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ASSOCIATE PROFESSOR OF INFORMATION SYSTEMS
EVERT MCCABE FACULTY FELLOW

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Education

Ph.D. in Business Administration, University of Washington, August 2000
Ph.D. in Physics, University of Washington, June 1993
M.S. in Physics, University of Washington, October 1988
B.S. in Physics, University of Science and Technology of China, July 1987

Research Interests

Electronic commerce
Software engineering
Economics of information systems
Telecommunications

Research Topics

Peer-to-peer network evolution
Social networks
Open source software development
Information security
Digital content distribution channels
Economics of Internet interconnectivity
Online trust management
Pricing of Internet services

Publications

1. "Analysis of a Least Recently Used Cache Management Policy for Web Browsers," with V.S. Mookerjee, *Operations Research*, 50(2), 345-357, 2002.
2. "Optimal Processing Policies for an E-Commerce Web Server," with V.S. Mookerjee and K. Moinzadeh, *INFORMS Journal on Computing*, 17(1), 99-110, 2005.
3. "Evaluation and Design of Online Cooperative Feedback Mechanism for Reputation Management," with M. Fan and A.B. Whinston, *IEEE Transactions on Knowledge and Data Engineering*, 17(2), 244-254, 2005.
4. "Comparing Uniform and Flexible Policies for Software Maintenance and Replacement," with V.S. Mookerjee, *IEEE Transactions on Software Engineering*, 31(3), 238-255, 2005.
5. "Economic Control and Inspection Policies for High-Speed Production Systems," with K. Moinzadeh, *IIE Transactions*, 37(8), 711-724, 2005.
6. "Allocating Spending between Advertising and Information Technology in Electronic Retailing," with V.S. Mookerjee, *Management Science*, 51(8), 1236-1249, 2005.
7. "An Economic Analysis of Interconnection Arrangements Between Internet Backbone Providers," with I.R. Chiang and V.S. Mookerjee, *Operations Research*, 54(4) 776-788, 2006.

8. "Analyzing Document Duplication Effects on Policies for Browser and Proxy Caching," with Y. Ji and V.S. Mookerjee, *INFORMS Journal on Computing*, 18(4) 506-522, 2006.
9. "Pricing Communication Services with Delay Guarantee," with Z. Zhang and D. Dey, *INFORMS Journal on Computing*, 19(2) 248-260, 2007.
10. "Price and QoS Competition in Communication Services," with Z. Zhang and D. Dey, *European Journal of Operational Research*, 187(3) 871-886, 2008.
11. "Analysis of Scale Effects in Peer-to-Peer Networks," with Y.-M. Li and Y.-P. Zhou, *IEEE/ACM Transactions on Networking*, 16(3) 590-602, 2008.
12. "Diffusion Models for Peer-to-Peer (P2P) Media Distribution: On the Impact of Decentralized, Constrained Supply," with K. Hosanagar and P. Han, *Information Systems Research*, forthcoming.
13. "An Admission-Control Technique for Delay Reduction in Proxy Caching," with C. Kaya, G. Zhang and V.S. Mookerjee, *Decision Support Systems*, forthcoming.
14. "Service Differentiation and Price Competition in Web Services," with Z. Zhang and D. Dey, *Decision Support Systems*, forthcoming.

Conference Papers

1. "Diffusion of User-Generated Content in a Social Network Structure," with J. Oh and A. Susarla, *Proceedings of ICIS 2008*, forthcoming.
2. "Making Money with Free Software? Sampling Implications of Software Market," with Y.J. Lee, *Proceedings of CIST 2008*.
3. "Social Capital, Structural Holes and Team Composition: Collaborative Networks of the Open Source Software Community," with P.V. Singh and V.S. Mookerjee, *Proceedings of ICIS 2007*.
4. "An Empirical Study of Software Sampling: Categorical Heterogeneity and Vendor Strategy," with Y.J. Lee, *Proceedings of WITS 2007*, 73-78, 2007.
5. "Digital Content Diffusion in a Social Network Structure," with J. Oh and A. Susarla, *Proceedings of WEB 2007*.
6. "Quality of Service Feedback and Intra-organization Coordination for E-retailers," with J. Oh and V.S. Mookerjee, *Proceedings of WEB 2007*.
7. "Determinants of Open Source Software License Choice: A Social Influence Perspective," with P.V. Singh, C. Phelps, and M. Fan, *WISE 2007*.
8. "Planning to First Release: A Conditional Hazard Function Approach for Investigating Open Source Software Development Time," with P.V. Singh, *Proceedings of WITS 2006*, 127-132, 2006.
9. "Optimal Timing of Dynamic Requirement Reviews for Software Development Process," with M. Fan and Y. Ji, *Proceedings of WITS 2006*, 139-144, 2006.
10. "Optimal Patching Effort against Internet Worms," with G. Zhang and K. Kannan, *Proceedings of WITS 2006*, 151-156, 2006.
11. "Stability and Efficiency of Communications Networks in Open Source Software Development," with P.V. Singh, *Proceedings of WITS 2005*, 177-182, 2005.
12. "Optimal Rebating Strategies in Peer-to-Peer Content Distribution," with P. Han and K. Hosanagar, *Proceedings of ICIS 2005*, 673-687, 2005.
13. "Dynamic Pricing for Technology Upgrades in Telecommunication Industry," with P. Han and J. Peng, *Proceedings of ICEC*, 254-260, 2005.
14. "The Spread of Internet Worms and the Optimal Patch Release Strategies," with P. Han, *Proceedings of AMCIS-11*, 3283-3291, 2005.
15. "On the Formation of Peer-to-Peer Networks: Self-Organized Sharing and Groups," with Y.-M. Li and P. De, *Proceedings of ICIS 2004*, 493-503, 2004.
16. "Diffusion of Digital Products in P2P Networks," with P. Han and K. Hosanagar, *Proceedings of ICIS 2004*, 505-515, 2004.
17. "Optimal Duplication in Cooperative Web Caching," with K. Hosanagar, *Proceedings of WITS 2004*, 92-97, 2004.

18. "Pricing Peer-to-Peer Networks: Content Provision and Search Intermediary," with Y.-M. Li and P. De, *Proceedings of WITS 2004*, 194-199, 2004.
19. "Optimal Rebating Strategies in P2P Diffusion," with P. Han and K. Hosanagar, *Proceedings of WITS 2004*, 188-193, 2004.
20. "On the Scale of Peer-to-Peer Network," with Y.-M. Li and Y.-P. Zhou, *Proceedings of WITS 2003*, 13-18, 2003.
21. "Price and Quality Competition in Data Networks under Delay Guarantee," with Z. Zhang, *Proceedings of WITS 2003*, 139-144, 2003.
22. "Optimal Peering Strategies for Internet Service Providers," with I.R. Chiang and V.S. Mookerjee, *Proceedings of WITS 2001*, 163-168, 2001.
23. "Balancing Marketing and Information Technology," *Proceedings of WITS 2000*, 151-156, 2000. (Best paper nomination)
24. "Optimal Software Maintenance and Replacement Policies," with V.S. Mookerjee, *Proceedings of WITS 99*, 216-221, 1999.
25. "Pricing Strategy for Priority-Based Networks," with D. Dey, *Proceedings of WITS 99*, 117-122, 1999.

Presentations

1. "Research and Publishing in Information Systems," Advanced Training Program on Economic and BA Research and Publishing, Department of Economics, University of Washington, August 2008.
2. "Developer Learning Dynamics in Open Source Software Projects," School of Management, University of Texas at Dallas, February 2008.
3. "Social Networks: Theory and Applications," A tutorial given at the INFORMS Annual Meeting, Seattle, November 2007.
4. "Social Capital, Structural Holes and Team Composition: Collaborative Networks of the Open Source Software Community," School of Management, Sun Yat-Sen University, July 2007.
5. "Developer Learning Dynamics in Open Source Software Projects: A Hidden Markov Model Analysis," Krannert School of Management, Purdue University, April 2007 (John and Cheryl Coffin Academic Speaker Series).
6. "An Economic Analysis of Interconnection Arrangements Between Internet Backbone Providers," presented at
 - Tepper School of Business, Carnegie Mellon University, April 2005;
 - University of Alberta, April 2005.
7. "Optimal Duplication in Cooperative Web Caching," December 2004, *WITS 2004*, Washington D.C.
8. "Pricing Peer-to-Peer Networks: Content Provision and Search Intermediary," December 2004, *WITS 2004*, Washington D.C.
9. "Interconnection at Congested Internet Backbones," November 2002, *INFORMS*, San Jose.
10. "Balancing Marketing and Information Technology," December 2000, *WITS 2000*, Brisbane, Australia.
11. "Optimal Policies for Software Maintenance and Replacement," December, 1999, *WITS 99*, Charlotte, North Carolina.
12. "Pricing Strategy for Priority-Based Networks," December, 1999, *WITS 99*, Charlotte, North Carolina.
13. "Analysis of an LRU-Based Caching Policy in Web Browsers," October, 1998, *INFORMS* Conference, Seattle, Washington.
14. "Value Based Design of Electronic Commerce Servers," presented at:
 - The Wharton School, February, 2000;
 - Carnegie Mellon University, February, 2000;

- University of Texas at Dallas, January, 2000.

Teaching Interests

Systems Analysis and Design
Telecommunications
Programming Languages
Database and Knowledge Management

Teaching Experience

MSIS 503 – Programming Business Logic
Graduate course (for MS in Information Systems Program) on programming.
MSIS 522 – Analysis, Modeling and Design
Graduate course (for MS in Information Systems Program) on management of information systems development.
IS 579 – Information Systems Research Topics
Doctoral Seminar focused on current research topics in information systems
IS 461 – Systems Implementation
Undergraduate course on building interactive Facebook applications.
IS 460 – Systems Analysis and Design
Undergraduate course on systems development.
IS 423 – E-Commerce Systems Development
Undergraduate course on developing E-Commerce Systems using C# and Java.
IS 320 – Fundamentals of Application Programming
Undergraduate course on programming using Visual Basic.

Professional and Research Experience

Information Systems Department, Western Wireless Corporation, Issaquah, Washington
Programmer and Analyst, 1996
Mathematical Physics Group, University of Strathclyde, Glasgow, United Kingdom
EPSRC Postdoctoral Research Fellow, 1994 - 1995
Laboratoire de Physique Quantique, Université Paul Sabatier, Toulouse, France
Visiting Scientist, 1993 - 1994
Theoretical Condensed Matter Physics Group, University of Washington, Seattle
Research Associate, 1989 - 1993
Nuclear Physics Lab, University of Science and Technology of China, Hefei, China
Research Assistant, 1986 - 1987

Honors

Evert McCabe Faculty Fellowship, University of Washington Business School, 2007–
Ph.D. Program Mentoring Award, University of Washington Business School, 2007
Dean's Faculty Research Award, University of Washington Business School, 2006
Dean's Junior Faculty Research Award, University of Washington Business School, 2005
Undergraduate Professor of the Year in Information Systems,
University of Washington Business School, 2005
Lex N. Gamble Family Award for Excellence in the Field of E-Commerce,
University of Washington Business School, 2003
Neal and Jan Dempsey Faculty Fellowship,
University of Washington Business School, 2003–2007
Tyler Scholarship, University of Washington Business School, 1999–2000
Edna Benson Fellowship, University of Washington Business School, 1999
Dean's Achievement Award, University of Washington Business School, 1998

EPSRC Postdoctoral Research Fellowship, United Kingdom, 1993–1995
Yilida Prize for excellence in undergraduate research on experimental sciences,
University of Science and Technology of China, 1987

Professional Activities

Associate Editor: *Management Science*
Associate Editor: *Information Systems Research*
Editorial Review Board Member: *Journal of Database Management*
Editorial Board Member: *International Journal of Management Science and Engineering Management*

Faculty Mentor

Doctoral Internationalization Consortium in Information Systems, Seattle, 2005

Track Co-Chair

7th International Conference on Electronic Commerce, Xi'an, China, 2005

Program Committee Member

10th Workshop on Information Technologies and Systems, Brisbane, 2000
11th Workshop on Information Technologies and Systems, New Orleans, 2001
12th Workshop on Information Technologies and Systems, Barcelona, 2002
13th Workshop on Information Technologies and Systems, Seattle, 2003
14th Workshop on Information Technologies and Systems, Washington DC, 2004
15th Workshop on Information Technologies and Systems, Las Vegas, 2005
16th Workshop on Information Technologies and Systems, Milwaukee, 2006
17th Workshop on Information Technologies and Systems, Montreal, 2007
1st China Summer Workshop on Information Management, Shanghai, China, 2007
2nd China Summer Workshop on Information Management, Kunming, China, 2008
4th Workshop on e-Business, Las Vegas, 2005
5th Workshop on e-Business, Milwaukee, 2006
6th Workshop on e-Business, Montreal, 2007
7th IFIP WG 8.1 International Workshop on Evaluation of Modeling Methods in Systems Analysis and Design, Toronto, 2002
8th IFIP WG 8.1 International Workshop on Evaluation of Modeling Methods in Systems Analysis and Design, Velden, Austria, 2003
10th IFIP WG 8.1 International Workshop on Evaluation of Modeling Methods in Systems Analysis and Design, Porto, Portugal, 2005

Local Arrangement Chair

13th Workshop on Information Technologies and Systems, Seattle, 2003

Committee Activities

Member, B.A. Faculty Council, 2007 –
Member, New Building Classroom Design Subcommittee, 2007 – 2008
Chair, Undergraduate Information Systems Curriculum Review Committee, Department of Information Systems and Operations Management, 2006 –
Member, Undergraduate Program Committee, Business School, 2006 – 2007, Autumn 2007
Member, Finance Department Chair Search Committee, Business School, 2006
Member, IT Policy Committee, Business School, 2005 –
Member, OM Recruiting Committee, Department of Management Science, 2005-2006
Chair, Undergraduate Information Systems Curriculum Review Committee, Department of Management Science, 2004

Chair, Doctoral Program Review Committee, Department of Management Science, 2002
Member, Management Science Department Chair Search Committee, 2002
Co-Chair, IS Recruiting Committee, Department of Management Science, 2002-2003
Member, Doctoral Program Committee, Business School, 2001-2005
Member, IS Recruiting Committee, Department of Management Science, 2000-2001, 2001-2002

Doctoral Dissertation Committee

Chair, Doctoral dissertation committee: Lu Yan, 2008 –
Chair, Doctoral dissertation committee: Young Jin Lee, 2007 –
Chair, Doctoral dissertation committee: Param Vir Singh (now Assistant Professor at the Tepper School of Business, Carnegie Mellon University), 2006 – 2008
Chair, Doctoral dissertation committee: Cath Jeong-ha Oh, 2005 –
Co-Chair, Doctoral dissertation committee: Grace Guoying Zhang (now Assistant Professor at the Midwestern State University), 2005 – 2007
Chair, Doctoral dissertation committee: Peng Han (now with aQuantive/Microsoft), 2003 – 2006
Chair, Doctoral dissertation committee: Yung-Ming Li (now Assistant Professor at the National Chiao Tung University), 2003 – 2005
Member, Doctoral dissertation committee: Aussadavut Dumrongsiri (Operations Management), 2005 – 2008
Member, Doctoral dissertation committee: Conglei Zhang (Information Systems), 2003 –
Member, Doctoral dissertation committee: Mustafa Gurbuz (Operations Management), 2003 – 2006
Member, Doctoral dissertation committee: Pisun Xu (Finance), 2002 – 2006
Member, Doctoral dissertation committee: Zhongju Zhang (Information Systems), 2001 – 2003
Graduate School Representative, Aaron Finkle (Economics), 2003 – 2004
Graduate School Representative, Anson Hatch (Bioengineering), 2003 – 2004

Reviewer

Management Science, Information Systems Research, Operations Research, Marketing Science, INFORMS Journal on Computing, MISQ, EJOR, Information Technology and Management, Decision Support Systems, ICIS, WITS

Other Publications (Physics)

1. “Hall effect and geometric phases in Josephson junction arrays,” Ping Ao, Yong Tan, and X. M. Zhu, *Czechoslovak Journal of Physics*, v46, supplement 2, 589-590 (1996).
2. “Effects of geometric phases in Josephson junction arrays,” X. M. Zhu, Yong Tan, and Ping Ao, *Physical Review Letters*, v77, 562-565 (1996).
3. “Lattice calculation of de Haas-van Alphen oscillations,” Robert Fleckinger, Miguel Gusmão, Yong Tan, and Timothy Ziman, *Proceedings of the Physical Phenomena At High Magnetic Fields-II Conference*, edited by Z. Fisk, *et al*, (World Scientific, Singapore), p 776-781, (1996).
4. “Novel de Haas-van Alphen oscillation at half filling,” Yong Tan and T. Ziman, *Proceedings of the Physical Phenomena At High Magnetic Fields-II Conference*, edited by Z. Fisk, L. Gor'kov, D. Meltzer, and R. Schrieffer, (World Scientific, Singapore), p 110-115, (1996).
5. “Total bandwidth for the Harper equation: Corrections to renormalization analysis,” Yong Tan, *Journal of Physics A: Mathematics and General*, v28, 4163-4173 (1995).
6. “Localization and quantum Hall effect in a two dimensional periodic potential,” Yong Tan, *Journal of Physics: Condensed Matter*, v6, 7941-7954 (1994).
7. “Quantum magnetotransport of a periodically modulated two-dimensional electron gas,” Yong Tan, *Physical Review B*, v49, 1827-1835 (1994).
8. “Total energy for fermions on a two-dimensional lattice in a magnetic field,” Yong Tan and D. J. Thouless, *Physical Review B*, v46, 2985-2994 (1992).
9. “Scaling, localization and total bandwidths for equations with competing periods,” D. J. Thouless and Yong Tan, *Physica A*, v177, 567-577 (1991).

10. "Total bandwidth for the Harper equation: III. Corrections to scaling," D. J. Thouless and Yong Tan, *Journal of Physics A: Mathematics and General*, v24, 4055-4066 (1991).
11. "The angular distribution of photons in ortho-positronium three photon decay," B. Yang, Yong Tan, X. Tang, and Z. Bian, *High Energy Physics and Nuclear Physics (China)*, v13, 487-489 (1989).

Other Academic Activities (Physics)

Conference Presentations

1. "Localization in quantum Hall effect: statistics of Chern integers," June 1995, Nordita conference on The Physics of The 2D Electron Gas, Copenhagen, Denmark.
2. "Novel de Haas-van Alphen oscillation at half filling," May 1995, Conference on Physical Phenomena At High Magnetic Fields-II, Tallahassee, Florida.
3. "Quantum Hall effect in a periodic potential: Motion of Chern integers," June 1994, *ESPIRIT* Euroconference and workshop on quantum Hall effect, Torino, Italy.
4. "Scaling of total bandwidth for the Harper equation," March 1994, Laboratoire de Physique Quantique, Toulouse, France.
5. "Localization and quantum Hall effect in a two dimensional periodic potential," 1993 APS March Meeting, Seattle, Washington.
6. "Total energy for two dimensional lattice fermions in a magnetic field," 1992 APS March Meeting, Indianapolis, Indiana.

Teaching

Taught a graduate-level course on Statistical Field Theory and Solid State Physics, 1995, Physics Department, University of Strathclyde, Glasgow, United Kingdom.