

Curriculum Vitae
Jon Holbrook

Work Address:

NASA Ames Research Center
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Summary of Qualifications:

- Ph.D. in Cognitive Science with 10 years of experience in researching and optimizing human and system performance through the use of human factors design principles
- Established track record of building high performance teams and integrating diverse skills to effectively accomplish challenging goals
- Experience working with advanced methods and tools in government and industry
- Experience managing \$1M+ budgets
- Accomplished technical report writer and presenter: over 30 publications and presentations

Technical skills:

- Project management
 - Field and laboratory test and evaluation
 - Training design
 - Knowledge elicitation
 - User requirements analysis
 - Task analysis
 - Statistical analysis
 - Business development
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Education:

Vanderbilt University

Major: Psychology (Cognitive Science)
Degree: M.A., 2000
Ph.D., 2000

Birmingham-Southern College

Major: Psychology
Degree: B.S., 1995

Honors and Awards:

- 1995 Graduated with honors, Birmingham-Southern College
 - 2000 Awarded an internationally competitive research associateship by the National Research Council
 - 2005 Received achievement award from NASA Engineering and Safety Center in recognition of efforts to review recurring anomalies in the Space Shuttle and International Space Station Programs to proactively identify technical vulnerabilities
 - 2006 Received Aptima Outstanding Accomplishment award
 - 2007 Received Aptima Outstanding Accomplishment award
 - 2010 Received Ames Honor Award from NASA in recognition of efforts in support of the Airport Surface Advisory Simulation Team
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Work Experience:

March 2009 – Present

Senior Research Associate, Human Systems Integration Division
San Jose State University Research Foundation at NASA Ames Research Center

Manages tasks in support of NASA's Airspace Systems Program. Conducts research related to cognitive performance in the aviation and space domains.

January 2008 – March 2009

Cognitive Scientist, Human Systems Integration Division
Perot Systems Government Services

Managed tasks in support of NASA's Next Generation Air Transportation System AirPortal Project. Conducted research related to cognitive performance in the aviation and space domains.

September 2005 – January 2008

Senior Cognitive Scientist, Advanced Training Solutions Division
Aptima, Inc.

Managed projects with total annual budget of \$1.1 million. Directed project teams of 3-12 members. Led teams in conducting utility/usability evaluations, developing a web-based cognitive engineering resource for systems engineers, and developing a tool for defining flight simulator system requirements based on hazards experienced in actual flight operations. Consulted on numerous projects in the areas of human performance, training, and test and evaluation.

September 2002 – August 2005

Senior Research Associate – Human Factors Research and Technology Division
San Jose State University Foundation at NASA Ames Research Center

Conducted research at NASA Ames Research Center on memory for goals and intentions, concurrent task management, and the effects of acute stress on human

performance. Developed strategies and tools for understanding and improving the skilled performance of experts in the aviation and space domains.

July 2000 – September 2002

Post-Doctoral Research Associate – Human Factors Research and Technology Division
National Research Council at NASA Ames Research Center

Conducted research at NASA Ames Research Center in the areas of naturalistic decision making and risk perception geared toward the development of strategies and tools for improving aviation safety.

Research Publications:

Hoang, T., Jung, Y. C., **Holbrook, J. B.**, & Malik, W.A. (2011). Tower controllers' assessment of the spot and runway departure advisor (SARDA) concept. Paper presented at the 9th USA/Europe Air Traffic Management Research and Development Seminar, Berlin, Germany.

Holbrook, J., Puentes, A., Stasio, N., Jobe, K., McDonnell, L., & Beard, B. L. (2011). How thoroughly do proposed NextGen mid-term operational improvements address existing threats? *Proceedings of the 16th International Symposium on Aviation Psychology*. Dayton, OH: The Wright State University.

Schurr, N., Good, R., Alexander, A., Picciano, P., Ganberg, G., Therrien, M., Beard, B.L. and **Holbrook, J.** (2010) A Testbed for Investigating Task Allocation Strategies between Air Traffic Controllers and Automated Agents. *Proceedings Of the Twenty-Second Conference on Innovative Applications of Artificial Intelligence*. Vancouver, BC, Canada: AAAI Press.

Holbrook, J., & Dismukes, R. K. (2009). Prospective memory in everyday tasks. *Proceedings of the Human Factors and Ergonomics Society, 53rd Annual Meeting* (pp. 590-594). Santa Monica, CA: Human Factors and Ergonomics Society.

Paletz, S. B. F., Bearman, C. R., Orasanu, J., & **Holbrook, J. B.** (2009). Socializing the human factors analysis and classification system: Incorporating social psychological phenomena into a human factors error classification system. *Human Factors, 51*, 435-445.

Beard, B. L., **Holbrook, J. B.**, Geven-Sowul, C., & Ahumada, A. J. (2009, July). Assessment of cognitive abilities in simulated space ascent environments. 39th International Conference on Environmental Systems (ICES), paper number 09ICES-0261, Savannah, GA.

Holbrook, J. B., Stelzer, E. M., Darowski, A., Horn, Z., Grier, R., Wiese, E., Paley, M., & Martin, E. (2007). Demonstration of training and process support capabilities for bridging the gap between systems engineering and cognitive engineering. *Proceedings of the Human Factors and Ergonomics Society, 51st Annual Meeting* (pp. 494-498). Santa Monica, CA: Human Factors and Ergonomics Society.

Alexander, A., Estock, J., Beaubien, J., & **Holbrook, J. B.** (2007). Developing observer-based measures for assessing the effects of advanced technologies on crew resource management. *Proceedings of the 14th International Symposium on Aviation Psychology* (pp. 7-12). Dayton, OH: The Wright State University.

- Holbrook, J. B.**, Bost, P. R., & Cave, C. B. (2003). The effects of study-task relevance on perceptual repetition priming. *Memory & Cognition*, *31*, 380-392.
- Holbrook, J. B.**, Orasanu, J., & McCoy, C. E. (2003). Weather-related decision making by aviators in Alaska. In *Proceedings of the 12th International Symposium on Aviation Psychology* (pp. 576-581). Dayton, OH: The Wright State University.
- Nowinski, J. L., **Holbrook, J. B.**, & Dismukes, R. K. (2003). Human memory and cockpit operations: An ASRS study. In *Proceedings of the 12th International Symposium on Aviation Psychology* (pp. 888-893). Dayton, OH: The Wright State University.
- McNamara, T. P., & **Holbrook, J. B.** (2002). Semantic memory and priming. In I. B. Weiner (Series Ed.), A. F. Healy, & R. W. Proctor (Vol. Eds.), Comprehensive handbook of psychology: Experimental psychology (Chapter 16). New York: Wiley & Sons.
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Research Presentations:

- Strater, L., Tinsley, M., Jones, R. E. T., **Holbrook, J.**, Beard, B. L., & Endsley, M. (2011). Development and validation of a predictive model of situation awareness for tower controllers. Presentation at the NASA Airspace Systems Program Technical Interchange Meeting, San Diego, CA.
- Strater, L., **Holbrook, J.**, Beard, B. L., & Endsley, M. (2011, April). An initial investigation of the impact of operator-automation goal divergence in the tower. Presentation at the NASA Airspace Systems Program Technical Interchange Meeting, San Diego, CA.
- Beard, B. L. & **Holbrook, J. B.** (2009, March). Field guide for an effective human-automation collaboration in NextGen. Presentation at the Human Systems Integration Symposium, Annapolis, MD.
- Holbrook, J. B.**, & Picciano, P. (2007, March). Conducting a utility evaluation of cutting edge translation, transcription, and distillation technologies. Presentation at the Year 2 Program Conference of the Defense Advanced Research Projects Agency (DARPA) Global Autonomous Language Exploitation (GALE) Program, Millbrae, CA.
- Holbrook, J. B.**, & Jackson, C. D. (2006, October). Analyst and Tool Impacts from Language Applications: A Utility Evaluation. Presentation at the Year 1 Program Conference of the Defense Advanced Research Projects Agency (DARPA) Global Autonomous Language Exploitation (GALE) Program, Tarrytown, NY.
- Holbrook, J. B.**, Nowinski, J. L., & Dismukes, R. K. (2005, July). Do intentions linger after a prospective memory task has been performed? Presentation at the 2nd International Conference on Prospective Memory, Zurich, Switzerland.
- Holbrook, J. B.**, Dismukes, R. K., & Dodhia, R. (2005, July). Interruptions and Real-World Sources of Variance in Prospective Memory. Poster presented at the 2nd International Conference on Prospective Memory, Zurich, Switzerland.
- Holbrook, J. B.**, Nowinski, J. L., & Staal, M. (2005, April). A methodology for studying the effects of acute stress on pilot performance. Paper presented at the 13th International Symposium on Aviation Psychology, Oklahoma City, OK.

- Holbrook, J. B.**, Dismukes, R. K., & Nowinski, J. L. (2005, January). Identifying sources of variance in everyday prospective memory performance. Presented at the biennial meeting of the Society for Applied Research in Memory and Cognition, Wellington, New Zealand.
- Holbrook, J. B.**, & Dismukes, R. K. (2004, October). An overview of prospective memory in aviation operations. Invited presentation at the Cognition in Space workshop, Chandler, AZ.
- Holbrook, J. B.**, & Dismukes, R. K. (2003, November). The effects of cue factors and priming on prospective memory performance. Poster presented at the annual meeting of the Psychonomic Society, Vancouver, BC, Canada.
- Holbrook, J. B.**, Orasanu, J., & McCoy, C. E. (2003, April). Weather-related decision making by aviators in Alaska. Paper presented at the 12th International Symposium on Aviation Psychology, Dayton, OH.
- Nowinski, J. L., **Holbrook, J. B.**, & Dismukes, R. K. (2003, April). Human memory and cockpit operations: An ASRS study. Paper presented at the 12th International Symposium on Aviation Psychology, Dayton, OH.
- Lynn, A., Barshi, I., Healy, A. F., Schneider, V. I., & **Holbrook, J. B.** (2002, November). When you say what you do, do you do what you say? Interaction between verbal and spatial representations in a navigation task. Poster presented at the annual meeting of the Psychonomic Society, Kansas City, MO.
- Orasanu, J., Villeda, E., & **Holbrook, J. B.** (2001, March). Pilots' weather-related decisions: How did we get into this mess? Paper presented at the 11th International Symposium on Aviation Psychology, Columbus, OH.
- Holbrook, J. B.**, & Cave, C. B. (1999, November). Using priming to resolve imagery's role in false memory creation. Poster presented at the annual meeting of the Psychonomic Society, Los Angeles, CA.
- Cave, C. B., Bost, P. R., & **Holbrook, J. B.** (1997, November). Repetition priming between vision and touch. Poster presented at the annual meeting of the Psychonomic Society, Philadelphia, PA.
- Cave, C. B., **Holbrook, J. B.**, & Bost, P. R. (1996, November). Effects of instruction on the occurrence of repetition priming. Poster presented at the annual meeting of the Psychonomic Society, Chicago, IL.

Teaching Experience:

January 2002 – April 2002

Co-instructor: Introduction to Cognitive Psychology

Team-taught an introductory cognitive psychology course at NASA Ames Research Center (offered for course credit to students enrolled at San José State University).

Primary duties included preparing and presenting lectures on topics in cognitive psychology.

Curriculum Vitae for Jon Holbrook

May 2001 & May 2002

Guest Lecturer

Presented lecture on “Group interaction and team performance in outer space and space-analog environments” for astrobiology course at Stanford University.

January 1999 – May 2000

Co-instructor: Principles of Experimental Design

Team-taught a research methods course in the department of psychology at Vanderbilt University. Primary duties included instructing and overseeing undergraduate students in the development and implementation of psychological experiments.

August 1996 – December 1998

Teaching Assistant

Created lecture presentations, developed and graded exams, tutored students, and occasionally lectured for the following courses in the department of psychology at Vanderbilt University:

- Principles of Experimental Design
- Quantitative Methods
- Learning and Memory
- Brain Damage and Cognition