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CURRENT AFFILIATIONS

- **Director of Academic Affairs**, Institute for Collaboration Science, University of Nebraska at Omaha.
- **Associate Professor of Systems Engineering**, Faculty of Technology, Policy and Management, Delft University of Technology, the Netherlands.

EDUCATION

- Ph.D. Management Information Systems. Minor in Communication. University of Arizona. 1994. Dissertation: The Focus Theory of Group Productivity and its Application to the Design, Development, and Testing of Electronic Group Support Technology.
- M.B.A., Information Systems emphasis, San Diego State University 1987. Masters Thesis: The Attitudes of San Diego Area IS Managers Towards Expert Systems.
- B.S. Information Systems, San Diego State University 1986, Magna Cum Laude.
- B.A. Art History, San Diego State University 1986, Magna Cum Laude.

RESEARCH

Ranked 16th among IS researchers worldwide on research productivity, 1999-2003 (See Hsieh-Hong Huang & Jack Shih-Chieh Hsu. "An Evaluation Of Publication Productivity In Information Systems: 1999 TO 2003." Communications of the Association for Information Systems Volume 15, 2005, 555-564).

Ranked 38th among IS researchers worldwide on publication productivity 1991-1997 (See Im, K.S., Kim, K.Y. and Kim, J.S. (1998). A Response to "Assessing Research Productivity: Important But Neglected Considerations," Decision Line, September/October, pp. 12-15.)

I study the cognitive foundations of collaboration and apply my findings to the design and deployment of new collaboration processes and technologies in the workplace.

- **Theoretical contributions:** Derived theoretical models for group productivity, creativity, satisfaction, ideation, goal congruence, consensus building, value creation, and organizational transition-of-practice working with colleagues from a number of universities (e.g. University of Arizona, DePaul, Erasmus, Henley Management College, Brigham Young University, San Diego State University, University of Nebraska at Omaha, Delft University of Technology, Hong Kong University of Science and Technology)
- **Engineering contributions:** Co-invented the thinkLets concept; currently developing formalized modeling conventions for thinkLets. Co-founder of the emerging field of Collaboration Engineering, a structured approach to the design and deployment of repeatable, predictable collaboration processes for high-value recurring tasks
- **Technical contributions:** Co-invented the collaborative molecules architecture for group support systems. Realized the architecture by creating the conceptual designs for GroupSystems II, a recently-released commercial product. Invented the ActiveMethod

concept – collaborative applications that package facilitator interventions, making them available to non-facilitator practitioners of high-value recurring tasks. Co-invented the Universal Data Model and six other technical advances for client-server systems for which patents have been applied. Realized these elements in GroupSystems II. Conceived and created conceptual and UI Designs for AMStudio, a rapid development environment for non-programmers to create customized ActiveMethod applications for high-value recurring tasks.

PUBLICATIONS

Refereed Journal Papers

1. Gruenbacher, P., Seyff, N., Briggs, R.O., In, H.P., Kitapci, H., and Port, D. Making every student a winner: The WinWin approach in software engineering education. *Journal of Systems Science*. In Press.
2. Briggs, R.O., Reinig, B.R., and Vreede, G.J. de. Meeting Satisfaction for Technology Supported Groups: An Empirical Validation of a Goal-Attainment Model. *Small Group Research*. In Press
3. Briggs, R.O. On Theory Driven Design and Deployment of Technology. *International Journal of Human-Computer Studies*. In Press
4. Qureshi, Sajda; Briggs, R.O. & Hlupic, Vlatka. Convergence of Knowledge Management and Collaboration in the Intellectual Bandwidth Model. *Group Decision and Negotiation*. In Press.
5. Zhang, D., Zhou, L., Briggs, R.O., and Nunamaker, J.F. Jr. Instructional Video In E-learning: Assessing the Impact of Interactive Video on Learning Effectiveness. *Information and Management*, 43(1), 2006, pp. 15–27.
6. Kolfschoten, G. L.; Briggs, R. O.; Vreede, Gert-Jan de; and Appelman, J.H. Conceptual foundation of the ThinkLet concept for Collaboration Engineering. *International Journal of Human-Computer Studies*, 64(7) pp. 611-627.
7. Vreede, G.J de; Kolfschoten, G.L., and Briggs, Robert O. ThinkLets: A Collaboration Engineering Pattern Language. *International Journal of Computer Applications and Technology*. *Int. J. Computer Applications in Technology*, 25(2/3), 2006, pp. 140-154.
8. Davison, R., Vreede, G.J., and Briggs, R.O. On Peer Review Standards for the Information Systems Literature. Submitted to *Communications of the Association of Information Systems*. 16(49), pp. 967-980, 2005.
9. Agres, Andres; Vreede, G.J. de; and Briggs, R.O. A Tale of Two Cities: Case Studies of Group Support Systems Transition. *Group Decision and Negotiation*. In Press.
10. Santanen, E. L. , Briggs, R.O. and Vreede, G.J. de. Causal Relationships in Creative Problem Solving: Comparing Facilitation Interventions for Ideation. *Journal of MIS*. 20(4), 2004, pp. 167–197.
11. Briggs, R. O. , Vreede, G.J. de and Nunamaker, J.F. Jr. Collaboration Engineering with ThinkLets to Pursue Sustained Success with Group Support Systems *Journal of MIS*, 19(4), 2003 , pp. 31-64
12. Vreede, G.J. de and Briggs, R.O., Zijn Group Support Systemen met uitsterven bedreigd?, *IT Monitor*, 7(7), 2003, pp. 4-7. (In Dutch).
13. Vreede, G.J. de; Davison, Robert M.; & Briggs, R.O. How A Silver Bullet May Lose Its Shine: Learning from Failures with Group Support Systems. *Communications of the ACM*. 46(8), 2003, pp. 96-101.
14. Boehm, B; Gruenbacher, P., & Briggs, R. O. Developing Groupware for Requirements Negotiation: Lessons Learned. *IEEE Software* 18(3), 2001, pp 46-55. Republished by *IEEE Distributed Systems Online* 18(3) 2001.
15. Mittleman, D., Briggs, R. O, and Nunamaker, J.F., Jr. Best Practices in Facilitating Virtual Meetings: Some Notes from Initial Experience. *Group Facilitation: A Research and Applications Journal*, 2(1), 2000, pp. 5-14.

16. Vreede, G.J. de, Briggs, R., Santanen, E. Group Support Systems for Innovative Information Science Education. *Journal of Informatics Education and Research*, 1(1), 1999, pp. 1-11.
17. Davison, R. and Briggs, R. O. Supercharging the Audience: GSS for presentation-style meetings. *Communications of ACM*, 43(9), 1999, pp. 91-97.
18. Ayoub, Judith L., Venderboom, Catherine, Knight, Margaret, Walsh, Ken, Briggs, R.O., and Grekin, K. A study of the effectiveness of an interactive computer classroom. *Computers in Nursing*, 16(6), 1998, pp. 333-338.
19. Briggs, R.O., Adkins, M., Mittleman, D., Kruse, J., Miller, S., & Nunamaker, J.F., Jr. A Technology Transition Model Derived from Field Investigation of GSS use aboard U.S.S. CORONADO. *Journal of MIS*. 15(3), 1999, pp. 151-193.
20. Romano, N. C., Jr., Nunamaker, J.F., Jr., Briggs, R. O., and Vogel, D.R. Architecture, design, and development of an HTML/JavaScript web-based group support system. *Journal of the American Society for Information Science* 49(7), 1998, pp. 649-667.
21. Reinig, Bruce A. , Briggs, R. O. and Nunamaker, J.F., Jr. Flaming in the Electronic Classroom. *Journal of MIS*. 14(3), 1998, pp. 45 – 60.
22. Briggs, R.O., & Vreede, G.J. de, Meetings of the Future: Enhancing Group Collaboration with Group Support Systems. *Journal of Creativity and Innovation Management*, 6(2), 1997, pp. 106-116.
23. Vreede, G.J, Briggs, R.O. Vergaderingen van de Toekomst: Beter en sneller samenwerken met Elektronische Vergadersystemen Holland Management Review, 53(1), 1997, pp. 75-85. (In Dutch).
24. Nunamaker, J.F., Briggs, R.O., Mittleman, D., Vogel, D., and Balthazard, P. Lessons from a Dozen Years of Group Support Systems Research: A Discussion of Lab and Field Findings. *Journal of MIS*. 13(3), 1997, pp. 163- 207.
25. Reinig, B.A., Briggs, R.O., Shepherd, M.M., Yen, J. and Nunamaker, J.F., Jr. Affective Reward and the Adoption of Group Support Systems: Productivity is not always enough. *Journal of MIS*. 12(3), 1996, pp. 171-185.
26. Shepherd, M.M., Briggs, R.O., Reinig, B.A., Yen, J. and Nunamaker, J.F., Jr. (1995-96). Invoking Social Comparison to Improve Electronic Brainstorming: Beyond Anonymity. *Journal of MIS*. 12(3), 1996, pp. 155-170.
27. Briggs, R. O., Balthazard, P. A, & Dennis, A. R. Graduate Business Students as Surrogates for Executives in the Evaluation of a Social Technology. *Journal of End User Computing*, 8(4), 1996, pp. 11-19.
28. Briggs, R.O., Ramesh, V., Romano Jr., N.C., & Latimer, J. The Exemplar Project: Using Group Support Systems to improve the Learning Environment *Journal of Educational Technology Systems*, 23(3), 1994, pp. 277-287.
29. Briggs, R.O., Dennis, A. R., Beck, B. & Nunamaker, And J.F. Whither the Pen-Based Interface? *Journal of MIS*, 9(3), 1992-93, pp. 71-90.
30. Mesher, G., Briggs, R. O., Goodman, S., Snyder, J. M., and Pressman, L. International Perspectives: Cuba, Communism, and Computing, *Communications of the ACM*, 35(11), 1992, pp. 27-30.

Refereed Conference Papers

1. Briggs, R.O. (2006). "The Value Frequency Model: Towards a Theoretical Understanding of Organizational Change". *Proceedings of the International Conference on Group Decision and Negotiation*. Karlsruhe: Universtatsverlag Karlsruhe, pp. 36-39.
2. Briggs, R.O., Kolfshoten, G.L., Vreede, G.J. de, and Dean, D.L. (2006). Defining Key Concepts for Collaboration Engineering". *Proceedings of the Americas Conference on Information Systems*. Acapulco, Mexico: AIS. On CD.
3. Gruenbacher, P., Seyff, N., Briggs, R.O., Ho, P.I., Kitapci, Hasan, & Port, D. Making Every Student a Winner: The WinWin Approach in Software Engineering Education. *Proceedings of the 19th Conference on Software Engineering Education and Training*, In Press.

4. Chen, F; Briggs, R.O. Corbitt, G., Nunamaker, J.F., Sager, J. and Gardiner, S.C. Project Progress Tracking Template – using a repeatable GSS process to facilitate project process management. *Proceedings of the 39th Hawaii International Conference on System Sciences*. IEEE, 2006, pp.1-10, On CD.
5. Reinig, B.A. and Briggs, R.O. Measuring the Quality of Ideation Technology and Techniques. *Proceedings of the 39th Hawaii International Conference on System Sciences*. IEEE, 2006, pp.1-10, On CD.
6. Kolfshoten, G.L., Neiderman, F., Briggs, R.O. and Vreede, G.J. de. Understanding the Job Requirements for Collaboration Technology Support through a Hybrid IT-End User Job Classification Model: The Case of Collaboration Engineering and Facilitation. *Proceedings of the ACM SIGMIS Conference on Computer Personnel Research*. April, 2006.
7. R.O. Briggs, G.L. Kolfshoten and G.J. de Vreede (2005). Toward a Theoretical Model of Consensus Building. *Proceedings of the 2005 Americas Conference on Information Systems*. Omaha, Nebraska. On CD.
8. Vreede G.J de & Briggs, R.O. Collaboration Engineering: Designing Repeatable Processes for High-Value Collaborative Tasks. *Proceedings of the 38th Annual Hawaii International Conference on System Sciences*, IEEE, 2005, pp1-10. On CD.
9. Vreede, Gert-Jan de. Collaboration Engineering: Designing Repeatable Processes for High-value Recurring Tasks. *Proceedings of the 38th Hawaii International Conference on Systems Sciences*, IEEE, 2004, pp1-10. On CD.
10. Briggs, R.O. On Theory-Driven Design of Collaboration Technology and Process. *Lecture Notes in Computer Science*, Berlin, Springer Verlag 2004, pp. 1-16.
11. Qureshi, Sajda; Hlupic, Vladka; and Briggs, R.O. On the convergence of Knowledge Management and Groupware. *Lecture Notes in Computer Science*, Berlin, Springer Verlag, 2004, pp. 25-33.
12. Kolfshoten, Gwendolyn; Briggs, R.O.; Appelman, Jaco H.; and Vreede, G.J. de. ThinkLets as building blocks for collaboration processes: A further conceptualization. *Lecture Notes in Computer Science*, Berlin, Springer Verlag, 2004, pp. 137-152.
13. Agres, Andres; Vreede, G.J.; and Briggs, R.O. A Tale of Two Cities: Case studies of GSS Transition in Two Organizations. *Proceedings of the 37th Hawaii International Conference on System Sciences*, IEEE, 2004, pp. 1-10. On CD.
14. Kolfshoten, Gwendolyn; Appelman, Jaco; Briggs, R.O.; and Vreede, G.J. Recurring Patterns of Facilitation Interventions in GSS Sessions. *Proceedings of the 37th Hawaii International Conference on System Sciences*, IEEE, 2004, pp. 1-10. On CD.
15. Briggs, R.O.; Qureshi, Sajda; and Reinig, Bruce A. Satisfaction Attainment Theory as a Model for Value Creation. *Proceedings of the 37th Hawaii International Conference on System Sciences*, IEEE, 2004, pp. 1-10. On CD.
16. Heltne, Mari M.; Wee, Liang Chee; Briggs, R.O. Collaborative Technology Support for Administrative and Academic Decision Making. *EDUCAUSE Midwest Regional Conference*, Chicago, IL. Track: Enterprise Information Systems, March 2003, pp. 1-10. On CD.
17. Briggs, R.O. and Gregory, Thomas P. Token Dispensers for GSS race conditions: Locking things that aren't there. *Proceedings of the 36th Hawaii international Conference on System Sciences*, IEEE, 2003, pp. 1-10 On CD.
18. Santanen, Eric L.; Briggs, R.O.; and Vreede, G.J. de. The impact of stimulus diversity on creative solution generation: An evaluation of the cognitive network model of creativity. *Proceedings of the 36th Hawaii international Conference on System Sciences*, IEEE, 2003, pp. 1-10. On CD.
19. Qureshi, S. and Briggs, R.O. Revising the Intellectual Bandwidth Model and Exploring its use by a Corporate Management Team. *Proceedings of the 36th Hawaii international Conference on System Sciences*, IEEE, 2003, pp. 1-10. On CD.
20. Briggs, R.O., Vreede, G.J. de; and Reinig, B. A theory and measurement of meeting satisfaction. *Proceedings of the 36th Hawaii international Conference on System Sciences*, IEEE, 2003, pp. 1-10. On CD.

21. Chen, Fang; Romano, Nicholas C., Jr.; Nunamaker, J.F. Jr., and Briggs, R.O. A collaborative Project Management Architecture. *Proceedings of the 36th Hawaii International Conference on System Sciences, IEEE, 2003.* On CD.
22. Briggs R.O., and Gruenbacher, P. EasyWinWin: Managing Complexity in Requirements Negotiation with GSS. *Proceedings of the 35th Hawaii International Conference on System Sciences, IEEE, 2002,* pp. 1-10. On CD.
23. Gregory, Thomas and Briggs, R.O. An Approach to Middleware for Repeatable Collaborative Processes. *Proceedings of the 35th Hawaii International Conference on System Sciences, IEEE, 2002,* pp. 1-10. On CD.
24. S. Qureshi, A. Van der Vaart, G. Kaulingfrees, Vreede G.-J. de, Briggs, R.O. and Nunamaker, J.F., Jr. What Does It Mean for an Organisation to Be Intelligent? Measuring Intellectual Bandwidth for Value Creation. *Proceedings of the 35th Hawaii International Conference on System Sciences, IEEE, 2002,* pp. 1-10. On CD.
25. Lopez, A., Booker, Q., Shkarayeva, N., Briggs, R.O., Nunamaker, J.F., Jr. Embedding Facilitation in Group Support Systems to Manage Distributed Group Behavior. *Proceedings of the 35th Hawaii International Conference on System Sciences, IEEE, 2002,* pp. 1-10. On CD.
26. Nunamaker, J.F. Jr., Zhao, L., Briggs, R.O. Intelligent Workflow Techniques for Distributed Group Facilitation. *Proceedings of the 35th Hawaii International Conference on System Sciences, IEEE, 2002,* pp. 1-10. On CD.
27. Briggs, R.O.; Vreede, G.J. de; Nunamaker, J.F., and Tobey, David H. ThinkLets: Achieving Predictable, Repeatable Patterns of Group Interaction with Group Support Systems (GSS) *Proceedings of the 34th Hawaii International Conference on System Sciences, IEEE, 2001,* pp1-9, On CD.
28. Briggs, R.O., Nunamaker, J.F. Jr., and Tobey, D. H. The Technology Transition Model: A Key to Self-Sustaining and Growing Communities of GSS Users. *Proceedings of the 34th Hawaii International Conference on System Sciences, IEEE 2001,* pp.1-10, On CD.
29. Kruse, J., Adkins, M., and Briggs, R.O. Applying the Technology Transition Model to GSS Fielding. *Proceedings of the 34th Hawaii International Conference on System Sciences, IEEE, 2001,* pp. 1-10. On CD.
30. Gruenbacher, Paul and Briggs, R.O. Surfacing Tacit Knowledge in Requirements Negotiation: Experiences using EasyWinWin. *Proceedings of the 34th Hawaii International Conference on System Sciences, IEEE, 2001,* pp1-10. On CD.
31. Nunamaker, J.F., Jr.; Romano, Nicholas R. Jr., and Briggs, R.O. A Framework for Collaboration and Knowledge Management. *Proceedings of the 34th Hawaii International Conference on System Sciences, IEEE, 2001,* pp1-10. On CD.
32. Santanen, Eric L., Briggs, R.O., and de Vreede, G.J.. The Cognitive Network Model of Creativity: A New Causal Model of Creativity and a New Brainstorming Technique. *Proceedings of the 33rd Hawaii International Conference on Systems Sciences, IEEE, 2000,* pp. 1-10. On CD.
33. Vreede, G.J. de, Briggs, R.O., van Duin, Ron, and Enserink, Bert. Athletics in Electronic Brainstorming: Asynchronous Electronic Brainstorming in Very Large Groups. *Proceedings of the 33rd Hawaii International Conference on Systems Sciences, IEEE, 2000,* pp. 1-10. On CD.
34. Mittleman, D. and Briggs, R.O., Virtual Facilitation For The Teaming Masses: Best Practices For Leading Synchronous Distributed Meetings, *Proceedings of the International Association of Facilitators Global Conference. 2001.*
35. McQuaid, M. J., Briggs, R.O., Gillman, D., Hauck, R., Lin, C. Mittleman, D. D., Nunamaker, J.F. Jr., Ramsey, M. and Romano, N. C. Jr., Tools for Distributed Facilitation. *Proceedings of the Thirty-Third Hawaii International Conference on System Sciences, IEEE, 2000,* pp1-10. On CD.
36. Dembo, Linda Glen, Hale, Mark C., and Briggs, R.O. Digital Technology and Learning Design in a K-8 Learning Community: Planning for New Tools and New Learning. *Proceedings of the 33rd Hawaii International Conference on Systems Sciences, IEEE, 2000,* pp. 1-10. On CD.

37. Mittleman, D. D., Briggs, R.O., Nunamaker Jr., J.F., and Romano, N. C. Lessons Learned from Synchronous Distributed GSS Sessions: Action Research at the U. S. Navy Third Fleet. *Proceedings of the 10th EuroGDSS Workshop*, Copenhagen. Delft: Technische Bestuurskunde, Delft University of Technology, 1999, pp. 63-79. ISBN 90-5638-043-5
38. Santanen, E. , Briggs, R.O., and de Vreede, G.J. The Cognitive Network Model of Creativity: Using Directed Brainstorming with a new Causal Model of Creativity. Ackerman, F. and de Vreede, G-J. (eds.) *Proceedings of the 10th EuroGDSS Workshop*, Copenhagen. Delft: Technische Bestuurskunde, Delft University of Technology, 1999, pp. 17-29. ISBN 90-5638-043-5
39. Briggs, R.O., Adkins, M., Kruse, J., Nunamaker, J.F., Jr., Mittleman, D., and Miller, S. Lessons Learned Using A Technology Transition Model with the US Navy. *Proceedings of the Thirty Second Hawaii International Conference on Systems Sciences*, IEEE, 1999, pp. 1-10. On CD.
40. Romano, N., Briggs, R.O., Nunamaker, J.F. Jr., and Mittleman, D. Distributed GSS Facilitation and Participation: Field Action Research. *Proceedings of the Thirty Second Hawaii International Conference on Systems Sciences*, IEEE, 1999, pp. 1-10. On CD.
41. Briggs, R., Crews, J., and Mittleman, D., Facilitating Asynchronous Distributed GSS Meetings: Eight Steps to Success, *Proceedings of the Association for Information Systems Americas Conference*, Baltimore, 1998, pp. 474-476.
42. Mittleman, D., Briggs, R., Nunamaker, J., and Adkins, M., Design and Evaluation of Technology-Supported Collaborative Decision Spaces aboard a U.S. Navy Command Ship: An Action Research Project, *Proceedings of the 4th Design and Decision Support Systems Conference*, Maastricht, The Netherlands, August 1998.
43. Briggs, R., Mittleman, D., Weinstein, N., Nunamaker, J., and Adkins, M., Collaborative Technology for the Sea-Based Warfighter: A Field Study of GSS Adoption and Diffusion, *Proceedings of the Thirty-First Hawaii International Conference on System Sciences*, IEEE, 1998, pp. 505-514.
44. Briggs, R.O., Nunamaker, J.F., Jr., Reinig, B.A., Romano, N.C., Jr. and Sprague, R. R., Jr. Group Support Systems: A Cornucopia of Research Opportunities. *Thirty First Hawaii International Conferences on Systems Sciences*, IEEE, 1998, pp. 495-504.
45. Briggs, R.O. and Vreede G.J. de, Measuring Satisfaction in GSS meetings, in: Kumar, K., DeGross, J.I. (Eds) *Proceedings of the 18th International Conference on Information Systems*, 1997.
46. Briggs, R.O., Mittleman, D.D., Santanen, E. and Gillman, D. Collaborative Molecules: A Component-Based Architecture for GSS. *Proceedings of the 18th Annual International Conference on Systems Science*. 1997.
47. Briggs, R.O., Reinig, B.A., Shepherd, M.M., Yen, J. and Nunamaker, J.F., Jr. Quality as a Function of Quantity in Electronic Brainstorming. *Proceedings of the Thirtieth Hawaii International Conference on Systems Sciences*, IEEE, 1997, pp. 94-103.
48. Reinig, B.A. and Briggs, R.O. An Empirical Investigation of the Electronic Classroom. *Proceedings of the First Pacific-Asia Conference on Information Systems*, 1997, pp. 357-367.
49. Davison, R.M. and Briggs, R.O. GSS for Presentation Style Meetings. *Proceedings of the Thirtieth Hawaii International Conference on System Sciences*, IEEE, 1997, pp 430-439.
50. Reinig, B.A., Briggs, R.O., Brandt, S.A. and Nunamaker, J.F., Jr. (1997).The Electronic Classroom on Fire: Why it happens and how to put out the flames. *Proceedings of the Thirtieth Hawaii International Conference on Systems Sciences*, IEEE, 1997, pp. 639-647. Finalist for Best Paper Award.
51. Nunamaker Jr., J.F., Briggs, R.O., and Mittleman, D. D. Lessons from a Decade of Group Support Systems Research. *Proceedings of the Twenty-ninth Hawaii International Conference on Systems Sciences*, IEEE, 1996, pp. 418-427.
52. Walsh, K. R., Briggs, R.O., Ayoub, J., Vanderboom, C., and Glynn, M. Learning with GSS: A Case Study. *Proceedings of the 29th Hawaii International Conference on Systems Sciences*, IEEE, 1996, 283-292.

53. Nunamaker, J., Briggs, R. O. and Mittleman, D., Electronic Meeting Systems for Present and Future Productivity, in Zongkai, L. and Barthes, J., (eds.) *Proceedings of International Workshop on CSCW in Design*, Beijing, China, May 8-11, 1996, pp.68-77.
54. Walsh, K. R., Briggs, R.O., Ayoub, J., and Vanderboom, C. Teaching with GSS: Techniques for Enabling Student Participation. *Proceedings of the first Americas Conference on Information Systems*, Association for Information Systems, 1995, pp. 621-623.
55. Nunamaker, J.F., Mittleman, D., Briggs, R.O., and Vogel, D.R. EMS in the Virtual Workspace. *Proceedings of Groupware '95*, the Conference Group, 1995.
56. Shepherd, M., Briggs, R.O., Reinig, B. and Yen, J. Social Loafing in Electronic Brainstorming: Invoking Social Comparison through Technology and Facilitation Techniques to Improve Group Productivity. *Proceedings of the Twenty-eighth Hawaii International Conference on Systems Sciences*, IEEE, 1995, pp. 523-532.
57. Reinig, B, Briggs, R.O., Shepherd, M., and Yen, J. Developing and Validating an Instrument to Measure the Impact of Group Support Technology on Affective Reward. *Proceedings of the Twenty-eighth Hawaii International Conference on Systems Sciences*, IEEE, 1995, pp. 798-807. Best Paper Award.
58. Brandt, S., and Briggs, R.O. Exploring the Use of EMS in the Classroom: Two Field Studies. *Proceedings of the Twenty-eighth Hawaii International Conference on Systems Sciences*, IEEE, 1995, 533-542. Best Paper Nomination.
59. Nunamaker Jr., J.F. and Briggs, R.O. Meeting Environments of the Future: Meeting to plan work or meeting to do work? *Proceedings of the Groupware '94 Conference*, London, The Conference Group, 1994.
60. Brown, H. and Briggs, R.O. Toward a Shared Thinking Environment: The use of group decision support systems to promote thinking. *Proceedings of the International Conference on Technology and Education*, London, 1994, pp. 27-30.
61. Nunamaker Jr., J.F., and Briggs, R.O. Groupware User Experience: Ten Years of Lessons with GroupSystems. *Proceedings of GroupWare '94 Conference*, Boston, The Conference Group, 1994.
62. Nunamaker Jr., J.F., Briggs, R.O., and Romano, N.C. The Meeting Environment of the Future. *Proceedings of the GroupWare '93 Conference*, San Jose, The Conference Group, 1993.
63. Briggs, R.O. and Nunamaker, J.F. Collaboration Technology: From the meeting room to the office. *Proceedings of the IEEE Conference on Systems, Man, and Cybernetics*, Chicago, 1992, pp. 960-967.
64. Briggs, R.O., Romano, Jr., N. C., and Brown, H. Learning to think/thinking to learn: Electronic support for the problem solving educational paradigm. *Proceedings of Association of Management 10th Anniversary Conference*, Las Vegas, 1992, pp 115-123.
65. Briggs, R. and Ramesh, V. Exemplar: A group support technology for lectures. *Proceedings of the Association of Management 10th Anniversary Conference*. Las Vegas, 1992, pp.99-106.
66. Briggs, R., Ramesh, V., Basu, K., and Carlisle, J. Exemplar: Improving the college Classroom with Group Support Technology. *Proceedings of the 13th International Conference on Information Systems*, Dallas, TX, pp. 276-277.
67. Briggs, R.O. *Proceedings of Teleconferencing and the Classroom of the Future. Proceedings of the Distance Learning SIG, ITCA conference*, Washington D. C. 1992. pp. 11-15.
68. Briggs, R., Beck, B., Dennis, A., Carmel, E., Nunamaker, J., and Pfarrer, R. Is the Pen Mightier than the Keyboard? *Proceedings of the Twenty-Fifth Hawaii International Conference on Systems Sciences*, IEEE, 1992, pp. 128-137.
69. Electronic Meeting Systems: Breaking the Meeting Bottleneck. *Proceedings of Infomatica '92*, Habana, Cuba, 1992, pp. 1-12.
70. Sondak, N and Briggs, R. O. Expert Systems - The New Business Simulation Tool, *ABSEL 88*, San Diego, 1988.
71. Sondak, N and Briggs, R. Expert Systems and the Arts, *IEEE Proceedings of the 4th Annual Conference on Applications of Artificial Intelligence*. San Diego, 1988.

SYMPOSIUM AND WORKSHOP CONTRIBUTIONS

1. Briggs, Robert O., Vreede, Gert-Jan de, and Kolfschoten, Gwendolyn L., Report of the HICSS-39 Workshop on Collaboration Engineering, January 2006, pp. 1-11
ISBN:9056381490
2. Briggs, Robert O., and Nunamaker, Jay F., Jr. (Eds), Report of the HICSS-39 Symposium on Case and Field Studies of Collaboration, January 2006, 136 pp.
ISBN:9056381504
3. Briggs, R.O., Gregory, T.P., and Paine, V. Armadillos, Elephants, and Antelopes: Three cases of distributed software development. *Report of the HICSS 39 Symposium on Field and Case Studies of Collaboration*, 2006. On CD.
4. Kolfschoten, G.L., Vreede, Gert-Jan de, and Briggs, R.O. Definitions in Collaboration Engineering. *Report of the HICSS 39 Symposium on Field and Case Studies of Collaboration*

PAPERS UNDER REVIEW

1. Briggs, R.O., Reinig, B.R., and Vreede, G.J. de. Yield Shift Theory: A New Perspective on IS/IT Satisfaction. Submitted to *Journal of the Association of Information Systems*.
2. Reinig, B.A., and Briggs, R.O., On the relationship between idea-quantity and idea-quality during ideation, submitted to *Small Group Research*.
3. Nunamaker, J.F., Jr., Reinig, B.A., and Briggs, R.O., Principles for effective virtual teamwork, under revision, *Communications of the ACM*.

SPECIAL ISSUE EDITORSHIPS

1. Briggs, R.O., Nunamaker, J.F., Jr.; and Sprague, R. *Journal of Management Information Systems Special Issue: Crossing Boundaries in Information Systems Research*. 22(4) Spring 2006. Editorial pp. 7-11.
2. Briggs, R.O., Vreede, G.J., Nunamaker, J. F. Jr. and Sprague, R. *Journal of Management Information Systems Special Issue: Context Driven Access and Deployment*, 21(4) 2005. Editorial pp. 7-9.
3. Briggs, R.O., Vreede, G.J. de, Nunamaker, J.F. Jr., and Sprague, R. *Journal of Management Information Systems Special Issue: Information Systems Design—Theory and Methodology*. 20(4) 2004. Editorial pp. 5-8.
4. Briggs, R.O., Nunamaker, J.F. Jr., and Sprague, R. *Journal of Management Information Systems Special Issue: Information Systems Success*. 19(4) 2003. Editorial pp. 5-8.
5. Briggs, R.O., Vreede, G.J. de, Nunamaker, J.F. Jr., and Sprague, R. *Journal of Management Information Systems Special Issue: Decision Making and a Hierarchy of Understanding*. 18(4) 2002. Editorial pp. 5-10.
6. Briggs, R.O., Vreede, G.J. de, Nunamaker, J.F. Jr., and Sprague, R. *Journal of Management Information Systems Special Issue: Enhancing Organizations' Intellectual Bandwidth: The Quest for Fast and Effective Value Creation*. 17(3) 2001. Editorial pp. 3-8.
7. Briggs, R.O., Nunamaker, J.F. Jr., and Sprague, R. *Journal of Management Information Systems Special Issue: Exploring the Outlands of the MIS Discipline*. 16(3) 2000. Editorial pp. 5-10.
8. Briggs, R.O., Nunamaker, J.F. Jr., and Sprague, R. *Journal of Management Information Systems Special Issue: GSS Insights: A Look Back at the Lab, A Look Forward from the Field*. 15(3) 1999. Editorial pp. 3-6.

9. Briggs, R. O. , Nunamaker, J.F. Jr., and Sprague, R. *Journal of Management Information Systems Special Issue: 1001 Unanswered Research Questions in GSS*. 14(3) 1998. Editorial pp. 3-22.
10. Briggs, R. O. , Nunamaker, J.F. Jr., and Sprague, R. *Journal of Management Information Systems Special Issue: Information Technology and Its Organizational Impact*. 13(3) 1997. Editorial pp. 3-6.

CONFERENCE AND WORKSHOP PROCEEDINGS EDITORSHIPS

1. Briggs, R.O. and Nunamaker, J.F., Jr., eds. *Proceedings of the First HICSS Symposium on Case and Field Studies of Collaboration*. Honolulu, HI: Hawaii International Conference on System Sciences. 2006.
2. Briggs, R.O., Vreede, G.J. and Kolfshoten, G.L., eds. *Workshop Report: HICSS First Workshop on Collaboration Engineering*. Honolulu, HI: Hawaii International Conference on Systems Sciences. 2006.

BOOK CHAPTERS

1. Qureshi, S., Hlupic, V., de Vreede, G., Briggs, R..O., and Nunamaker, J.F. *Managing Knowledge in a collaborative context: How may intellectual resources be harnessed toward joint effect?* In Hlupic, V (Ed.) *Knowledge and Business Process Management*. Idea Group Publishing, Hershey, London, Melbourne, Singapore, & Beijing. 2003.
2. Nunamaker, J.F. Jr., Briggs, R.O., Vreede, G.J. de. *From Information Technology To Value Creation Technology*, in: Dickson, G.W., DeSanctis, G. (eds). *Information Technology and the Future Enterprise: New Models for Managers*, New York: Prentice-Hall. 2001.
3. Mittleman, Daniel & Briggs, R.O. "Communication Technology for Teams: Electronic Collaboration," in Eric Sundstrom (ed.) *Supporting Work Team Effectiveness: Creating Contexts for High Performance*. Jossey-Bass, Inc. California: San Francisco, 1999.
4. Nunamaker, J. F., Jr., Briggs, R. O., Romano, N.C., & Mittleman, D., "The Virtual Office Work-Space: GroupSystems Web and Case Studies," in Coleman, D. (Ed.), *Groupware: Collaborative Strategies for Corporate LANs and Intranets*, Prentice Hall, Englewood Cliffs, NJ, 1997, pp.231-253.
5. Nunamaker, J.F., Briggs, R. O., & Mittleman, D. *Ten Years of Lessons with Electronic Meeting Systems*. in D. Coleman & Raman Khanna (Eds.) *Groupware: Technology and Applications*, Prentice Hall, Englewood Cliffs, NJ, 1995.
6. Briggs, R. O., & Nunamaker Jr., J. F. *Getting a Grip on Groupware*. In Peter Lloyd (Ed.) *Groupware in the 21st Century: Computer Supported Cooperative Working Toward the Millennium*. Praeger Publishers. Westport, Conn. 1994.
7. Briggs, R. O., & Vogel, D. R. *Group Interface Issues*. In *Human Factors in Information Systems*, Jane Carey, ed. 1994.

BOOKS IN PROGRESS

- *ThinkLets: A Pattern Language for Collaboration* with G.J. de Vreede.
- *Collaboration Engineering* with G.J. de Vreede.

GRANTS

Developed and acquired \$3.6 million in funding and equipment grants to support faculty, graduate and undergraduate research in the lab and field.

Industry Grants

- COGNITO – Full salary plus \$1.7 million in development funds from GroupSystems Corporation to design and oversee development a new generation of collaboration

technology informed by the Technology Transition Model and based on the Collaborative Molecules architecture (1999-present).

- WE-MET. \$160,000 from IBM Corp. Co-investigator with J.F. Nunamaker. Electronic Meeting Support with a Pen-based Computer Tool. Designed and tested pen-based group support software (1991 - 1993).
- Intel Equipment \$418,000 equipment grant from Intel Corporation for 39 486DX PCs with 21 NEC GF6 monitors, along with two servers, two printers, and full network hardware and software. Electronic Support for Group Productivity (1993).
- NCR Equipment. \$15,000 equipment grant from NCR Corporation for six 386-based computers. Co-investigator with J. F. Nunamaker. Pen-based handwriting recognition interfaces (1991).
- KMEM. \$100,000 from NCR Corporation, Augsburg, Germany. Co-investigator with J.F. Nunamaker. NCR KMEM Project. Notepad Computing and Handwriting Technology. The project demonstrated clear potential for user acceptance of pen-based interfaces in certain applications before pen-based general-purpose computers were marketed (1990 - 1991).

Government Grants

- C2MUVE. \$45,000 from NCCOSC Research and Development (NRaD). Principal Investigators: Robert Briggs, Daniel Mittleman, J.F. Nunamaker. Build a web-based GSS into a multi-user virtual environment to support synchronous and asynchronous communication (1995).
- Collaborative Technology for Crisis Response. \$320,000 from DARPA. Principal Investigators: Robert Briggs, J.F. Nunamaker, Daniel Mittleman. Created collaborative decision spaces, collaborative concepts of operations, and collaborative technology aboard the U.S.S. CORONADO to support warfighters during times of crisis. (1996).
- Collaborative Technology for the Warfighter. \$300,000 from DARPA. Principal Investigators: Robert Briggs, J.F. Nunamaker, Daniel Mittleman. Continued to develop collaborative workspaces, concepts of operations, and technology aboard U.S.S. CORONADO. Investigated adoption and diffusion of collaborative technology (1997).
- Collaborative Technology Transition to the Warfighter. \$300,000 from DARPA. Principal Investigators: Robert Briggs, J.F. Nunamaker. Investigation of adoption and diffusion of collaborative technology to the warfighter, creation of prototype task-specific GSS tools for crisis response (1998).
- Collaborative Technology for the Operational Echelon of War. \$790,000 over two years - BAA through SPAWAR Systems Center, San Diego. Principal Investigators: Robert Briggs, J.F. Nunamaker. Investigation of cutting edge collaborative technology to improve effectiveness and efficiency of geographically distributed warfighters at the operational echelon (1999-2001).
- Battlespace. \$175,000 SBIR Grant from DARPA. Principal investigator: Robert Briggs. Demonstrated the technical and operational feasibility of a library of special purpose collaboration applications, and a rapid development environment for snapping together collaborative applications from prefabricated parts, and a platform where humans and agents can interact as peers (2002).

Technology Support for Learning Grants

- A Comparative Study of Canadian and Alaskan Distance Education for Geographically Isolated Populations in Arctic and Sub-arctic Regions. \$7000 (2005).
- Problem-based collaborative learning for at-risk learners. \$47,000 and computer equipment for classrooms to test a theory-based pedagogical approach for re-engaging fifth- and sixth-grade learners at risk of dropping out. 22 students participated in the two-

- year demonstration project. Subsequent tracking showed that all participants remained in school through 10th grade in a district with a 64% drop-out rate. (1993-1994).
- Shared Thinking Environment. \$140,000 from D.C. Public Schools to create a shared environment to structure the activities of students as they solve unfamiliar problems. Developed and tested a shared GUI group environment for finding, organizing, analyzing, synthesizing, and presenting information. Emphasis on creating a full-featured collaborative learning system with an interface so simple that grammar school children and their instructors can use the technology with as little as thirty seconds of verbal instruction (1993).
 - Tucson Unified School District. \$63,000 equipment grant for twenty-one computers with network cards and a server for technology-supported learning research at Palo Verde High School, Tucson, AZ (1993).
 - Electronic Support for Learning, Orr Elementary School, Anacostia, Washington D.C. \$15,000 to investigate the use Group Support Systems in the learning environment. Designed and implemented a GSS-based curriculum for fifth and sixth grade. Trained faculty and staff on GSS technology, philosophy, and pedagogy. Provide ongoing intellectual and technical support for further curriculum development. Designed and conducted pilot and field studies on the effects of the GSS approach (1992).

INDUSTRY EXPERIENCE

- GroupSystems Fellowship. Salary support over six years plus \$1.1 million budget to design and develop a new generation of collaboration technology based on the Collaborative Molecules Architecture, and to develop a rapid development environment for creating collaborative applications in real time. Academic goals: a large scale test of the Technology Transition Model; and advances in Collaboration Engineering. Served three consecutive industry roles: Director of Technology and Process Tools; Director of R&D; Director of Innovation (April, 1999- August 2005).

TEACHING

Teaching Interests

- Collaboration Technology and Computer Supported Communication
- Research Methods and the Philosophy of Science
- Management of Information Systems
- Technical Courses, e.g. Systems Analysis & Design, Client-Server Architecture Programming Languages.

Courses Taught

- MIS 497-597 Collaborative Computing
- IDS 180 Principals of Information Systems (200+ students per section)
- IDS 306 Information Systems Analysis
- IDS 315 Comparative Programming Language
- IDS 375 IS Technology - Hardware and Software Organization
- IDS 380 Database – Data Management Systems
- IDS 406 Information Systems Design
- IDS 483 Networks and Data Communication
- IDS 492 Management of Information Systems

Courses Designed

Collaborative Computing, Computer Mediated Communication, Information Systems Analysis, Comparative Programming Languages, Networks and Data Communication, Database – Database Management Systems, Information Systems Design, Networks and Data Communication, Management of Information Systems.

Distance Learning

- Lecture regularly as a guest speaker on the Philosophy of Science, Outsourcing and Offshore Development, Collaboration Technology, and other topics using distance education technology for universities around the globe (e.g. DePaul, UN Omaha, U of Montana, Delft University of Technology, Texas A&M, HKUST, NU Singapore).
- Initiated a distance learning project between UofAZ and UofMD where students at both campuses joined a single class taught by instructors at both campuses. Linked the sites with large-screen video and with a suite of software tools to support synchronous and asynchronous collaborative learning.
- Facilitated the University of Alaska Distance Education Steering Committee in planning an integrated approach for providing high-quality university education to the citizens of Alaska regardless of their geographical location, schedules, and other limiting factors.

Executive Education

- Trained senior executive staff at Owensboro Medical Health Systems. *ThinkLets based Approach to Facilitation and Strategic Planning*. 2004.
- Trained J2 Intelligence Staff, Commander Third Fleet, U.S. Navy. *Collaborative Tools and Methods for Situation Awareness and Assessment*. 1998.
- Co-taught with Jay Nunamaker and Daniel Mittleman the *Executive Education track on Information Systems* at the University of Hawaii Advanced Management Program, 1994.

Teaching Methods

I use different teaching methods and techniques for different subject matter and different learners. I bring six years of industry experience with managing software design and development and 15 years of field research working with the top levels of industry, government, and the military to bear on the design and delivery of course content.

- **For highly-technical courses** like programming languages, client-server, and data communication: a mix of classroom lecture, collaborative problem solving, puzzles, readings, guest lectures, and academic projects.
- **For systems and applications courses** like Systems Analysis & Design and Database: small, but real student team projects for government and industry (Undergraduate Examples: Sears Service Center, San Diego County Libraries; Graduate Examples: Port of Rotterdam Authority; Ministry of Foreign Affairs, the Netherlands). I augment these with speakers from industry, formal in-class peer and instructor reviews of project deliverables, readings, and classroom lectures.
- **For management courses** like Management of Information Systems: collaborative learning through team case studies, augmented by readings, guest lecturers from industry, and classroom lectures.
- **For disengaged and at-risk learners:** collaborative problem-based learning – I pose problems in which the learner perceive an immediate vested interest, then guide learners as they seek information and industry experts for themselves. Wherever possible, I draw explicit links between the subject matter under consideration and the salient vested interests of the learners.

Doctoral Committees

Completed

- Sheila Brandt (University of Arizona)
- Ken Walsh (University of Arizona)
- Bruce Reinig (University of Arizona)
- Morgan Shepherd (University of Arizona)
- Nicholas Romano (University of Arizona)
- John Kruse (University of Arizona)
- Tom Rodgers (University of Arizona)
- Jim Lee (University of Arizona)
- Eric Santanen (University of Arizona)
- Ruth Ter Bush (DePaul)
- Janna Crews (University of Arizona)
- Fang Chen (University of Arizona)

In Progress

- Gwendolyn Kolfschoten (Delft)
- Ming Yuan (University of Arizona)
- John Combes (City University of Hong Kong)

Masters Committees

- Andres Agres
- Gwendolyn Kolfschoten

SERVICE

- Advisory Board, Hawaii International Conference on System Sciences, 2002-present
- Joint Chair of Collaboration Technology and Systems Track, Hawaii International Conference on Systems Science. 2000, 2002, 2004, 2004, 2006.
- Program Committee, CRIWG International Workshop on Groupware, 2005
- Editorial Advisory Board, Journal of End User Computing
- Founded and chaired Minitracks at the Hawaii International Conference on System Sciences, with various colleagues:
 - Technology Supported Learning, 1997-2000
 - GSS Patterns: Thinklets and Methodologies, 2002-2003.
 - Collaborative Environments for Value Creation, 2003-2004
 - Collaboration Engineering, 2005
- Reviewer for MISQ, ISR, JAIS, JMIS, GDN, IEEE Systems, Man, and Cybernetics, ITD, JEUC, Informatica, ICIS, HICSS, CRIWG, and AMCIS.
- Editorial Board member for Journal of IT for Development.
- Edited special issues for Journal of Management Information Systems for eight consecutive years with various colleagues, 1997-2004.
- Acquired grants of Funds and Equipment to develop technology-supported learning for local school districts (see the grants Section above).
- Coordinated the start-up of research streams on collaboration technology for crisis response, and technology-supported learning in the Center for the Management of Information at the University of Arizona. A founding fellow of the Center.
- Co-chair of Educational Technology Track Session with V. Ramesh, Association of Management 10th Anniversary Conference, Las Vegas.

- Helped establish the successful and continuing Collaboration Engineering research program at Delft University of Technology. Program received a special mentioning during the 2003 external accreditation review of all programs in the Faculty of Technology, Management and Policy during. For more details, see: <http://www.sk.tbm.tudelft.nl/Onderzoek/Collaboration%20Engineering.htm?id=510>
- Facilitated hundreds of highly efficient and effective collaborative workshops for universities (e.g. UofAZ, UofAK, SDSU), industry (e.g. Proctor & Gamble, IBM, NCR) Government (e.g. Dept. of Commerce, Dept of Transportation) and the military (e.g. Navy Special Warfare; Commander, Third Fleet; Dept of Defense).

SPECIAL AWARDS AND HONORS

- Ranked 16th among IS researchers worldwide on research productivity, 1999-2003 (See Hsieh-Hong Huang & Jack Shih-Chieh Hsu. "An Evaluation Of Publication Productivity In Information Systems: 1999 TO 2003." Communications of the Association for Information Systems Volume 15, 2005, 555-564).
- Ranked 38th among IS researchers worldwide on publication productivity 1991-1997 (See Im, K.S., Kim, K.Y. and Kim, J.S. (1998). A Response to "Assessing Research Productivity: Important But Neglected Considerations," Decision Line, September/October, pp. 12-15.)
- Best Paper Award, HICSS, 1995, 2001
- Best Paper Nominations, HICSS, 1992, 1999, 2000, 2002, 2003, 2004
- ICIS Doctoral Consortium, December, 1993
- Chevron Information Technology Corporation fellowship, 1991.
- UofAZ AZ Graduate Scholarship, 1990, 1991, 1992, 1993, 1994
- AACSB National Doctoral Fellowship, 1990-91
- Outstanding Professor: San Diego State University, North County Campus, 1989.
- Outstanding Information Systems Graduate, San Diego State University, 1986.
- National Merit Scholarship Finalist, 1971

SELECTED INVITED PRESENTATIONS

Invited Academic Conference Presentations

- Keynote Speaker– Theory Driven Design of Technology. CRIWG International Conference on Computer Supported Collaborative Work, 2004.
- Publishable Positivism: Bulletproof Scientific Papers. Hawaii International Conference on System Sciences. 2004
- Collaboration Engineering. With G.J. de Vreede and Bob Harder. Hawaii International Conference on System Sciences. 2003, 2004
- Theory W Requirements Engineering. With Barry Boehm. IEEE International Requirements Engineering Conference. 2003.
- Facilitating with ThinkLets. Collaboration 2003, Annapolis, MD October 20-21, 2003.
- Technology Supported Learning. With various colleagues. Hawaii International Conference on System Sciences. 1995-2003.
- EasyWinWin: A Groupware-Supported Methodology For Requirements Negotiation. With Barry Boehm and Paul Gruenbacher. 2001.
- Pen-based Interfaces. Hawaii International Conference on System Sciences. 1992.
- Plenary Speaker - Pen-based Interfaces for Group Support Systems. Fourth Symposium on Human-Computer Interface. 1992.

Invited University Presentations

- Brunel University

- City University London
- City University of Hong Kong
- Defense Acquisition University
- Delft University of Technology
- Georgia Institute of Technology
- Henley Management College, London
- Hong Kong University
- Hong Kong University of Science and Technology
- Johns Hopkins University
- London School of Economics
- National Science Foundation, Beijing, China
- National University of Singapore
- Navy War College
- New Jersey Institute of Technology
- San Diego State University
- Templeton College, Oxford University.
- Texas A&M
- University of Colorado at Boulder
- University of Montana
- University of Nebraska at Omaha

Invited Military Presentations

- CG1MEF (Commanding General, First Marine Expeditionary Force)
- COMSEVENTHFLT (Commander, U.S. Navy Seventh Fleet)
- COMSIXTHFLT (Commander, U.S. Navy Sixth Fleet)
- COMTHIRDFLT (Commander, U.S. Navy Third Fleet)
- DONCIO (Department of the Navy Chief Information Officer)
- Naval Command and Control and Ocean Surveillance Center
- Naval Research and Development
- Naval Special Warfare Command
- Naval Surface Warfare Command
- Space and Naval Warfare Systems Command

Invited presentations to Industry

- Agilent
- Finnair
- FINOVA
- IBM Corporation
- MITRE
- Morgan Stanley Bank
- NCR Corporation
- Nokia
- Oracle
- Placeware
- Proctor and Gamble
- SAP
- Simac
- Satyam
- Ziff Davis Publications

Invited Presentations to Government

- Department of Transportation
- Department of Commerce
- Department of Defense
- District of Columbia Public School System
- State of Arizona Governor's Council on Higher Education
- State of Iowa Information Technology Services

Invited Presentations at Professional Conferences

- NSF IUCRC Conference
- DARPA Intelligent Collaboration and Visualization Conference
- AFCEA (Armed Forces Communication and Electronics Association)
- DECUS (DEC User Society)
- The Conference Board
- Groupware 93, 94, 95. London, San Jose, Boston, and Tokyo

OTHER SOFTWARE DESIGN

- **Download & Annotate:** With Nicholas C. Romano, Jr. Designed and tested a pen-based shared sketching environment for acquisition and annotation of images from a public display screen. Managed software development process working with two programmers.
- **EasyWinWin:** With Paul Gruenbacher and Barry Boehm. A collaborative application for requirements negotiation on large-scale multi-stakeholder systems development projects.
- **FastAnswers:** A collaborative marketing focus group application.
- **FastRFP:** A collaborative proposal-writing application.
- **Ignition:** A collaborative creative problem-solving application.
- **Real-time Feedback Graph:** Used Focus Theory to design and test a real-time graph to create a basis of social comparison for groups engaged in idea generation. Conducted controlled experiments to demonstrate a 60% rise in idea production using the tool.
- **Product Backlog:** A collaborative application for the SCRUM agile development methodology used to collect, organize, and prioritize software development tasks.
- **Shared Visions:** With Mark Pendergast and Bill Saints. A shared environment for letting a group interact with and annotate a set of reference objects like text, graphics, video clips, spreadsheets, etc. Freehand and typed annotations, shared editor for each reference object. Telecursors, view-matching, lead-and-follow capabilities. Designed and executed usability studies, redesigned interface to achieve simplicity so novice participants could use the technology with fewer than 30 seconds of verbal instruction. Designed academic studies to determine effect of Shared Visions on productivity.
- **Topic Commenter with Reference Objects:** With Jerome Yen & Nicholas Romano. A shared environment for presenting electronic objects to groups and collecting the group responses about the object via a shared editor for each object. GUI Card-stack metaphor.

EMPLOYMENT HISTORY

- 2005 – Present: Visiting Senior Research Professor, Center for Distance Education, University of Alaska, Fairbanks
- 2002 – Present: Associate Professor of Systems Engineering, Faculty of Technology, Policy and Management, Delft University of Technology, the Netherlands.
- 1999 – 2005: GroupSystems Fellow, GroupSystems Corporation.
- 1994 – 2005: Research Coordinator, Center for the Management of Information, University of Arizona.
- 1990 – 1994: Research Associate, MIS Department, University of Arizona.

- 1987—1990: Adjunct Professor of Information Systems, San Diego State University.
- 1971 – 1987: Founder and master craftsman, American Craftsman, a fine custom furniture building and conservation studio. Clients included San Diego Museum of Art, San Diego Historical Society, and private collectors.