

John F. ("Jeff") Kelley, Ph.D., CPE

Adjunct Associate Professor, Engineering Psychology, Georgia Institute of Technology

Senior Managing Consultant, Usability Engineering, IBM Global Business Services

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Curriculum Vitae

Part-time Academic Career Objective

Share the accumulated lessons of 30 years of research and practice in the field of Human Factors and Ergonomics with new practitioners and graduate students contemplating a career in the field.

Education

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|-------|---------------------------|---|------|
| Ph.D. | Engineering Psychology | The Johns Hopkins University, Baltimore | 1983 |
| M.A. | Experimental Psychology | The Johns Hopkins University, Baltimore | 1981 |
| M.A. | Ergonomics | University of California, Santa Barbara | 1978 |
| B.A. | Human Factors Engineering | University of California, Santa Barbara | 1976 |

Certification and Appointments

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| Adjunct Associate Professor | Georgia Institute of Technology | 2006 |
| Fellow | Institute of Ergonomics & Human Factors (UK) | 2006 |
| Certified Professional Consultant | IBM | 2002 |
| Fellow | Human Factors & Ergonomics Society (US) | 1999 |
| Certified Professional Ergonomist | BCPE | 1993 |

Professional Affiliations and Activities

- The Human Factors and Ergonomics Society (HFES), Fellow:
 - Chair, Social Computing Task Force (2010)
 - **President**, HFES (2008)
 - President, Atlanta Chapter (2006)
 - Editor, *Ergonomics In Design* (2001-2003)
 - Technical Program Chair (1995-1998)
 - Co-Chair, HFES/International Ergonomics Association Joint Congress Technical Program Committee (2000)
 - Chair, Council Of Technical Groups (2000)
 - Chair, Computer Systems Technical Group (also Secretary, Webmaster, Newsletter Editor in previous years) (1994-1997)
 - Member: Annual Meeting Policy Committee (2006), Web Content Advisory Task Force (2002), Committee on Women in HFES (1999), Electronic Publications Committee (1997-1998), Technical Program Committee (1988-2000)
- Institute of Ergonomics & Human Factors (UK), Fellow (2006)
- American Psychological Association – Engineering Psychology (Division 21)
- Association for Computing Machinery – Computer Human Interface (ACM SIGCHI)
 - Conference information kiosk system (1987)
- CybErg: International Conference on Ergonomics in Cyberspace
 - Member, International Scientific Advisory Committee (2001)
 - Founder, CybErg Webroom at HFES Annual Meeting (1996, 1999)

- IBM:
 - Member, SmarterCities Strategy Study (2010)
 - Social Computing Lead, Transportation & Logistics workgroup of IBM Academy of Technology Green IT Initiative (2008)
 - Co-Chair, IBM Academy of Technology User Experience Community of Practice (2008 - current)
 - Co-Chair, User Experience & Agile workgroup (2007 - current)
 - Program Chair, International Human Factors Interdivisional Technical Liaison Meeting (1987)
 - Founder, IBM Human Factors Conference Disk, electronic community system (1983)

Awards and Recognition

- IBM Corporate Technical Recognition Event (2008)
- IBM Service Excellence Award (2007)
- Fellow, The Ergonomics Society (2006)
- U.S. Customs Modernization Project Team Award (2004)
- IBM Global Services Region Executive Teamwork Award (2000)
- Fellow, HFES (1999)
- Alexander C. Williams Jr. Award for "outstanding application of Human Factors to the design of a major operational system", HFES (1996)
- Outstanding Technical Achievement Award, IBM (1994)
- Patent/Invention Achievement Awards, IBM (1988, 1992, 1998)
- External Honors Award, IBM (1990, 1993, 1995, 1996, 1999)
- IBM Research Technical Group Award (1991, 1992)
- Best Navigation & Best Research Tools Digital FX Awards from Profit & Loss magazine (2003)
- Finalist Award, New York Festivals: design, interactive multimedia application (1991)
- Honor Award, World Graphic Design Now: design, lobby information kiosk (1989)
- IBM Research "Ten Best Technical Reports" award (1983)

Teaching Experience – Adjunct Associate Professor

At Georgia Institute of Technology, Department of Engineering Psychology, Atlanta, GA (2006):

- Human Factors Consulting (graduate colloquium series)

Teaching Experience - Instructor

At The Johns Hopkins University, Department of Psychology, Baltimore, MD (1980):

- APL Programming and Statistics

At Towson State University, Department of Psychology, Baltimore, MD (1979-1980):

- Social Psychology
- Organizational Psychology
- Industrial Psychology

Teaching Experience – Teaching Assistant

At The Johns Hopkins University, Department of Psychology, Baltimore, MD (1978-1979):

- Analysis of Variance
- Social Psychology
- Industrial Psychology

At University of California at Santa Barbara, Department of Ergonomics (1977-1978):

- Basic Statistics
- Health
- Exercise Physiology

Tutoring experience: FORTRAN, Visual Perception, ANOVA, Experimental Design, Statistical Analysis

Professional Experience

Adjunct Associate Professor, Georgia Institute of Technology, Dept. of Psychology (2006-now)

- Conduct graduate seminars on tools and techniques in the practice of Human Factors and Ergonomics in commercial and government settings.
- Serve on graduate committees.

Sr. Managing Consultant, IBM Global Business Services, Usability Engineering Practice (2000-now)

- User Experience Architect, requirements, prototyping, design, development, IBM Patent Engineering Group
- User Interface Architect / Business Analyst, requirements & prototyping, Coca-Cola/coke.com
- User Interface architect, lead UI designer, prototyping, U.S. Forest Service, national wildfire planning system.
- Co-chair, IBM User Experience Community of Practice.
- Co-chair, IBM Agile + User Experience work group.
- User Interface architect, lead UI designer, prototyping, Honeywell HR application.
- User centered design, prototyping for Avnet CRM application.
- User centered design, prototyping for the U.S. Customs [Modernization project](#) as part of the [U.S. Department of Homeland Security](#).
- User centered requirements gathering and design of next-generation trader workstation for a leading investment management firm.
- User centered application design and prototyping for a new workflow application for state governmental tax auditing department.
- User centered design Team Lead and UI Architect for a novel transactional B2B web-presence for HSBC International Banking & Markets. Two patents awarded for web designs; 2003 Digital FX Awards for Best Navigation and Best Research. Magazine for Best Navigation and Best Research.
- Technical Lead and Prototyper on a project to bring thought leadership and advanced transactional capability to the B2B and B2C website of a large multi-national technology services company.

- Low and high fidelity prototyping (JavaScript, DHTML, HTML, DreamWeaver, Websphere, Java, Rexx, Excel, client-side and server-side); Requirements gathering interviews, DSC (Decision Support Center) "focus groups"; Iterative design; Global Services Method; received IBM's Global Services Region Executive Teamwork Award.

Program Manager, Future Combat Systems, SA Technologies/U.S. Army (2004-2005)

- Managed 6 design teams and 3 support teams performing warfighter-centered design for the U.S. Army's [Future Combat Systems](#) project as sub-contractor to Boeing's [Integrated Defense Systems](#) business unit.
- Supervised GDTA (Goal Directed Task Analysis) requirements gathering based on warfighter interviews, construction of goal trees, function analyses and function allocations to drive application situation awareness automation.
- Supervised role-based GUI designs for all the mission and command-and-control applications that will be used in the Army's new networked, modular force.
- Collaborated with FCS partners in MANPRINT and technology integration efforts (hardware and software).
- Designed Flash prototyping framework for use in design and usability testing.
- Refined Boeing processes for FCS Program CMM Level 3 certification (and beyond).

Research Staff Member, IBM T.J. Watson Research (1982-2000, most recent on top)

- Lead in construction of mass, multi-vendor content aggregation/creation tools and architecture for EMS, a multi-media electronic purchasing transaction IBM product (IBM Outstanding Technical Achievement award, IBM Patent, IBM Supplemental Patent Achievement award).
- Design and test new user-computer interaction techniques.
- Help design and implement a user-centered model of customer engagement for application development.
- Ergonomic design of kiosk workstations and software solutions for multimedia public access systems including the EXPO '92 Guest Services System, (a multimedia information kiosk system used by 15 million logged-on users at the World's Fair in Seville, Spain -- winner of the 1996 Alexander C. Williams Jr. Award from the Human Factors and Ergonomics Society).
- Ergonomic design of kiosk workstations and software solutions for the Visitor Information and Education Workstation kiosks at the American Museum of Natural History.
- Iterative usability testing (User Centered Design) of the pilot for a web-based consumer music download system run by a consortium of recording companies
- Usability representative on the Human-Machine Interface subgroup of the Automotive Multimedia Interface Consortium (AMIC).
- Design and install audio authoring application (IBM Research Division Award).
- Patent activities (Two IBM Plateau Invention Achievement Awards).
- Project Leader and Co-Found the Interactive Media Project: design and supervise construction of Lab and Video Studio, Produce and direct many professional videos (including co-produce and on-screen narrator for ACM-sponsored "Interactive Digital Video", shown on many PBS affiliates).

- Project Leader: principle design, install, and perform iterative Human Factors evaluation of Hawthorne Multi-media Lobby Information Kiosk (World Graphic Design Now, Honor Award).
- Design of [RIK/GEDD](#): Authoring/prototyping/database delivery package for interactive graphic public access information systems.
- Project leader for RIK conference lobby information kiosks for ACM CHI+GI conference in Toronto, 1987 (the first interactive public-access kiosk used at a SigCHI conference).
- Chair IBM Human Factors ITL Conference, co-editor of proceedings.
- Create and Administer IBM Human Factors, SAA/CUA Common User Access, Icon Design, and Product Pre-Announce Information electronic conferences with shadows worldwide.
- Co-designer of award-winning interactive multimedia application "[John Cocke, A Retrospective by Friends](#)" (First Place, International Interactive Communications Society's Mark of Excellence Awards; New York Festivals, Finalist Award; IBM Research Division Award).
- Human Factors consultation, Iterative interface design for Videotex Authoring system including graphics creation, database integration and delivery, systems architecture; consultation with various external groups, including Prodigy joint Videotex venture.

Postdoctoral Fellow, IBM T.J. Watson Research, (1982-1983)

- Designing, conducting and publishing research in fundamental user-computer interface issues.
- While serving as a member of a task force on an integrated graphics/handwriting workstation, was responsible for functional specifications for software applications capitalizing on the unique features offered by a device incorporating advanced pointing, drawing, and handwriting input (author of a "Ten Best" IBM technical report on the subject).
- Identified areas of behavioral research interest, proposed a set of flexible software services to allow testing and implementation of alternative interface designs.
- Designed and initiated a series of studies to compare various pointing devices (e.g., mouse, step keys) in different task contexts (e.g., item selection, text editing).
- Created a prototyping software package to display stimuli, collect a time-stamped record of user response actions, and analyze results.

NSF Fellowship / Research Assistant, The Johns Hopkins University, Department of Psychology (1978-1982)

- Conducted laboratory research under contract to NSF & IBM on telecommunications and person-computer interactions; designed and implemented communications systems hardware and software; created easy-to-use file management and tutorial software for first-time and discretionary users of computers; designed and wrote computer software for processing unconstrained, typed natural language inputs; developed what is now a widely-used empirical simulation approach for designing and evaluating software applications and coined the terms "Oz Paradigm" or "Wizard of Oz" as a metaphor to explain it. (Professor Alphonse Chapanis)

Human Factors Consultation, University of California at Santa Barbara (1975-1978)

- As a member of the Chancellor's Physical Planning and Bicycle Safety Committees, designed new traffic signs and flow patterns consistent with international standards for a large bicycle population (25,000 movements per day on campus), created and evaluated a Job Performance Aid for the University Police Department's use in theft reporting and stolen goods recovery.

Patents and Technical Disclosures (partial list)

- Patent: A method and apparatus for automated Search and Rescue using the Sun and common retroreflectors (Pending) [*]
- Patent: Cantilevered Laptop Screen with Hand-on-Keyboard Imaging (Pending) [*]
- Patent: Embedded Audio Comments in Source Code (Pending)
- Patent: Pop-out, printable, tabbed dividers for three-ring and other binders (Pending) [*]
- Patent: Ghost keyboard typing tutor (Pending) [*]
- Patent: Use Of An Ephemeral List In Web Applications To Bridge The Gap Between Browsing And Searching (U.S. #6,931,416) [*]
- Patent: Context Management Supertools And The Filter/sort Model For Aggregated-display Web Pages (pending) [*]
- Patent: Continuously Adjustable Variable Length Apparatus For Gearless Shifting (U.S. #6341946) [*]
- Patent: Slow-rolling Cradle For Storing Cylindrical Containers Of Mixtures To Prevent Separation Or Crystallization (U.S. #6325533) [*]
- Patent: Speed-based Disabling Of Functionality For Automotive Applications (U.S. #6266589)
- Patent: Dynamic Cylindrical Display For Pen-sized Computing (U.S. #6215480) [*]
- Patent: System For Ordering Items Over A Computer Network Using An Electronic Catalog (U.S. #5870717)
- Patent: Insulated ice tray system (U.S. #5,676,875) [*]
- Patent (Europe): Method and apparatus for selecting items of a menu ("Menu Pies"), EP #EP0355458A3) [*]
- TechDisclosure: Reporting and/or Issuing Transportation Recommendations Based on Tracking of Trip Segments [*]
- TechDisclosure: Partial Vacuum Chamber for making Clear, Dense Ice Cubes [*]
- TechDisclosure: Hybrid Digital-analog Audio And Video For Fast Access And Low Cost Media Segments
- TechDisclosure: Quick Change: Prompter Display For Cash Drawers
- TechDisclosure: Aiming A Camera To Take A Portrait [*]
- TechDisclosure: Behavioral Camera Framing Cone [*]
- TechDisclosure: Tharis: Two-handed, Action-reaction, Isometric, Symmetrical Joystick [*]
- TechDisclosure: Menu Item With Cipher Lock
- TechDisclosure: Hinged Keyboard In Desk
- TechDisclosure: Remote-activated Graphic Equalizer Interface Design
- TechDisclosure: Telescopic Joystick
- TechDisclosure: Combined Laser And Piezoelectric Touchscreens For Tracking And Confirmation
- TechDisclosure: Windowing (cursor) Control Key Legends [*]

[*] Principal Inventor

Papers and Presentations (partial list)

- Kelley, John F. (Jeff). "[The HF/E Show – 2009 HFES President's Forum](#)." *Human Factors & Ergonomics Society Annual Meeting*, 20 October 2009.
- Torres, R.J. (Bob), Heck, Michael P., Rudd, James R., & Kelley, John F. (Jeff). "Usability Engineering: 'Best of the Best' Best Practices," *Ergonomics In Design*, Summer 2009.
- Kelley, John F.. "[Presidential Address](#)," *Human Factors & Ergonomics Society Annual Meeting*, 23 September 2008.
- Kelley, John F.. "Agile + Usability Engineering: How one UX Practitioner Is Attempting to Apply User-Centered Design and Hi-Fi Prototyping in Agile Software Projects". *IBM Academy of Technology - Agile Methods & Practice Conference*, Raleigh, NC, 24 June 2008.
- Kelley, John F.. "Agile + Usability Engineering: Strange Bedfellows?", Keynote Address. *World Usability Day 2007 Conference*, Dayton, OH, 8 November 2007.
- Torres, R.J., Heck, Michael P., Rudd, James R., Kelley, John F.. "Usability Engineering – A Consultant's View of Best Practices and Proven Results". *Ergonomics In Design*, 2008
- Torres, R.J., Heck, Michael P., Rudd, James R., Kelley, John F.. "A Consultant's View of Best Practices and Proven Results: A focus on Recent Web-Based Projects". *Ergonomics In Design* (in press), 2006
- Kelley, J.F. [Editor] "[Ergonomics In Design](#)". *Human Factors and Ergonomics Society* [Quarterly, beginning Summer, 2001, ending in Fall, 2003]
- Kelley, J.F. [Executive Editor] "[The CSTG Bulletin](#)". *Human Factors and Ergonomics Society*. 28:1, August, 2001.
- Kelley, J.F. [Editor] "The CSTG Bulletin". *Human Factors and Ergonomics Society*. [27:1, July, 2000](#) & [26:2, August, 1999](#) & [26:1, April, 1999](#) & [25:2, December, 1998](#).
- Kelley, J.F., Danis, C.. "Scope-Creep can be Your Friend: How we use Research in the Marketplace to accomplish user-centered functional and interface specification". Invited Presentation at the July 1998 Meeting of the *South Jersey Chapter of the Human Factors and Ergonomics Society*, Pomona, NJ, July 1998.
- Kelley, J.F., Spraragen, S.L., Jones, L., Greene, S.L., Boies, S.. "[Extending user-centered methods beyond interface design to functional definition](#)". *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, Philadelphia, PA, September 1996.
- Shapiro, R. G., Beith, B.H., Goldberg, J.H., Hale, J.P., Kelley, J.F.. "I'm Graduating - Now What? A comparison of work in academics, consulting, government, industrial research, and industrial development". *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, Nashville, Tennessee, 24 October 1994
- Kelley, J.F., Bennett, W., Boies, S., Cesar, C., Gould, J., Greene, S., Jones, L., Kesselman, J., Mushlin, R., Spraragen, S., Ukelson, J., Wiecha, C.. "[IBM EXPO '92 Guest Services System](#)". Presented at *The Human Factors and Ergonomics Society Annual Meeting*, Seattle, Washington, 11 October 1993

- Kelley, J.F.. "EXPO '92: Building large, real-world multimedia applications using ITS". *Proceedings of Multimedia: Uses, Misuses and Usability of a Revolutionary User Interface*, Morristown, New Jersey. Metropolitan Chapter of the Human Factors and Ergonomics Society 12 March 1993.
- Kelley, J.F., Ukelson, Jacob. "COAS: Combined Object-Action Selection: A Human Factors Experiment". *Proceedings of Human Factors Society Annual Meeting*, October 1992.
- Kelley, J.F., Frishberg, Nancy F.. "IMP-Builder/IMP-Player: A Case Study of Rapid Interactive Multimedia Application Development". *Proceedings of IBM Multi-Media ITL*. 4-7 February 1991, Boca Raton FL
- Frishberg, Nancy, Laff, Mark R., Desrosiers, Moe R., Koons, W. Randall, Kelley, J. F.. ["John Cocke: a retrospective by friends \(an interactive multimedia scrapbook\)"](#). *Proceedings of Human Factors in Computing Systems: Reaching Through Technology*. pp 423-424, ACM Press 1991
- Kelley, J.F.. "Multi-Media Application Development". *Proceedings of SHARE74*, Los Angeles, CA, February, 1990
- Kelley, J.F.. "Research Information Kiosk - Rapid Graphic Prototyping". *Proceedings of SHARE72*, Los Angeles, CA, February, 1989
- Morooka, M., Kelley, J.F., Gursky, M.. "RIK/GEDD Graphics". *World Design Now* (1989)
- Tynan, P., Kelley, J.F. [Editors]. "Proceedings of the Human Factors/Product Usability ITL Meeting". *IBM T.J. Watson Research Center*, Hawthorne, NY, 1988
- Kelley, J.F., ["RIK+GEDD Case Study: Rapid Prototyping and the 1987 CHI+GI Conference Information Kiosk"](#). Poster, *ACM SIG-CHI*, Washington, DC. 15 May 1988.
- Kelley, J.F., "Videotex Information Packagers: A field study aimed at tomorrow's Videotex Authoring Interface". *SIGCHI Bulletin*, January, 1988, 19:3, pp 37-48.
- Kelley, J.F., "CAL - A Natural Language program developed with the OZ Paradigm: Implications for Supercomputing Systems". *First International Conference on Supercomputing Systems* (St. Petersburg, Florida, 16-20 December 1985), New York: ACM, pp. 238-248
- Kelley, J.F., ["An empirical methodology for writing user-friendly natural language computer applications"](#). *Proceedings of ACM SIG-CHI '83 Human Factors in Computing systems* (Boston, 12-15 December 1983), New York: ACM, pp. 193-196.
- Kelley, J.F., ["An iterative design methodology for user-friendly natural language office information applications"](#). *ACM Transactions on Office Information Systems*, March 1984, 2:1, pp. 26-41.
- Kelley, J.F., "A Human Factors perspective on designing an integrated graphics I/O workstation" (*IBM Research Report #RC 9857*), 1983.
- Kelley, J.F., "Natural Language and computers: Six empirical steps for writing an easy-to-use computer application". Unpublished doctoral dissertation, The Johns Hopkins University, 1983. (Can be obtained from University Microfilms International; 300 North Zeeb Road; Ann Arbor, Michigan 48106.)
- Kelley, J.F. & Chapanis, A., "How professional persons keep their calendars: Implications for computerization". *Journal of Occupational Psychology*, 1982, 55, 241-256.

Kelley, J.F., Michael, E., & Parrish, R. N., "The physiological costs of boxlifting by females". *Proceedings of the International Ergonomics Association Meeting*, Tokyo, Japan, 1982. presented at the 1982 International Ergonomics Association

Money, J., Anecillo, C., & Kelley, J.F., "Growth of intelligence: Failure and catchup associated respectively with abuse and rescue in the syndrome of abuse dwarfism". *Psychoneuroendocrinology*, 1983

Money, J., Anecillo, C., & Kelley, J.F., "Abuse-dwarfism syndrome: After rescue, statural and intellectual catchup growth correlate". *Journal of Clinical Child Psychology*. 1983.

Video Productions (partial list)

Video: "Interactive Digital Video". *ACM*, 1990, On-screen Narrator, Producer (Studio Sequences); Broadcast on many PBS affiliates.

Video: Alpert, S, Kelley, J. "Animated Icons". *ACM SIG-CHI*, 1990.

Video: Wang, C.P., Ling, D., Kelley, J., "Scientific Visualization and the Dataglove". 1989.

Video: Kelley, J.F., Pulido, G., American Sign Language Interactive Video Disks (3 volumes), Produced/Directed in collaboration with IBM Exploratory Education Systems department and U.C. San Diego, (referenced in *Popular Science*, among other places) 1989.

Video: Kirson, D.A., Carroll, J.M., Eckhoff, R., Kelley, J.F., Canetti S.L., "Specialist Help using multiple media". *ACM SIG-CHI*, Washington, DC. 15 May 1988.

Video: Carroll, J.M., Aaronson, A., (Kelley, J.F. Producer) "SmartHelp" *ACM SIG-CHI*

Video: Herder, R.E., Carroll, J.M., Brown, P.S., Gursky, M.C., Canetti, S., Kelley, J.F.. "TaskMapper" *ACM SIG-CHI*