning," ORSA/TIMS, Joint National Meeting, Miami, Abstract Published in ORSA/TIMS Bulletin No.22, Abstract No. TD 15.3, page 165.
19. Sen, Tarun K. and James A. Yardley. (1986) "Effects of Information Costs on Information Processing," ORSA/TIMS, Joint National Meeting, Atlanta, Abstract Published in ORSA/TIMS Bulletin No. 20, Abstract No. MB 08.2, page 4.

20. Jagannathan, Raj and Tarun K. Sen. (1984) "On the Crossmatched Blood Inventory Model," ORSA/TIMS, Joint National Meeting, Dallas, Abstract Published in ORSA/TIMS Bulletin No. 18, Abstract No. WA 25.1, page 189.
21. Sen, Tarun K. (1984) "The MIS Laboratory: A Pedagogical Tool," Proceedings of the DSI Doctoral Consortium, Toronto, pp. 60-61.
22. Sen, Tarun K., (1984) "Researchable Areas in Management Information Systems," Proceedings of the DSI Doctoral Consortium, Toronto, pp. 28-29

### **Creative Works**

1. GBMS/SM. This is a general purpose graphical model management systems software written in C++, Windows API, and Paradox. User Guide (98 pages). Co-author: K. Chari.
2. EM-50DSS. This is a decision support system software written in Microsoft Access and Visual Basic for DOE's Technology Investment Program for Environmental Management. User Guide (30 pages). Co-PIs: L. Moore and S. Rahman.

### **Research Grants**

1. "On-line Course Development for Advanced Database Management Systems," Amount: \$30,000, 2001, PI: Tarun K. Sen.
2. "On-line Course Development for Information Systems Design and Database Concepts," Amount: \$30,000, 2000, PI: Tarun K. Sen.
3. "Development of the Systems Integration Center", Sponsored by the Center for Innovative Technology, Amount: \$26,000, 1999, PIs: P. Ghandfroush and T. K. Sen.
4. "Development and Implementation of a Decision Support System for Management of DOE's Technology Development Program," Sponsored by Waste Policy Institute, Blacksburg, VA, 1996, Amount: \$155,064. PIs: L. Moore, S. Rahman, and T. Sen.
5. "Infrastructure Development to Establish a Research Program in Decision Support for Hazardous Waste Cleanup," Virginia Tech Aspires Grant, 1997, Amount: \$ 81,950. PIs: L. Moore and T. Sen.

## **DISSERTATION SUPERVISION AND TEACHING ACCOMPLISHMENTS**

### **Dissertations**

1. Robert Phillips, Radford University, "The Effect of Denormalized Schemas on Ad Hoc Query Formulation: A Human Factors Experiment in Database Design," 1989, (member).
2. Bernadette Ruf, University of Delaware, "Decision Making in a Decision Support Systems Environment: An Evaluation of Spatial Ability and Task Structure," 1990, (member).
3. Amelia Baldwin, Auburn University, "The Impact of Expert Systems on Auditing Firms: An Investigation Using the Delphi Technique and a Case Study Approach," 1991, (member).
4. Henry Day, Mt. Olive College, "An Investigation of Software Metrics' Effect on Cobol Program Reliability," 1997, (member).
5. Richard Dull, University of Indiana – Purdue University, "Momentum Accounting and Visualization," 1997, (co-chair).
6. Susan Kruck, James Madison University, "Towards a Theory of Spreadsheet Accuracy: An Empirical Study," 1998, (member).
7. Charles Stivason, Christopher Newport University, "Fundamental Analysis: Varying Environmental Factors, with Neural Networks and a Dual-Layered Genetic Algorithm Approach," 1999, (chair).

8. Melesa Bolt, "The Social Cognitive Model for Computer Training: An Experimental Investigation," 1999, (member).

### **Courses Designed and Taught**

1. Information Systems Design and Database Concepts (on-line course)
2. Advanced Database Management Systems (on-line course)
3. Global e-Business Technology and Strategy
4. Design of e-Business Systems
5. Information Systems Development
6. Management of Information Systems
7. Applied Software Development Project
8. Systems Analysis and Design
9. Human Information Processing
10. Distributed Data Processing
11. Research in MIS
12. Neural Networks
13. Database Management Systems
14. Systems and Information Concepts in Organization

### **Teaching Innovations**

1. Designed and delivered the first Information Systems Design and Database Management Systems online courses for Masters of Information Technology Students in the US and India.
2. Member of the Founding Steering Committee that designed the Virginia Tech Masters of Information Technology Program.
3. Designed a Global MBA Program for the Institute of Global Business Studies and approved by SCHEV.
4. Designed one of the first undergraduate Accounting and Information Systems Curriculum in the US.
5. Designed and delivered several MBA curricula including Executive MBA and Professional MBA curricula for Virginia Tech.

### **SERVICE TO THE PROFESSION**

#### **Editorial Boards, Journal Reviews, and Conference Program Committees**

1. Reviewer, NSF Review Panel, SBIR Grants, 2002-03, 2003-04, 2004-05.
2. Reviewer for *Interfaces*, 2004
3. Program Committee, Third International Conference on Information Systems, Technology and Management, 2009, 10.
4. Program Committee, IRMA Conference, New Orleans, 2004
5. Program Committee, WITS Conference, Barcelona, 2003.
6. Program Committee, 1<sup>st</sup> International workshop "Component Based Business Information Systems Engineering", Switzerland, 2003.
7. Member of the editorial board of *Journal of Information Systems* (a AAA Publication), 1992-97.
8. Reviewer for *Information Systems Research*, 2003
9. Reviewer for *Operations Research*, 2003.
10. Reviewer for *Interfaces*, 2003, 2007.
11. Reviewer for *Decision Support Systems*, 1998.
12. Reviewer for *Omega, The International Journal of Management Science*, 1997.



13. Reviewer for INFORMS Journal of Computing, 1995-97.
14. Reviewer for Annals of Operations Research, 1995.
15. Reviewer for Behavior and Information Technology, 1990.
16. Reviewer for MIS Quarterly, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994.
17. Reviewer for Decision Sciences, (Special Issue on DSS and Expert Systems, 1987).
18. Reviewer for Management Science, 1993-94,97.
19. Reviewer for Database, 1993.
20. Reviewer for International Journal of Intelligent Systems in Accounting, Finance, and Management, 1994-97.
21. Reviewer for International Journal of Computational Intelligence and Organizations, 1996.

### **Centers**

Co-Director e-Business Systems Integration Center (1999 - 2003)

- Founded the research center to promote industry collaboration
- Obtained sponsorship from CIT and KPMG Consulting
- Established corporate board of advisors
- Organized several speaking engagements by industry leaders
- Chaired and organized a conference on "Data warehousing for Competitive Advantage"
- Chaired and organized a CIO forum on "Strategies for e-Business Systems"
- Established industry contacts for program development

### **Management Development Programs and Workshops**

- USAID CAPS IT Workforce Development Project, Yerevan, Armenia, June and October 2010, Russian Armenian University (co-sponsor)
- Seminar on "Global e-Business Technology and Strategy" at Thunderbird University's Winterim Program in Washington D.C. on U.S. Foreign Economic Policy and the New Global Environment, January 2001.
- Workshops on "Design of Enterprise Systems" Real Estate Assessment Center, Department of Housing and Urban Development, Washington D.C., November-December 1999.
- Two-day Management Development Workshop on "Database Concepts for End-Users and Managers," at The Northern Virginia Center, Dec 3-4, 1998.
- Co-chaired and Organized a Conference on "Data Warehousing for Competitive Advantage," at the Northern Virginia Center, November 6, 1998
- Executive Management Development Seminar (Introduction to MBA) on "Management of Information Technology," Fairview Marriott, April 30, 1998, October 22, 1998, Richmond Hyatt, October 21, 1998.
- Two-day Management Development Workshop on "Database Design Concepts for Information Systems Managers," at The Northern Virginia Center, October 16-17, 1997.
- "Modeling for Databases and Data Warehouses: An Application in Environmental Management", Presented at Mitretek Corp., Mclean VA, October 20, 1997.
- One-day workshop on "The Internet and the World Wide Web" at the Trends in the Education of Accountants Conference, Blacksburg, Oct. 26, 1995 (with S. Nutt and D. Tegarden).
- Two-day workshop on "Introduction to Database Terminology" for the U.S. Navy, Crystal City, VA, June 9-10, 1988.

### **University Committee Assignments**

1. Member, Curriculum Committee, Georgetown University – Virginia Tech Biotechnology Development and Management Program, 2008, 2009, 2010
2. Chair, Planning Committee, NCR MBA Program 2007-2008, 2008-09, 2009-10
3. Member Accounting and IS Dept. P&T Committee 2000-08
4. Member, India Initiative Steering Committee, 2006-08
5. Member, International Strategic Directions Team 2003-04
6. Member, University Council on International Affairs, 2003-06
7. Co-chair, International Programs Committee, 2003-06
8. Co-chair, MBA Advisory Committee, 2003-06
9. Co-chair, Graduate Curriculum Committee, 2003-06
10. Member, College Commencement Committee, 2003-06
11. Member, Exemplary Department Awards Committee, 2003-07
12. Member, CESA Stakeholders Committee, 2003-06
13. Member, University Graduate Curriculum Committee, 2003-06
14. Chair, Accounting Information Systems Committee, 1987-90, 1995, 1996-97.
15. Member, Accounting Information Systems Committee, 1985-87, 1990-97.
16. Member, Internship Committee, 1986-88.
17. Member, Trends in the Education of Accountants Conference Committee, 1985-89, 1990-92, 1995-1997.
18. Member, Master of Accountancy Committee, 1987-89.
19. Member, Seminar Committee, 1989-90, 1994, 1996-97.
20. Member, Joint Ph.D. Program in IS Committee, 1989-90.
21. Member, Ph.D. Program Committee, 1990-97, 2002-03.
22. Member, Accounting and Auditing Conference Committee, 1992-94.
23. Member, College Multi-Cultural Diversity Committee, 1992-97.
24. Chair, College Multi-Cultural Diversity Committee, 1994-97.
25. Member, Promotion and Tenure Committee, 1992-03.
26. Chair, MBA Program Outreach Committee (Northern Virginia Center), 1998-99.
27. Member, MBA Program Committee (Northern Virginia Center), 1998.
28. Member GPIT Steering Committee, 1999-2003.
29. Member, Pamplin MBA Advisory Committee, 2002-03.

### **Consulting Engagements**

Representative sample includes the following:

- **American Express:** Developed a performance management scorecard for global network operations, an international division responsible for the network of commercial clients for all American Express' charge and credit card business. 2011.
- **George Washington University:** Helped implement Lyterati, a university wide faculty information system for annual reporting and promotion and tenure. Helped implement GW Expert Finder to enable dynamic search for faculty expertise. 2012-2015.
- **University of Maryland:** Helped develop the taxonomy to structure information required for Lyterati. Assisted in the implementation of the faculty information system for over 3600 tenure track and non-tenure track faculty. 2013-2015.

- **The New School:** Assisted in developing the taxonomy for an enterprise level faculty information system for the university. Helped structure the information gathering process for faculty in the creative arts. 2015.
- **Howard University:** Developed performance management metrics for the COO's office that included 13 major operations of the university. 2011.
- **Strayer University:** Outcomes assessment strategy and implementation for the university. 2011.
- **Strayer University:** Provided services for analysis of NPS (NetPromoter Scores) for assessing constituent satisfaction and performance benchmarks including identification of key drivers and related dependencies impacting performance metrics. 2009-10.
- **USAID:** Technology Workforce Development in collaboration with Russian Armenian University, Yerevan Armenia. Designed and delivered information technology courses in Yerevan, Armenia. – 2008-2009.
- **Walden University:** Doctoral Program Development, 2009.
- **SP Jain Institute of Management and Research, India.** Delivered several courses in their Mumbai campus. 2003-2007.
- **VA Dept. of Social Services:** Development of a DSS application for evaluation of performance of social programs. 2002.
- **Mitretek:** Workshop titled Modeling for Databases and Data Warehouses: An Application in Environmental Management, McLean VA, October 20, 1997.
- **HUD:** Workshops titled Design of Enterprise Systems Real Estate Assessment Center, Department of Housing and Urban Development, Washington D.C., November-December 1999.
- **CIT:** Development of the Systems Integration Center, Sponsored by the Center for Innovative Technology. 1999
- **US Department of Energy:** Development and Implementation of a Decision Support System for Management of DOE's Hazardous Waste Cleanup. 1996.
- **US Navy:** Workshop titled Introduction to Databases. Crystal City, VA, June 9-10, 1988.

#### **HONORS AND AWARDS**

- Professor Emeritus of Accounting and Information Systems, Virginia Tech 2010
- Honorary Professor, Russian Armenian University, 2009
- INFORMS ORSA Meritorious Service Award 2003
- Teaching Award, Pamplin MBA Program, 1998
- Pamplin Summer Research Grant, 1990, 1993, 1995, 1998.
- Ponder Dissertation Proposal Competition (1984-85), First Prize,
  - Management Sciences Department, University of Iowa
- Ponder Fellowship, 1982-83, 1983-84, 1984-85
  - University of Iowa
- Summer Research Grant, 1984, Management Sciences Department, University of Iowa