

LEE S. SPROULL

Stern School of Business
New York University
44 West 4th Street, 11-55
New York, NY 10012

lsproull at stern.nyu.edu
Phone: 212-998-0804
Fax: 212-995-4228
December 2011

EDUCATION

1977	Ph.D. Stanford University
1975	M.A. Stanford University
1969	M.A.T. Wesleyan University
1967	B.A. Wellesley College

PROFESSIONAL EXPERIENCE: FULL TIME

2009-	Leonard N. Stern School Professor of Business Emerita
1999-09	Leonard N. Stern School Professor of Business, NYU Stern School of Business
2003-08	Vice-dean of Faculty
2000-03	Director, Digital Economy Initiative
1990-99	Professor of Management, Boston University School of Management
1994-96	Faculty Director of Research
1991-97	Chair, Information Systems Department
1977-91	Assistant, Associate, Full Professor of Social Sciences and Sociology Carnegie Mellon University
1971-72	Planning Assistant, National Institute of Education Planning Unit Washington DC
1968-71	Teacher, R. C. Lee High School New Haven, CT

PROFESSIONAL EXPERIENCE: PART TIME

2008-09	Visiting Scholar, MIT Sloan School
1998-00	Faculty Affiliate, Lotus Development Corporation
1997-98	Visiting Scientist, Lotus Development Corporation
1991-93	Visiting Scientist, DEC Cambridge Research Lab
1987-88	Visiting Scientist, Xerox PARC
1987-88 & 82-83	Visiting Scholar, Graduate School of Business Stanford University
1979-90	President, Sutherland, Sproull, and Associates Inc.

RESEARCH PUBLICATIONS

Books

- Michael Cohen and Lee Sproull (Eds.). 1995. *Learning in Organizations*. Beverly Hills: Sage Corporation.
- Lee Sproull and Sara Kiesler. 1991. *Connections: New Ways of Working in the Networked Organization*. Cambridge: The MIT Press.
Japanese edition published 1993.
Chapter 5 reprinted in Ron Baecker (Ed). 1992. *Readings in Groupware and Computer Supported Cooperative Work*. San Mateo, Ca.: Morgan Kaufmann.
Chapter 5 also reprinted in Rob Kling (ed.). 1995. *Computerization and Controversy*. San Diego: Academic Press.
- Paul Goodman, Lee Sproull, and Associates. 1990. *Technology and Organizations*. San Francisco: Jossey Bass.
- Sara Kiesler, Lee Sproull, and Associates. 1987. *Computing and Change on Campus*. New York: Cambridge University Press.
- Lee Sproull, Stephen Weiner, and David Wolf. 1978. *Organizing an Anarchy: Belief, Bureaucracy, and Politics in the National Institute of Education*. Chicago: University of Chicago Press. Chapter 10 reprinted in J. Victor Baldrige and Terrence Deal (Eds.). 1983. *Managing Change in Educational Organizations*. Berkeley: McCutchan.

Edited Volumes

- Lee Sproull, Sara Kiesler, and William Dutton. 2007. Online Communities. Special issue of *Organization Studies*, 28.
- Michael Cohen and Lee Sproull (Eds.). 1991. Organizational Learning. Special issue of *Organization Science*, 2.
- Lee S. Sproull and Patrick D. Larkey (Eds.). 1984. *Advances in Information Processing in Organizations*, Vol. 1. Greenwich, CT.: JAI Press.
- Patrick D. Larkey and Lee S. Sproull (Eds.). 1981. Models in Theory and Practice. Special issue of *Policy Sciences*, 13.
- Lee Sproull (Ed.). Fall, 1975. Seminars on Organizations at Stanford University. Vol. 2, No. 1.

Papers in Refereed Journals

- Lee Sproull. 2010. Organizational learning. *Research on Organizational Sociology*, 28, 59-70.
- Jae Yun Moon and Lee Sproull. 2008. The role of feedback in managing the Internet-based volunteer workforce. *Information Systems Research*, 19, 494-515.
- Robert Cross and Lee Sproull. 2004. More than an answer: Information relationships for actionable knowledge. *Organization Science*, 15, 446-462.
- Jonathon Cummings, Lee Sproull, & Sara Kiesler. 2002. Beyond hearing: Where real world and online support meet. *Group Dynamics: Theory, Research, and Practice*, 6, 78-88.

- Samer Faraj and Lee Sproull. 2000. Coordinating expertise in software development teams. *Management Science*, 46:1554-1568.
- Salvatore Parise, Sara Kiesler, Lee Sproull, Keith Waters. 1999. Cooperating with life-like interface agents. *Computers in Human Behavior*, 15: 123-142
- Stephanie Watts and Lee Sproull. 1999. Straight talk: Delivering bad news through electronic communication. *Information Systems Research*, 10: 150-166.
- Jolene Galegher, Lee Sproull, and Sara Kiesler. 1998. Legitimacy, authority, and community in electronic support groups. *Written Communication*, 15: 493-530.
- David Constant, Sara Kiesler, and Lee Sproull. 1996. The kindness of strangers: On the usefulness of weak ties for technical advice. *Organization Science*, 7: 119-135. Reprinted in Janet Fulk and Gerardine DeSanctis (eds.) *Shaping Organization Form: Communication, Connection, and Community*. Newbury Park, NJ: Sage Publications.
- Lee Sproull, R. Subramani, Jan Walker, Sara Kiesler, and Keith Waters. 1996. When the interface is a face. *Human Computer Interaction*, 11: 97-124. Reprinted in Batya Friedman (ed.), 1997. *Designing Computers for People--Human Values and the Design of Computer Technology*, 163-190. Cambridge: Cambridge University Press/CSLI.
- Sara Kiesler, Lee Sproull, and Keith Waters. 1996. A prisoner's dilemma experiment on cooperation with people and human-like computers. *Journal of Personality and Social Psychology*, 70: 47-65.
- John Storck and Lee Sproull. 1995. Through a glass darkly: What do people learn in video conferences? *Human Communication Research*, 22, No. 2: 197-219.
- David Constant, Sara Kiesler, and Lee Sproull. 1994. What's mine is ours, or is it? A study of attitudes about information sharing. *Information Systems Research*, 5: 400-421.
- Bradford W. Hesse, Lee Sproull, Sara Kiesler, and John P. Walsh. 1993. Returns to science: Computer networks and scientific research in oceanography. *Communications of the ACM*, 36, No. 8: 90-101.
- John Walsh, Brad Hesse, Sara Kiesler, and Lee Sproull. 1992. Self-selected and randomly-selected respondents in a computer network survey. *Public Opinion Quarterly*, 56: 241-244.
- Sara Kiesler and Lee Sproull. 1992. Group decision making and communication technology. *Organization Behavior and Human Decision Processes*, 52: 96-123.
- James G. March, Lee S. Sproull, and Michal Tamuz. 1991. Learning from samples of one or fewer. *Organization Science*, 2: 1- 13. Reprinted in James G. March (ed.), 1998. *The Pursuit of Intelligence in Organizations*. London: Blackwell Publishers.
- Lee Sproull and Sara Kiesler. 1991. A two-level perspective on electronic mail in organizations. *Organizational Computing*, 1.
- Karen Hartman, Lee Sproull, and others. 1991. Patterns of social interaction and learning to write: Some effects of network technologies. *Written Communication*, 8: 79-113. Reprinted in Zane L. Berge and Mauri P. Collins (eds.). 1994. *Computer-Mediated Communication and the Online Classroom in Higher Education*. Hampton Press.
- Tom Finholt and Lee Sproull. 1990. Electronic groups at work. *Organization Science*, 1: 41-64. Reprinted in Ron Baecker (ed.). 1993. *Readings in Groupware and Computer Supported Cooperative Work*. San Francisco: Morgan Kaufman.

- Charles Huff, Lee Sproull and Sara Kiesler. 1989. Computer communication and organizational commitment: tracing the relationship in a city government. *Journal of Applied Social Psychology*, 19: 1371-1391.
- Lee Sproull, David Zubrow, and Sara Kiesler. 1986. Cultural socialization to computing in college. *Computers in Human Behavior*, 2: 257-275.
- Lee Sproull and Sara Kiesler. 1986. Reducing social context cues: Electronic mail in organizational communication. *Management Science*, 32:1492-1512. Reprinted in Irene Grief (ed.), 1988, *Computer-Supported Cooperative Work: A Book of Readings*. San Mateo, CA: Morgan Kaufman. Reprinted in Cary Cooper and Bill Starbuck (eds.), 2005, *Work: Contexts and Consequences*. Thousand Oaks, CA: Sage Publications.
- Sara Kiesler and Lee Sproull. 1986. Response effects in the electronic survey. *Public Opinion Quarterly*, 50: 243-253.
- Lee Sproull and Kay Hofmeister. 1986. Thinking about implementation. *Journal of Management*, 12: 43-60.
- Lee Sproull. 1986. Using electronic mail for data collection in organizational research. *Academy of Management Journal*, 29: 159-169.
- Sara Kiesler, Lee Sproull, and Jacquelynn Eccles. 1985. Poolhalls, chips, and wargames: Women in the culture of computing. *Psychology of Women Quarterly*, 9: 451-462.
- Lee Sproull, Sara Kiesler, and David Zubrow. 1984. Encountering an alien culture. *Journal of Social Issues*, 40, 3: 31-48. Reprinted in Charles Huff and Thomas Finholt (eds.), *Social Issues in Computing*. New York: McGraw Hill.
- Sara Kiesler and Lee Sproull. 1982. Managerial response to changing environments: Perspectives on problem sensing from social cognition. *Administrative Science Quarterly*, 27: 548-570.
- Lee Sproull and Robert Sproull. 1982. Managing and analyzing behavioral records. *Human Organization*, 41: 283-290.
- Lee Sproull and David Zubrow. 1981. Administrative perspectives on performance information in school systems. *Educational Administration Quarterly*, 17: 61-79.
- Lee Sproull. 1981. Managing education programs: A micro-behavioral analysis. *Human Organization*, 40: 113-122.
- Lee Sproull. 1981. Response to regulation: An organizational process framework. *Administration and Society*, 12: 447-470.

Papers in Edited Volumes

- Lee Sproull. 2011. Prosocial behavior on the net. *Daedalus*, 140, 4: 140-153.
- Lee Sproull & Caryn A. Conley. 2008. Network organizations through communication technology. *The International Encyclopedia of Communication* (ed. Donsbach), volume 7. pg. 3205-3207. Oxford, UK: Wiley-Blackwell.
- Brian Butler, Lee Sproull, Robert Kraut, and Sara Kiesler. 2007. Community effort in online groups: Who does the work and why? In Suzanne P. Weisband (ed.), *Leadership at a Distance: Research in Technologically Supported Work*, pp. 171-194. Mahwah, NJ: Lawrence Erlbaum.
- Lee Sproull and Manuel Arriaga. 2007. Online communities. In Hossein Bidgoli (ed.), *Handbook of Computer Networks, Vol. 3*. New York: John Wiley.

- Lee Sproull, Caryn Conley, and Jae Yun Moon. 2005. Prosocial behavior on the net. In Yair Amichai-Hamburger (ed.), *The Social Net: Human Behavior in Cyberspace*, 139-162. Oxford: Oxford University Press.
- Lee Sproull and Sara Kiesler. 2004. Transforming public volunteer work. In William Dutton, Brian Kahin, Ramon O'Callaghan, and Andrew Wyckoff (eds.), *Transforming Enterprise*, 361-374. Cambridge: The MIT Press.
- Lee Sproull and John Patterson. 2004. Making information cities livable. *Communications of the ACM*, 47: 2, 33-37.
- Lee Sproull. 2003. Online communities. In Hossein Bidgoli (ed.), *The Internet Encyclopedia*, 733-744. New York: John Wiley.
Reprinted 2005, in Hossein Bidgoli (ed.), *Handbook of Information Security*, 97-109. New York: John Wiley.
- Jae Yun Moon and Lee Sproull. 2002. Essence of distributed work: The case of the Linux kernel. In Pamela Hinds and Sara Kiesler (Eds.), *Distributed Work*, 381-404. Cambridge: The MIT Press. (Earlier version appeared in http://www.firstmonday.org/issues/issue5_11/moon/index.html.)
- Thomas A. Finholt, Lee Sproull, and Sara Kiesler. 2002. Outsiders on the inside: sharing know-how across space and time. In Pamela Hinds and Sara Kiesler (Eds.), *Distributed Work*, 357-380. Cambridge: The MIT Press.
- Lee Sproull. 2000. Computers in the U.S. Household: 1977-1997. In Alfred Chandler and James Cortada (eds.), *A Nation Transformed by Information: How Information Has Shaped the United States from Colonial Times to the Present*, pp. 257-280. Oxford: Oxford University Press. Spanish edition published 2002.
- Sara Kiesler and Lee Sproull. 1997. "Social" human-computer interaction. In Batya Friedman (ed.), *Human Values and the Design of Computer Technology*, pp. 191-200. Cambridge: Cambridge University Press/CSLI.
- Sal Parise, Lee Sproull, Sara Kiesler, and Keith Waters. 1996. My partner is a real dog: Cooperation with social agents. *CSCW'96 Proceedings*: 399-408. New York: Association for Computing Machinery.
- Lee Sproull and Samer Faraj. 1995. Atheism, sex, and databases: The net as a social technology. In Brian Kahin and James Keller (eds.), *Public Access to the Internet*, pp. 62-81. Cambridge: The MIT Press. Reprinted in Mark Stefik. 1996. *Internet Dreams: Archetypes, Myths, and Metaphors*, pp. 125-134. Cambridge: The MIT Press. Reprinted in Sara Kiesler (ed.). 1997. *Culture of the Internet*, pp. 35-52. Mahwah, NJ: Lawrence Erlbaum and Assocs.
- Janet H. Walker, Lee Sproull, R. Subramani. 1994. Using a human face in an interface. *CHI'94 Proceedings*. New York: Association for Computing Machinery.
- Sara Kiesler, John Walsh, and Lee Sproull. 1992. Network-based electronic field research. In John Edwards and Fred Bryant (eds.), *Methodological Issues in Applied Social Research*, Vol. 2: 239-268. New York: Plenum.
- James G. March and Lee Sproull. 1990. Technology, management, and competitive advantage. In Paul Goodman, Lee Sproull, and Associates, *Technology and Organizations*. San Francisco: Jossey-Bass.
- Tom Finholt, Lee Sproull, and Sara Kiesler. 1989. Communication and performance in ad hoc task groups. In Jolene Galegher, Robert Kraut, and Carmen Egido (eds.),

- Intellectual Teamwork: Social and Technical Bases of Collaboration*. Hillsdale, NJ: Erlbaum.
- Vitaly Dubrovsky, Sara Kiesler, Lee Sproull, and David Zubrow. 1985. Socialization to computing: A look beyond the classroom. In Robert Feldman (ed.), *Social Psychology Applied to Education*: 313-340. London: Oxford University Press.
- Lee Sproull. 1984. The nature of managerial attention. *Advances in Information Processing in Organizations*, Vol. 1: 9-27. Greenwich, CT: JAI Press.
- Patrick D. Larkey and Lee S. Sproull. 1981. Models in theory and practice: Some examples, problems, and prospects. *Policy Sciences*, 13: 233-246.
- Lee Sproull. 1981. Responding to regulation: School superintendents and the federal government. In Samuel Bachrach (ed.), *Politics and Administration: Organizational Analysis of Schools and School Districts*. New York: Praeger.
- Lee Sproull. 1981. Beliefs in organizations. In Paul Nystrom and William Starbuck (eds.), *Handbook of Organization Design*, Vol. 2: 203-224. London: Oxford University Press.
- Lee Sproull and Patrick Larkey. 1979. Managerial behavior and evaluator effectiveness. In Herbert Schulberg and Jeanette Jerrell (eds.), *The Evaluator and Management*, 89-104. Beverly Hills: Sage.

Reviews

- Lee Sproull. 1990. Review of *Control through Communication*. *Administrative Science Quarterly*, 35: 395-396.
- Lee Sproull. 1985. Reviews of papers by Larry Mohr and Ken Kraemer. *Advances in Information Processing in Organizations*, Vol. 2. Greenwich, CT: JAI Press.
- Lee Sproull. April 1981. Thinking in Organizations: Book Review. *Policy Sciences*, 227-229.

Other Professional Publications

- Lee Sproull and John Patterson. February 2004. Making information cities livable. *Communications of the ACM*, vol. 47, no. 2. pp 33-37.
- National Research Council. 2002. *Preparing for the Revolution: Information Technology and the Future of the Research University*. Washington DC: National Academies Press.
- Jae Yun Moon and Lee Sproull. 2000. Essence of distributed work: The case of the Linux kernel group. http://www.firstmonday.org/issues/issue5_11/moon/index.html
- National Research Council. 1998. *Fostering Research on the Economic and Social Implications of Information Technology*. Washington DC: National Academy Press.
- National Research Council. 1993. *National Collaboratories: Applying Information Technology for Scientific Research*. Washington DC: National Academy Press.
- Lee Sproull and Sara Kiesler. 1991. Computers, networks, and work. *Scientific American*, 265, no. 3: 84-91. Reprinted in Linda Harasim (ed), 1993, *Global Networks: Computers and International Communication*. Cambridge: The MIT Press. Reprinted in Charles Huff and Thomas Finholt (eds.), *Social Issues in Computing*. New York: McGraw Hill. Reprinted in Ronald M. Baecker et al., (eds.), *Readings in Human-*

Computer Interaction: Toward the Year 2000. San Francisco: Morgan Kaufman. Reprinted in Scientific American, 1995, *The Computer in the 21st Century*. Reprinted in Hawisher and Selfe, 1997. *Literacy, Technology and Society: Confronting the Issues*. Prentice-Hall. Reprinted in 2002. *The Dynamic Information Society*. Pearson Publications.

- Lee Sproull and Sara Kiesler. 1991. Making connections: Computers can enhance employee commitment--at a cost. *Employment Relations Today*, spring: 53-70.
- Sara Kiesler, Lee Sproull, and Jacquelynne Eccles. 1983. Second class citizens? Girls in the culture of computing. *Psychology Today*, March: 40-48.
- Lee Sproull and David Zubrow. 1981. Standardized testing from the administrative perspective. *Phi Delta Kappan*, May: 628-630. Reprinted in *Reports to Educators*. Pittsburgh: LRDC. Also reprinted in *Standard Education Almanac*, 15th Ed. (1982).
- Jane Hannaway and Lee Sproull. 1979. Who's Running the show? Managerial interactions between the district office and schools. *Administrator's Notebook*, 27: No. 9.
- Robert Hess, Robert Floden, Lee Sproull, and Robert Conry. 1977. An RFP for the evaluation of Title I programs: Will OE learn what it wants to know? *Evaluation*, 4: 152-156.

EXTERNAL GRANTS

- 1994-99 The Markle Foundation. Research on electronic groups, \$249,167. Principal investigator.
- 1994 Sun Microsystems. Research on video interaction, \$25,000. Principal investigator.
- 1994-96 Advanced Projects Research Agency. Research on electronic democracy, subcontract from MIT AI lab, \$55,000. Principal investigator.
- 1991 Boston University Manufacturing Roundtable. Effective communication in industry-academic networks, \$21,625. Principal investigator.
- 1992-93 Digital Equipment Corporation. How new communication technology is Changing work and organizations, \$157,000 Principal investigator.
- 1990 Information Networking Institute. Behavioral and social science research on computer networks, \$78,000. Co-principal investigator with Sara Kiesler.
- 1988 National Science Foundation. Organizational learning conference, \$55,000. Co-principal investigator with Michael Cohen.
- 1985 Mellon Foundation Program in Technology and Society. Secretaries and computers, \$1500. Principal investigator.
- 1984-89 System Development Foundation. Research on the social effects of electronic communication, \$400,000. Principal investigator.
- 1982-83 System Development Foundation. A study plan for research on the electronic community experiment at Carnegie Mellon, \$70,000. Co-principal investigator with Sara Kiesler.
- 1982 Mellon Foundation Program in Technology and Society. Computers in organizations, \$1500. Principal investigator.

- 1978-81 National Institute of Education. Response to regulation: Basic research on organizational processes, \$278,000. Principal investigator.
- 1978-81 Carnegie Corporation. Administrative uses of performance information, \$78,000. Principal investigator.

PROFESSIONAL ACTIVITIES

Selected Invited Presentations

- 2006 National Science Foundation. New initiatives in information systems research.
- 2003 Department of Commerce. Transforming public volunteer work.
- 2002 University of Michigan Interdisciplinary Colloquium. Voluntary associations on the Net.
- 2000 Carnegie Mellon University Newell Simon Symposium. Inventing new social organizations.
- 1998 Kyoto University Distinguished Lecture. Identity and community on the Internet.
- 1997 University of Oklahoma Distinguished Lecture. Beyond information: Social support on the Internet.
- 1997 University of Groningen, The Netherlands. Information is not enough: The world of electronic groups.
- 1995 MIT Symposium in Honor of Vannevar Bush. Information is not enough.
- 1995 Emory University. Hightower Lecturer in Organization and Management.
- 1994 USIA Worldnet Television. Technology and culture.
- 1992 Computer Museum of Boston. How network communication is changing work and management.
- 1992 University of Illinois Millercomm92 lecture. Making new connections: Social consequences of computer networking.
- 1991 NIMH Workshop on Biomedical Computing. Network support for biomedical communities.
- 1990 Soviet Academy of Sciences, Leningrad, Electronic communication in science.
- 1989 ACM Conference on Strategic Directions in Computing. Scientific collaboration and computing.
- 1989 Tennessee Governor's Executive Institute. Implementation.
- 1989 University of Toronto McLuhan Lecture. Information technology and knowing what we know.
- 1988 New Delhi National Conference on Computers and Human Resource Management Electronic Dialog. Electronic connections and affiliations.
- 1988 Rockefeller University Invitational Workshop on Scientific Communication and Computation.
- 1988 University of Michigan Public Lecture Series on Information and Social Organization. Talking over computers.

- 1985 American Association for the Advancement of Science, Plenary session. Is there a computer revolution?
- 1985 Texas Conference on Organizations Keynote. Organizational change and new communication technology.

Selected External Committees and Appointments

- 2007-09 University of Michigan School of Information External Advisory Board
- 2006-07 President's Council of Advisors on Science and Technology Technical Advisory Group
- 2004- American Academy of Arts and Sciences Planning Committee on the Public Internet
- 2002- Carnegie Mellon University Human Computer Interaction Institute Visiting Committee
- 2002-05 National Academies Forum on Information Technologies and Research Universities.
- 2000-02 National Research Council Panel on the Impact of Information Technology on the Future of the Research University.
- 1998-03 National Research Council Computer Science and Telecommunications Board.
- 1998-00 National Research Council Guidance Group for Being a Scholar in the Digital Age.
- 1998-03 MentorNet Research Advisory Board.
- 1997-99 The Computer Museum Board of Trustees.
- 1997- Carnegie Mellon University Department of Social and Decision Sciences Visiting Committee.
Carnegie Mellon University College of Humanities and Social Sciences Visiting Committee.
- 1997-98 National Research Council Committee on Economic and Social Impacts of Computing and Communications.
- 1995-99 American Sociological Association Advisory Group on Electronic Networking.
- 1994-97 Computer Museum of Boston Board of Advisors.
- 1992-93 American Institute of Physics Committee on History of Physics.
- 1991-93 National Research Council Committee Towards a National Collaboratory.
- 1989-90 Internet Task Force on Requirements for Scientific Computing.
- 1992-96 Computer-Supported Cooperative Work Conference Tutorials Chair.
- 1988-96 Computer-Supported Cooperative Work Conference Program Committee.
- 1991 TIMS/ORSA Best Dissertation Proposal Panel.
- 1987 ICIS Program Committee.
- 1985-93 Social Science Research Council Working Group on Social Aspects of Computing.
- 1984-86 Brown University Trustees' Committee on Computers and Education.

Memberships

Academy of Management
 Association for Computing Machinery

Editorial Boards

1998- Computers in Human Behavior.
 1994- Journal of Computer-Mediated Communication.
 1993-97 Information Systems Research, Associate Editor.
 1991- Organization Science.
 1984-86 Advances in Information Processing in Organizations, Series Editor.
 With Patrick Larkey.
 1984-88 Administrative Science Quarterly.

Awards, Prizes, Honors

2009 Best Published Paper, INFORMS Information Systems Society and
 Information Systems Research
 2009 NYU Emerita Professor
 2005 Academy of Management OCIS Division best research article published in
 2004.
 2003 Lifetime award, National Associate of the National Academies, “to recognize
 extraordinary service to the National Academies.”
 1997 Academy of Management OCIS Division best research article published in
 1996.
 1993 Academy of Management best book on management, finalist.
 1983 Academy of Management best book on management. Contributed chapter.
 1982 Academy of Management new concept award (2nd place).
 1982-83 NIMH National Research Fellowship. Stanford University.

National Associate of the National Academies
 Beta Kappa Sigma
 Sigma Xi