

ELLEN J. BASS

Associate Professor
Systems and Information Engineering
University of Virginia, Charlottesville, VA 22904

Office Phone: (434) 243-5531
E-mail: ejb4n@virginia.edu
<http://www.sys.virginia.edu/people/ejb.html>

RESEARCH INTERESTS

Cognitive systems engineering, human judgment and dynamic decision making, human-automation interaction

EDUCATION

Ph.D., Systems Engineering, 2002, Georgia Institute of Technology
M.S., Advanced Technology, 1989, State University of New York at Binghamton
B.S. Eng., Bioengineering, 1983, University of Pennsylvania
B.S. Econ., Finance, 1983, University of Pennsylvania

PROFESSIONAL APPOINTMENTS

2008-present Associate Professor, Department of Systems and Information Engineering,
University of Virginia, Charlottesville, VA
2002-2008 Assistant Professor, Department of Systems and Information Engineering,
University of Virginia, Charlottesville, VA
2000-2002 Senior Staff Engineer, Search Technology, Norcross, GA
1999-2001 Research Engineer II, Georgia Institute of Technology, Atlanta, GA
1996-2000 Staff Engineer, Search Technology, Norcross, GA
1995-1996 Senior Research Engineer, Search Technology, Norcross, GA
1994-1995 Student Research Assistant, Department of Psychology, University of
Nottingham, Nottingham, UK
1993 Student Research Scientist, San Jose State University Research
Foundation, NASA Ames Research Center, Mountain View, CA
1991-1992 Senior Systems Engineer, Science Applications International Corporation,
McLean, VA
1988-1991 Systems Engineer, International Business Machines Corporation, Federal
Sector Division, Rockville, MD
1986-1988 Integration and Test Engineer, International Business Machines
Corporation, Federal Systems Division, Manassas, VA
1984-1986 Sub-system Engineer, International Business Machines Corporation,
Federal Systems Division, Owego, NY

FIELD EXPERIENCE

- On the job observations of physicians on acute care hospital wards (pediatrics, internal medicine, and emergency medicine)
- On the job observations of pharmaceutical product manufacturing
- Jump seat observations of flight deck operations of a major domestic airline
- On the job observations of commercial airline and regional flight dispatchers
- On the job observations of commercial airline meteorologists
- On the job observations of tower, TRACON, and en route air traffic controllers
- On the job observations of National Weather Service forecasters
- Private pilot (single engine land)

HONORS AND AWARDS

- 2009-2010 University of Virginia Equal Opportunity Programs (EOP) Champion Award Recipient
- 2009 National Youth Traffic Safety Month 50 Best Award for “Foxfield Racing Impaired Driving Prevention” hosted by National Organizations for Youth Safety (NOYS) and sponsored by the Allstate Foundation
- 2008 NASPA (Student Affairs Administrators in Higher Education) Excellence Award in the category of “Student Health, Wellness, Counseling, and related” for “Using Curriculum Infusion to Decrease Adverse Consequences during Celebratory Drinking Events”
- Senior member of the IEEE
- Link Foundation Fellowship for Advanced Simulation and Training, 1995-1996
- Patricia Roberts Harris Fellowship, 1992-1994

GRANTS, CONTRACTS AND AWARDS

Role	Start	End	Budget	Sponsor	Title
PI (at UVa)	9/01/04	8/31/13	\$928,650	NSF, subcontract UM 04-002341E00 from University of Massachusetts, Amherst	Collaborative Adaptive Sensing of the Atmosphere
Co-PI (S. Guerlain, PI)	7/1/07	6/30/12	Amount for co-PI \$734,591 (out of \$2,779,524)	NIH	National Library of Medicine T-15 Training Grant: A Systems Engineering Focus on Medical Informatics
PI	2/1/09	1/13/11	\$32,417	UVa Institute for Quality for Patient Safety	Supporting Hand-Off of Care: Sign-out Support Tools, Process and Evaluation
Co-PI, (L Waggoner-Fountain, PI)	11/1/08	10/31/10	Amount for co-PI \$50,000	UVa Graduate Medical Education	Sign-out Training Development and Evaluation
PI	9/01/06	8/31/10	\$279,600	NASA Langley Research Center (LaRC), subcontract from National Institute of Aerospace (NIA) UVA-03-01, Sub-Award 2623-VA	Formal Methods to Inform Human Computer Interface Design for Ground-based Spacecraft Logistical Planning Automation
Co-PI (S. Guerlain, PI)	9/15/06	8/31/10	Amount for co-PI \$25,000 direct (out of \$75,000)	National Science Foundation: IRES program (NSF 04-036)	International: US-Brazil Cognitive Systems Engineering Exchange Program: Training Industrial Engineers to Manage High-Risk, Complex Systems
PI	11/1/09	6/30/10	\$2000	UVa Learning Assessment Grant	Curriculum Infusion: Evaluating Alcohol Education Delivered via Systems Engineering Case Studies
Co-PI (S. Bruce, PI)	8/1/09	6/30/10	Amount for co-PI \$4500 (out of \$9000)	Virginia Department of Alcoholic Beverage Control	Celebratory Drinking Prevention Program
PI	5/01/09	4/30/10	\$50,000	Center for Operator Performance at Wright State University	Event Prediction and Mitigation
Co-PI (S. Patek, PI)	3/01/08	2/28/10	Amount for co-PI \$90,795 (out of \$242,763)	NASA Langley Research Center, Grant NNX08AH39A	Multi-scale Tools for Airspace Modeling and Design
Co-PI (S. Guerlain, PI)	9/01/07	8/31/09	Amount for co-PI \$25,000 (out of \$50,000)	Fund for the Improvement of Postsecondary Education (FIPSE)/and the Fundacao Coordenacao de Aperfeicoamento de Pessoal de Nivel Superior (CAPES), Brazilian Ministry of Education	Training Industrial Engineers on Cognitive Engineering Approaches to Manage High Risk, Complex Systems

Role	Start	End	Budget	Sponsor	Title
Co-PI (D. Brown, PI)	6/01/08	8/30/09	Amount for co-PI \$48,600 (out of \$97,300)	National Technical Alliance	Simplify Dynamic Tailoring, Phase 1
PI (S. Bruce, co-PI)	11/1/08	6/30/09	\$1350	UVa Parents Committee	Celebratory Drinking Prevention Program
Co-PI (S. Bruce, PI)	8/1/08	6/30/09	Amount for co-PI \$4500 (out of \$9000)	Virginia Department of Alcoholic Beverage Control	Celebratory Drinking Prevention Program
PI	7/1/08	6/30/09	\$2000	UVa Office of Health Promotion	Foxfield 2008 Data Analysis
PI	9/07/06	9/25/08	\$52,292	NASA LaRC NASI-02117, subcontract from NIA UVA-03-01, Sub-Award 6073-VA	Wake Encounters Investigation
PI	10/29/07	6/30/08	\$3100	UVa Parents Committee	Foxfield Races Binge Drinking Prevention Program
PI	11/07/07	5/30/08	\$137.77	Z Society	Reducing Alcohol Abuse at the Foxfield Races
PI (B. Smith, co-PI)	9/1/04	9/25/07	\$130,230	NIA, UVA-03-01, Sub-Award 3650-VA	NIA Langley Professor Program in Air Transportation Systems
PI	5/23/07	8/30/07	\$4000	UVa Office of Health Promotion	Social Norms Marketing
PI	4/01/07	5/31/07	\$1000	NIA, NIA-3495-07	2007 Systems & Information Engineering Design Symposium (SIEDS '07)
Co-PI, (S. M. Borowitz, PI)	6/1/05	5/30/07	Amount for co-PI \$48,212 (out of \$50,000).	UVa Graduate Medical Education	Resident Sign-Out - A Precarious Exchange of Critical Information in a Fast Paced World
PI	6/17/04	9/30/06	\$84,028	NASA LaRC, subcontract from NIA UVA-03-01, Sub-Award 4817-VA	Synthetic Vision Systems – NIA/NASA Graduate Research Assistantship (M. Bolton)
Co-PI (L. Waggoner-Fountain, PI)	8/29/05	8/28/06	Amount for co-PI \$7500 (out of \$8700)	The Association of Pediatric Program Directors (APPD)	Resident Sign-Out - A Precarious Exchange of Critical Information in a Fast Paced World
PI	2/16/06	6/30/06	\$2000	NIA, NCC-1-02043 4401-UV	2006 Systems & Information Engineering Design Symposium (SIEDS '06)
PI	11/03/03	5/31/06	\$100,000	NASA Glenn Research Center (GRC), NNC04GA39G	Flight Dispatcher Icing Training
PI	3/1/05	2/28/06	\$2500	NIA, NCC-1-02043 4402-UV	2005 Systems & Information Engineering Design Symposium (SIEDS '05)

Role	Start	End	Budget	Sponsor	Title
PI	11/01/03	8/30/05	\$66,394	NASA LaRC, subcontract from NIA UVA-03-01, Sub-Award 3035-VA	Evaluating Measures of Human-Automation Interaction in Pilot Self-separation Tasks
PI (S. Patek, co-PI)	11/1/03	6/30/05	\$81,425	NASA LaRC, subcontract from NIA UVA-03-01, Sub-Award 3036-VA	Network modeling to support operational concept development for on-demand air transportation
PI	2/01/03	6/30/05	\$100,000	NIA, UVA-03-01, Sub-Award 3029-VA	Human-Automation Interaction Methodologies for Personal Air Vehicle Systems with Pilots with Varying Skills
Collaborator, W. Pearson PI	1/30/03	6/30/05	Amount for collaborator: \$49,403	NLM	Comparison of Protein Sequences
Collaborator, W. Pearson PI	1/30/03	12/30/04	Amount for collaborator: \$55,522	National Institute of General Medical Science	Cell Migration Consortium
PI	2/27/04	9/30/04	\$4500	NIA, NCC-1-02043 4205-UV	2004 Systems & Information Engineering Design Symposium (SIEDS '04)
Collaborator, W. Knaus PI	6/30/03	6/30/04	Amount for collaborator: \$15,931	Fund for Excellence in Science and Technology	Project to Understand Biologic Systems, Learn to Integrate, Interpret and Communicate Their Findings (PUBLIIC)
Collaborator, W. Knaus PI	10/1/02	6/30/04	Amount for collaborator: \$5590	Virginia Tobacco Settlement Fund	Tobacco Digital Patient Record- Human Gene Expression project
PI	12/17/02	7/30/03	\$15,000	NASA Glenn Research Center, NAG3-2845	Flight Dispatcher Icing Training
PI	10/1/02	5/30/03	\$39,493	NASA LaRC, NAG1-02113	Evaluating Measures of Human-Automation Interaction in Pilot Self-separation Tasks
PI	3/12/01	3/30/02	\$60,000	NASA GRC, PO C-74790-N	Aircraft Icing Weather Data Reporting and Dissemination System
PI	2/16/01	8/15/01	\$67,630	NASA LaRC, NAS1-01017	Weather Hazard Integrated Display System
PI	12/10/99	6/9/00	\$69,967	NASA GRC, NAS3-00071	In-flight Icing Assessment and Reporting System
PI	3/10/98	3/9/00	\$582,600	NASA LaRC, NAS1-98014	Turbulence Assessment and Monitoring System (TAMS)
PI	4/25/97	1/25/98	\$99,994	USAF, F41624-97-C-5027	A Context-Based Approach to Training and Aiding Situation Awareness

PUBLICATIONS

Student authors are underlined

Archival Journal Publications

1. Bolton, M.L. & Bass, E.J. (in press). Formally verifying human-automation interaction as part of a system model: Limitations and tradeoffs. *Innovations in Systems and Software Engineering*.
2. Bass, E. J., Bruce, S. E., Odioso, M.S., Purvis, M.C., Weaver, M., White, M.H., Wingfield, R.A., Larance, D. A. & Guha, P.N. (in press). Integrating health promotion with the undergraduate engineering capstone experience. *Creative College Teaching Journal*.
3. Brotzge, J., Hondl, K., Philips, B., Lemon, L., Bass, E., Rude, D., & Andra, D. (in press). Evaluation of Distributed Collaborative Adaptive Sensing for detection of low-level circulations and implications for severe weather warning operations. *Weather and Forecasting*.
4. Bass, E.J., Baumgart, L.A., Philips, B., Kloesel, K., Dougherty, K., Rodríguez, H., Díaz, W., Donner, W., Santos, J., & Zink, M. (2009). Incorporating emergency management needs in the development of weather radar networks. *Journal of Emergency Management*, 7(1), 45-52.
5. Bolton, M.L. & Bass, E.J. (2009). Comparing perceptual judgment and subjective measures of spatial awareness. *Applied Ergonomics*, 40, 597–607.
6. Boyd, J., Bass, E.J., McDaniel, J.C. & Bowles, R. (2009). A framework for analyzing simulated aircraft wake vortex encounters to inform aircraft spacing criteria. *International Journal of Applied Aviation Studies*, 9(1), 57-84.
7. Bass, E.J. & Pritchett, A.R. (2008). Human-Automated Judge Learning: A methodology for examining human interaction with information analysis automation. *IEEE Transaction on Systems, Man, and Cybernetics, Part A*, 38(4), 759-776.
8. Baumgart, L.A., Bass, E.J., Philips, B. & Kloesel, K. (2008). Emergency management decision-making during severe weather. *Weather and Forecasting*, 23(6) 1268–1279.
9. Bolton, M.L. & Bass, E.J. (2008). Using relative position and temporal judgments to identify biases in spatial awareness for Synthetic Vision Systems. *The International Journal of Aviation Psychology*, 18(2), 183-206.
10. Borowitz, S.M., Waggoner-Fountain, L.A., Bass, E.J., & Sledd, R.M. (2008). Adequacy of information transferred at resident sign-out (inhospital handover of care): a prospective survey. *Quality and Safety in Healthcare*, 17, 6-10.
11. Lee, D.W., Bass, E.J., Patek, S.D., & Boyd, J. (2008). A traffic engineering model for air taxi services. *Transportation Research Part E: The Logistics and Transportation Review*, 44, 1139-1161.
12. Bolton, M.L., Bass, E.J. & Comstock, J.R. (2007). Spatial awareness in Synthetic Vision Systems: Using spatial and temporal judgments to evaluate texture and field of view. *Human Factors*, 49, 961-974.
13. DeVoge, J.M. & Bass, E.J. (2007). Job specific or general training: A quantitative assessment. *The International Journal of Aviation Psychology*, 17(4), 1-19.
14. Bass, E.J. (2006). Comparison of four quantitative methods of measuring human judgment performance in a simulated horizontal air traffic conflict prediction task. *International Journal of Applied Aviation Studies*, 6(1), 25-46.

15. Smoot, M.E., Bass, E.J., Guerlain, S.A., & Pearson, W.R. (2005). A system for visualizing and analyzing near-optimal protein sequence alignments. *Information Visualization*, 4, 224-237.
16. Bass, E.J., Ernst-Fortin, S.T., Small, R.L., & Hogans, Jr., J.T. (2004). Architecture and development environment of a knowledge-based monitor that facilitate incremental knowledge-base development. *IEEE Transaction on Systems, Man, and Cybernetics, Part A*, 34(4), 441-449.
17. Bass, E.J. (2002). Turbulence assessment and decision-making in commercial aviation: Investigating the current state of practice and the effects of technology interventions. *The International Journal of Applied Aviation Studies*, 2(1), 11-22.
18. Bass, E.J., Kvam, P., Campbell, R.H., Castaño, D.J. & Jones, W.M. (2002). Measuring the seat of the pants: Commercial airline pilot turbulence assessments in a full-motion simulator. *The International Journal of Aviation Psychology*, 12(2), 123-136.
19. Bass, E.J. (2001). Turbulence assessment and decision making on the flight deck and in the cabin. *Human Factors and Aerospace Safety*, 1(3), 267-294.
20. Bass, E.J., Castaño, D.J., Jones, W.M., & Ernst-Fortin, S.T. (2001). The effect of providing automated clear air turbulence assessments to commercial airline pilots. *The International Journal of Aviation Psychology*, 11(4), 317-339.

Archival Journal Publications under review

1. Bass, E.J., Sledd, R., DeVoge, J.M., Waggoner-Fountain, L., & Borowitz, S.M. (in revision), Characterization of pediatric resident sign-out to inform process improvement. *Applied Ergonomics*.
2. Sierk, M.L., Smoot, M.E., Bass, E.J., & Pearson, W. R. (under review). Improving pairwise sequence alignment accuracy using near-optimal protein sequence alignments. *BMC Bioinformatics*.
3. Baumgart, L.A., Gerling, G.J. & Bass, E.J. (under review). Characterizing the range of simulated prostate abnormalities palpable by digital rectal examination. *Cancer Detection and Prevention*.

Peer Reviewed Conference Publications

1. Bolton, M. L. & Bass, E. J. (2009). A method for the formal verification of human-interactive systems. *The 53rd Annual Meeting of the Human Factors and Ergonomics Society*. San Antonio, Texas, October 19-23, 2009.
2. Bolton, M. L. & Bass, E.J. (2009). Building a formal model of a human-interactive system: Insights into the integration of formal methods and human factors engineering. E. Denney, D. Giannakopoulou, C.S. Păsăreanu (Eds.) *The First NASA Formal Methods Symposium (NFM 2009)*, pp. 6-15, April 6 - 8, 2009 Moffett Field, CA.
3. Bolton, M. L. & Bass, E. J. (2009). Enhanced Operator Function Model: A generic human task behavior modeling language. *2009 IEEE International Conference on Systems, Man, and Cybernetics*. October 11-14, 2009, San Antonio, TX.
4. DeVoge, J.M., Bass, E. J., Atia, M., Bond, M., Waggoner-Fountain, L., & Borowitz, S.M. (2009). The development of a web-based resident sign-out training program. *2009 IEEE International Conference on Systems, Man, and Cybernetics*. October 11-14, 2009, San Antonio, TX.

5. Rude, D. J., Bass, E. J. & Philips, B. (2009). Impact of increased spatio-temporal radar data resolution on forecaster wind assessments. *2009 IEEE International Conference on Systems, Man, and Cybernetics*. October 11-14, 2009, San Antonio, TX. **Received the Best Student Paper Award.**
6. Philips, B., Westbrook, D., Pepyne, D., Bass, E., Rude, D. & Brotzge, J.(2008). User evaluations of adaptive scanning patterns in the CASA Spring Experiment 2007. *2008 IEEE International Geoscience & Remote Sensing Symposium (IGARSS 2008)*. Boston, MA, July 6-11, 2008.
7. Bolton, M. L. & Bass, E.J. (2007). Spatial awareness: Comparing judgment and subjective based measures. *2007 IEEE International Conference on Systems, Man, and Cybernetics*. October 7-10, 2007, Montréal, Quebec.
8. Baumgart, L. A., Bass, E. J., Philips, B. & Kloesel, K. (2006). Emergency management decision-making during severe weather. *The 50th Annual Meeting of the Human Factors and Ergonomics Society*. San Francisco, CA, October 16-20, 2006.
9. Baumgart, L. A. & Bass, E. J. (2006). Presenting information in simulated real-time to support part-task weather scenarios. *2006 IEEE International Conference on Systems, Man, and Cybernetics*. October 8-11, 2006, Taipei, Taiwan.
10. Bolton, M. L., Bass, E. J., & Comstock, J.R. (2006). Using relative position and temporal judgments to assess the effects of texture and field of view on spatial awareness in synthetic vision systems displays. *The 50th Annual Meeting of the Human Factors and Ergonomics Society*. San Francisco, CA, October 16-20, 2006.
11. Bolton, M. L., Bass, E. J., & Comstock, J.R. (2006). Using videos derived from simulations to support the analysis of spatial awareness in synthetic vision displays. *2006 IEEE International Conference on Systems, Man, and Cybernetics*. October 8-11, 2006, Taipei, Taiwan.
12. Counihan, R. F., DeVoge, J. M. & Bass, E.J. (2006). A web architecture to support collaborative training content development and evaluation. *2006 IEEE International Conference on Systems, Man, and Cybernetics*. October 8-11, 2006, Taipei, Taiwan.
13. Sledd, R., Bass, E. J., Borowitz, S., & Waggoner-Fountain, L. (2006). Characterization of sign-out in pediatric acute care wards to inform process improvement. *The 50th Annual Meeting of the Human Factors and Ergonomics Society*. San Francisco, CA, October 16-20, 2006.
14. Sledd, R., Bass, E. J., Waggoner-Fountain, L. & Borowitz, S. (2006). Supporting the characterization of sign-out in acute care wards. *2006 IEEE International Conference on Systems, Man, and Cybernetics*. October 8-11, 2006, Taipei, Taiwan.
15. Bolton, M. & Bass, E. J. (2005). Cognitive Systems Engineering Educational Software (CSEES): Educational software addressing quantitative models of performance. *2005 IEEE International Conference on Systems, Man, and Cybernetics*. Hawaii, October 10-12, 2005.
16. Cummings, M. L., Guerlain, S. & Bass, E. J. (2004). Informing design of a command and control decision support interface through an abstraction hierarchy. *The 48th Annual Meeting of the Human Factors and Ergonomics Society*. New Orleans, LA, Sept. 20-24, 2004.
17. Göknur, S., Bolton, M., & Bass, E.J. (2004). Adding a motor control component to the Operator Function Model Expert System to investigate air traffic management concepts using simulation. *2004 IEEE International Conference on Systems, Man, and Cybernetics*. October 10-13 2004, The Hague, The Netherlands.

18. Mosier, K.L., Kirlik, A., Bisantz, A., Pritchett, A., Rothrock, L., & Bass, E. (2004). Brunswik's Lens Model in human factors research: Modern applications of a classic theory. *The 48th Annual Meeting of the Human Factors and Ergonomics Society*. New Orleans, LA, Sept. 20-24, 2004.
19. Bass, E.J. & Pritchett, A. R. (2002). Human-automated judgment learning: A methodology to investigate human interaction with automated judges. *The 46th Annual Meeting of the Human Factors and Ergonomics Society*. Baltimore, MD, Sept. 30-Oct. 4, 2002.
20. Bass, E.J. & Rudra, S. (2002). Comparing three methods of measuring human judgment performance in an air traffic conflict prediction task. *2002 IEEE International Conference on Systems, Man, and Cybernetics*.
21. Shapiro, R. G., Andre, A. D., Young, K. R., Lund, A. M., Robertson, M. M., Bass, E. J., Karsh, B. T., Lin, J. H., de Falla, C. (2002) Maximizing your opportunities in a competitive job market. *The 46th Annual Meeting of the Human Factors and Ergonomics Society*. Baltimore, MD, Sept. 30-Oct. 4, 2002.

Other Peer-Reviewed Articles (Compendia, Magazines, etc.)

1. DeVoge, J.M., Bass, E.J., Sledd, R.M.D., Borowitz, S., & Waggoner-Fountain, L. (2009). Collaborating with physicians to redesign a signout tool. *Ergonomics in Design, Winter 2009*, 20-28.
2. Borowitz, S.M., Waggoner-Fountain, L.A., Bass, E.J., & DeVoge, J. (2008). Resident Sign-Out: a precarious exchange of critical information in a fast paced world. *Advances in Patient Safety: New Directions and Alternative Approaches. Volumes 1-4*, AHRQ Publication Nos. 08-0034 (1-4). July 2008. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/qual/advances2/>. 21 pages.
3. Bass, E. J. (2001). Recent studies show variance in pilot perception of inflight turbulence and the appropriate response, with possible safety implications. *The ICAO Journal*, 56(7), 12-14, 28-29.
4. Bass, E. J., Baxter, G. D., & Ritter, F. E. (1995). Creating models to control simulations: a generic approach. *AISB Quarterly*, 93, 18-25.

Book Chapters

1. Bass, E.J. & Pritchett, A.R. (2006). Human–Automated Judgment Learning: Enhancing interaction with automated judgment systems. In A. Kirlik (Ed.). *Working with Technology in Mind* (pp. 114-126). Oxford University Press.
2. Small, R.L. & Bass, E. J. (2000). Certify for success: A methodology for human-centered certification of advanced aviation systems. In J.A. Wise & V.D. Hopkin (Eds.), *Human Factors in Certification* (pp. 139-150). Mahwah, NJ: Lawrence Erlbaum Associates.

Conference Proceedings, Articles and Other Works Not Critically Reviewed

1. Bolton, M., Bass, E. J. & Siminiceanu, R.I. (2008). Using formal methods to predict human error and system failures. *2nd International Conference on Applied Human Factors and Ergonomics*. Las Vegas, NV, July 14-17, 2008.
2. Hubbard, B.E., Ferrari, F.S., Bass, E.J., & Gomes, J.O. (2008). The design of a management decision support tool for an ergonomics problem reporting system. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 25, 2008.

3. Purvis, M.C., Odioso, M.S., Weaver, M., White, M.H., Bass, E. J. & Bruce, S. E. (2008). Did you see a horse at Foxfield? A social norms approach for targeting the negative consequences of hazardous drinking. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 25, 2008. **Received honorable mention (2nd place) in the Best in Track Award competition for the Human Factors and Socio-Technical Systems Track.**
4. White, M.H., Odioso, M.S., Weaver, M., Purvis, M.C., Bass, E. J. & Bruce, S. E. (2008). Horses? There are horses at Foxfield? An analysis of college student hazardous drinking and related decision making behaviors. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 25, 2008.
5. Bolton, M. & Bass, E. J. (2007). Spatial awareness biases in Synthetic Vision Systems displays. *Fourteenth International Symposium on Aviation Psychology*. Dayton, OH, April 23-26, 2007.
6. da Silva, A.V., Makowski, B. G., Bass, E. J., Danziger, E., Bassols, F. F. & de Macedo Guimarães, L. B. (2007). Analysis of alternative advisory systems for truck dispatching. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 27, 2007.
7. de Faria Cunha, V., Giesecke, P. K., Peckinpaugh, A. J., Bass, E. J., & Gomes, J. O. (2007). Preliminary requirements for an ergonomics problem reporting system. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 27, 2007.
8. DeVoge, J. M. & Bass, E. J. (2007). Developing job specific and general training content and assessments. *Fourteenth International Symposium on Aviation Psychology*. Dayton, OH, April 23-26, 2007.
9. Guha, P.N., Bass, E. J., & Bruce, S. E. (2007). I drink, I get drunk, I fall down, no problem: An analysis of college binge drinking and related decision making behaviors. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 27, 2007.
10. Philips, B., Pepyne, D., Westbrook, D., Bass, E., Brotzge, J., Diaz, W., Kloesel, K., Kurose, J., McLaughlin, D., Rodriguez, H., & Zink, M. (2007). Integrating end user needs into system design and operation: The Center for Collaborative Adaptive Sensing of the Atmosphere (CASA). *87th American Meteorological Society (AMS) Annual Meeting*. San Antonio, TX, January 14-18, 2007.
11. Baumgart, L. A., Bass, E. J., & Gerber, K.M. (2006). An analysis of university rank and the inclusion of sexual orientation and gender identity nondiscrimination policy statements. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 28, 2006.
12. Bolton, M., Bass, E. J., & Comstock, J.R. (2006). A toolset to support the development of spatial and temporal judgment experiments for synthetic vision systems. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 28, 2006.
13. Bolton, M.L., Hagan, T., Kustu, D., LaChance, L., Li, S., & Bass, E. J. (2006). Assessment and enhancement of Synthetic Vision Systems experimentation software. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 28, 2006. **Received the Best in Track Award for the Transportation Systems Track.**
14. Boyd, J.A., Bass, E. J., Patek, S.D., & Lee, D.W. (2006). Investigation of future air taxi services using discrete event simulation. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 28, 2006.

15. DeVoge, J. M. & Bass, E.J. (2006). Design of an instructional system for flight dispatcher icing training. In *Proceedings of the 44th AIAA Aerospace Sciences Meeting and Exhibit*. Reno, NV, January 9-12, 2006.
16. Guha, P.N., Bass, E. J., & Bruce, S. E. (2006). A survey to investigate student drinking norms at Foxfield. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 28, 2006.
17. Lee, D.W., Bass, E. J., & Patek, S.D. (2006). Characterizing the aggregate behavior of an air taxi network. *11th AIAA ISSMO Multidisciplinary Analysis and Optimization*. September 6-8, Portsmouth, VA.
18. Akan, K. D., Bass, E. J. & Xu, P. (2005). Developing a web-based tool for the annotation of the *Streptococcus Sanguis* genome. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 29, 2005.
19. Counihan R., DeVoge, J. & Bass, E. J. (2005). A web architecture to support the tailoring of training content and learner assessment. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 29, 2005.
20. Lee, D. W., Bass, E. J. & Patek, S. D. (2005). Towards a transportation network model for air taxi dispatch planning. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 29, 2005.
21. Buenafe, K.Q., Brown, D.E. & Bass, E. J. (2004). Preliminary study of information sharing technology adoption by crime analysts. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 16, 2004.
22. Brophy, M., Lane, C., Li, R., Swigler, R., Bass, E. J., & DeVoge, J. (2004). Content development for a web-based system devoted to flight dispatcher icing training. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 16, 2004. **Received the Best in Track Award for the Transportation Systems Track.**
23. Walls, Jr., T. L. & Bass, E. J. (2004). A regression-based predictive model of student attendance at UVA men's basketball games. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 16, 2004.
24. Bass, E. J. & Quil, C.J. (2003). Toward requirements for a web-based icing training program for flight dispatchers. *2003 FAA In-flight Icing/Ground De-icing International Conference*. Chicago, IL, June 16-20, 2003.
25. Bass, E. J. & Radzio, M. (2003). Applying Stewart's 1990 decomposition of human forecasting performance to a simulated air traffic conflict prediction task. *Twelfth International Symposium on Aviation Psychology*. Columbus, OH, April 14-17, 2003, 76-81.
26. Quil, C., Young, I., Reeder, J., Burns, J. & Bass, E. J. (2003). Toward a web-based flight dispatcher training tool on icing. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 24-25, 2003.
27. Radzio, M., Walls, T.L., Joiner, G.V., Rogers, B.T., & Bass, E. J. (2003). Where are the students? Modeling and improving basketball attendance. *IEEE Systems and Information Engineering Design Symposium*. Charlottesville, VA, April 24-25, 2003.
28. Bass, E.J., Minsk, B., Lindholm, T. & Politovich, M. (2002). Terminal area diagnostic and forecast icing displays for flight dispatchers. In *Proceedings of the 21st Digital Avionics Systems Conference*, Irvine, CA, October 27-31, 2002.
29. Bass, E.J. & Pritchett, A. R. (2002). Human-Automated Judgment Learning: Applying interpersonal learning to investigate human interaction with alerting systems. In *Proceedings of the 21st Digital Avionics Systems Conference*, Irvine, CA, October 27-31, 2002. **Received**

the Best Student Paper award sponsored by the AIAA Digital Avionics Technical Committee.

30. Bass, E. J. & Castaño, D. J. (2001). The effect of providing clear air turbulence assessments to commercial airline pilots. *Eleventh International Symposium on Aviation Psychology*. Columbus, OH, March 5-8, 2001.
31. Bass, E. J. & Minsk, B. (2001). Toward integrating real-time and forecast weather hazards information for improved pilot decision making. *Eleventh International Symposium on Aviation Psychology*. Columbus, OH, March 5-8, 2001.
32. Bass, E. J., Jones, W. M., & Castaño, D. J. (2000). The effect of providing real-time objective clear air turbulence assessments to commercial airline pilots. *Human Performance, Situation Awareness and Automation Conference*, Savannah, GA, October 15-19, 2000, 94-100.
33. Bass, E. J., Castaño, D. J., Jones, W. M., Campbell, R. H. & Kvam, P. (2000). An analysis of commercial airline pilot turbulence assessments in a full motion simulator. *19th Digital Avionics Systems Conference*, Philadelphia, PA, October 7-12, 2000, 5.E.1-1 – 5.E.1-8.
34. Castaño, D. J & Bass, E. J. (2000). A usability study for a real-time flight deck turbulence assessment and monitoring system. *19th Digital Avionics Systems Conference*, Philadelphia, PA, October 7-12, 2000, 5.A.3-1 – 5.A.3-8.
35. Bass, E. J. (1999). Toward a pilot-centered turbulence assessment and monitoring system. *18th Digital Avionics Systems Conference*, St. Louis, MO, October 24-29, 1999, 6.D.3-1 - 6.D.3-8.
36. Bass, E. J. (1999). Turbulence assessment and decision making on the flight deck and in the cabin. *18th Digital Avionics Systems Conference*, St. Louis, MO, October 24-29, 1999, 4.A.4-1 - 4.A.4-8.
37. Bass, E. J. & Ernst-Fortin, S. T. (1999). Pilot decision aid requirements for a real-time turbulence assessment system. *Tenth International Symposium on Aviation Psychology*. Columbus, OH, May 2-6, 1999, 44-50.
38. Bass, E. J. (1998). Architecture for an intelligent instructor pilot decision support system. In *Proceedings of the 1998 IEEE International Conference on Systems, Man, and Cybernetics*, San Diego, CA, October 11-14, 1998, 891-896.
39. Bass, E. J. (1998). Towards an intelligent tutoring system for situation awareness training in complex, dynamic environments. In *Proceedings of the Fourth International Conference on Intelligent Tutoring Systems (ITS '98)*, Berlin: Springer-Verlag, 26-35.
40. Bass, E. J., Ernst-Fortin, S. T., & Duncan, P. C. (1998). An intelligent debriefing tool for situation awareness training. In *Proceedings of the Eleventh Florida Artificial Intelligence Research Symposium (FLAIRS 98)*. Menlo Park, CA: AAAI Press, 168-172.
41. Baxter, G. D. & Bass, E. J. (1998). Human error revisited: Some lessons for situation awareness. In *Proceedings of the Fourth Annual Symposium on Human Interaction with Complex Systems*. Los Alamitos, CA: IEEE Computer Society Press, 81-87.
42. Bass, E. J., Ernst-Fortin, S. T., & Small, R. L. (1997). Knowledge base development tool requirements for an intelligent monitoring aid. In *Proceedings of the Tenth Florida Artificial Intelligence Research Symposium (FLAIRS '97)*, Daytona Beach, FL: Florida AI Research Society, 412-416.
43. Bass, E. J., Small, R. L., & Ernst-Fortin, S. T. (1997). Knowledge requirements and architecture for an intelligent monitoring aid that facilitate incremental knowledge base development. In D. Potter, M. Matthews, & M. Ali (Eds.), *Proceedings of the Tenth*

International Conference on Industrial & Engineering Applications of Artificial Intelligence & Expert System. Amsterdam, The Netherlands: Gordon & Breach Science Publishers, 63-68.

44. Bass, E. J., Zenyuh, J. P., Small, R. L., & Fortin, S. T. (1996). A context-based approach to training situation awareness. In *Proceedings of the Third Annual Symposium on Human Interaction with Complex Systems*. Los Alamitos, CA: IEEE Computer Society Press, 89-95.
45. Bass, E. (1995). Learning through reflection after problem solving. In *Proceedings of the Fifteenth Soar Workshop*. Pittsburgh, PA, 30-32.

Conference Presentations/Abstracts

1. Philips, B., League, C., Nimrod, J., Whitworth, G., Diaz, W., Bass, E. J., Westbrook, D., Gessner, A., & Lim, S. H. (2009). CASA radar systems for improved decision making. *2009 Fall Meeting of the Oklahoma Emergency Management Association*, Tulsa, OK, September 28-30, 2009.
2. Philips, B., Przybylinski, R., Brotzge, J., Rude, D.J., Diaz, W., Dolan, B., & Bass, E.J. (2009) The leading edge: using CASA radars to detect lower troposphere winds in quasi-linear convective systems. *The 89th American Meteorological Society Annual Meeting, 13th Conference on Integrated Observing and Assimilation Systems for Atmosphere, Oceans, and Land Surface*, Phoenix, AZ, January 11-15, 2009.
3. Bolton, M.L. & Bass, E.J. (2008). Formal modeling of erroneous human behavior and its implications for model checking. *The Sixth NASA Langley Formal Methods Workshop*, Hampton, VA, April 30 - May 2, 2008.
4. Bolton, M.L., Bass, E.J., & Siminiceanu, R.I. (2008). Using formal methods to predict human error and system failures. *NLM Informatics Training Conference*, Bethesda, MD, July 8-9, 2008.
5. Borowitz, S.M., Waggoner-Fountain, LA., Bass, E.J., DeVoge, JM, & Sledd, R.M. (2008). Impact of a computerized sign-out system on the effectiveness of resident sign-out. Platform presentation. *2008 Pediatric Academic Societies Annual Meeting*. May 3-8, 2008.
6. Patek, S.D., Bass, E.J., & Kincaid, R.R. (2008). Multi-scale tools for airspace modeling and design. *Eighteenth International Symposium on Mathematical Theory of Networks and Systems (MTNS2008)*. Blacksburg, Virginia, July 28-August 1, 2008.
7. Philips, B., Westbrook, D., Pepyne, D., Bass, E., & Rude, D.J. (2008). Evaluation of the CASA system in the NOAA Hazardous Weather Test Bed. *The 88th American Meteorology Society Annual Meeting, 24th Conference on International Conf. on Interactive Information Processing Systems (IIPS)*, New Orleans, LA, January 20-24, 2008.
8. Philips, B., Krzysztofowicz, R., Donner, W., Bass, E., Pepyne, D., Rodriguez, H., Diaz, W. & Kloesel, K.A. (2008). *Designing an end-to-end decision model for CASA networks*, *88th American Meteorology Society Annual Meeting*, New Orleans, LA, January 20-24, 2008.
9. Andra, D., Foster, M., Bass, E., Brotzge, J., Burgess, D.W., Heinselman, P.L., Manross, K., Scharfenberg, K., Smith, T.M., Ferree, J.T., Kelleher, K., Philips, B., Quotone, L., & Stumpf, G.J. (2007). The NOAA Hazardous Weather Testbed's Experimental Warning Program. *National Weather Association 2007 Meeting*, Reno, NV, October 15, 2007.
10. Borowitz, S.M., Tomney, BA, Waggoner-Fountain, LA., DeVoge, JM, & Bass, E.J. (2007). Interruptions during sign-out. Platform presentation. *2007 Pediatric Academic Societies Annual Meeting*. May 5-8, 2007.

11. Borowitz, S.M., Waggoner-Fountain, LA., Bass, E.J., DeVoge, JM, & Sledd, R.M. (2007). Characterization of an ideal sign-out: Definition, content, and process. Platform presentation. *2007 Pediatric Academic Societies Annual Meeting*. May 5-8, 2007.
12. Philips, B., Bass, E., Brotzge J., Chandresakar, V., Diaz, W., Kloesel, K., McLaughlin, D., Pepyne, D., Rodriguez, H., Westbrook, D., & Zink, M. (2007). Users, impacts, and radar networks: The CASA experience in designing an end-to-end system. Extended Abstract. *International Symposium on X-band Weather Radar Networks, National Research Institute for Earth Science and Disaster Prevention, Tskuba, Japan, October 5, 2007.*
13. Waggoner-Fountain, LA., Tomney, BA, DeVoge, JM, Bass, E.J., & Borowitz, S.M. (2007). Questions asked and answers located: What really happens on-call after sign-out. Platform presentation. *2007 Pediatric Academic Societies Annual Meeting*. May 5-8, 2007.
14. Borowitz, S.M., Waggoner-Fountain, LA., Bass, E.J., Sledd, R.M. (2006). Sign-Out - a precarious exchange of critical information in a fast paced world. Platform presentation. *2006 Pediatric Academic Societies Annual Meeting*. April 29-May 2, 2006.

Posters

1. Bass, E., Perez, T, DeVoge, J., Helms, A., Bartelt, L., & Plews-Ogan, M. (2009). Developing a process support tool for written sign-out. Presented at the *UVA Institute for Quality & Patient Safety Richardson Dinner*, Charlottesville, VA, September 28, 2009.
2. Baumgart, L.A., Gerling, G.J. & Bass, E.J. (2009). Characterizing the range of simulated prostate abnormalities palpable by digital rectal examination. Presented at the *NLM Informatics Training Conference*, Portland, OR, July 23-24, 2009.
3. Bolton, M. L. & Bass, E.J. (2009). A methodology for the formal verification of medical, human-interactive systems. Presented at the *NLM Informatics Training Conference*, Portland, OR, July 23-24, 2009.
4. Perez, T, Meth, S., Bass, E., Plews-Ogan, M., & Hoke, G. (2009). Characterizing verbal sign-out: Does it have value? Presented at the *UVA Institute for Quality & Patient Safety Richardson Dinner*, Charlottesville, VA, September 28, 2009.
5. Rude, D.J., Bass, E.J., & Philips, B. (2009). CASA's impact on radar-based wind assessments. *The 89th American Meteorological Society Annual Meeting, Fourth Symposium on Policy and Socio—Economic Research*, Phoenix, AZ, January 11-15, 2009.
6. DeVoge, J.M., Bass, E.J., Sledd, R.M., Borowitz, S., & Waggoner-Fountain, L. (2008). A collaborative design in healthcare: Developing a sign-out support tool. Presented at the *NLM Informatics Training Conference*, Bethesda, MD, July 8-9, 2008.
7. Cunha, V. F., Peckinpaugh, A. J., Giesecke, P. K., Bass, E.J., Guerlain, S., Gomes, J. O., Ferrari, F.S., Machado, B.V.Z., Hubbard, B.E., Dias, R.L.M., & Souza, S.F. (2008). Requirements for an ergonomics problem reporting system. Presented at the *9th International Symposium on Human Factors in Organizational Design and Management (ODAM)*. São Paulo, Brazil, March 19-21, 2008.
8. Pelletier, S., Lyman, J., Dalton, J., Tropello, S., Dembling, B., Scully, K., Boyd, J., Beling, P., Guerlain, S., Bass, E. Knaus, W., & Brown, D. (2002). Design approach for a database system integrating and interpreting demographic, clinical and biological data. Presented at the *American Society of Human Genetics*.

Recent Technical Reports

1. McLaughlin, D. et al. (2009). Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere. Annual Report Year 6, Volume I and II, May 4, 2009 under NSF cooperative agreement no. EEC-0313747. Amherst, MA: University of Massachusetts.
2. McLaughlin, D. et al. (2008). Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere. Annual Report Year 5, Volume I and II, February 28, 2008 under NSF cooperative agreement no. EEC-0313747. Amherst, MA: University of Massachusetts.
3. Lee, D.W., Bass, E.J., Patek, S.D., Boyd, J., Repaka, V., Smith, B.L., & Hoel, L. (2007). Air transportation system. Final Report under NIA grant UVA-03-01, Sub-Award Number: 3650-VA. Charlottesville, VA: University of Virginia.
4. McLaughlin, D. et al. (2007). Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere. Annual Report Year 4, Volume I and II, April 24, 2007 under NSF cooperative agreement no. EEC-0313747. Amherst, MA: University of Massachusetts.
5. McLaughlin, D. et al. (2006). Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere. Annual Report Year 3, Volume I and II, March 20, 2006 under NSF cooperative agreement no. EEC-0313747. Amherst, MA: University of Massachusetts.
6. Göknur, S. C. & Bass, E.J. (2005). Evaluating measures of human-automation interaction in pilot self-separation. Final Report under NIA grant UVA-03-01; Sub-award 3035-VA. Charlottesville, VA: University of Virginia.
7. Klein, K. A. & Bass, E.J. (2005). The Effects of Cognitive Feedback on Trust and Performance while using Information Analysis Automation. Final Report under NIA grant UVA-03-01; Sub-award 3029-VA. Charlottesville, VA: University of Virginia.
8. Lee, D.W., Bass, E.J., Patek, S.D. (2005). Towards a transportation network model for air taxi dispatch planning. Final Report under NIA grant UVA-03-01, Sub-Award Number: 3036-VA. Charlottesville, VA: University of Virginia
9. McLaughlin, D et al. (2005). Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere. Annual Report Year 2, Volume I and II, March 29, 2005 under NSF cooperative agreement no. EEC-0313747. Amherst, MA: University of Massachusetts.
10. Bass, E.J., DeVoge, J., Brophy, M., Lane, C., Li, R., & Swigler, R. (2004). Flight Dispatcher Icing Training: Content Development Status. Year 1 Final Report under NASA grant NNC04GA39G. Charlottesville, VA: University of Virginia.
11. Bass, E.J., Göknur, S. C., Klein, K. A. & Bolton, M. (2003). Evaluating Measures of Human-automation Interaction in Pilot Self-separation Tasks. Final Report under NASA grant NAG1-02113. Charlottesville, VA: University of Virginia.
12. Bass, E.J., Quil, C., Young, I., Reeder, J., & Burns, J. (2003). Toward a Web-based Icing Training System for Flight Dispatchers. Final Report under NASA grant NAG3-2845. Charlottesville, VA: University of Virginia.
13. Bass, E.J., Minsk, B., Lindholm, T. & Politovich, M. (2002). *Aircraft Icing Weather Data Reporting and Dissemination System*. Final Report under NASA PO C-74790-N. Norcross, GA: Search Technology, Inc. Also NASA/CR-2002-211800.
14. Bass, E.J., Pritchett, A. R. & Kvam, P. (2002). *Judgment Analysis Approach to Training Situation Awareness Skills in Human-Automation Interaction*. Final Report under US Navy N61339-99-C-0105. Atlanta, GA: Georgia Institute of Technology.

15. Bass, E.J., Campbell, R. H., & Jones, W. M. (2000). *In-flight Icing Assessment and Reporting System (IFIARS)*. Final Report under NASA NAS3-00071. Norcross, GA: Search Technology, Inc.
16. Bass, E.J., Castaño, D. J., Ernst-Fortin, S. T., Jones, W. M., Robinson, P. A., Buck, B. K., & Hogans, Jr., J. (2000). *A Pilot-Centered Turbulence Assessment and Monitoring System (TAMS)*. Final Report under NASA NAS1-98014. Norcross, GA: Search Technology, Inc.
17. Bass, E., Gainer, C., Katz, A., McInerney, S. & Merritt, W. T. (1999). *Inflight Advisor Phase I*. Final Report under FAA Cooperative Agreement Number 98-G-018 Task G Inflight Advisor. Tuscaloosa, AL: University of Alabama. Also DOT/FAA/AR-99/67. Available at: http://research.faa.gov/aar/tech/docs/techreport/99_67.pdf
18. Bass, E.J., Ernst-Fortin, S.T., Duncan, P.C. & Small, R.L. (1997). *Training and aiding situation awareness: A context-based approach*. Final Report under US Air Force #F41624-97-C-5027. Norcross, GA: Search Technology, Inc.
19. Bass, E.J. & Stancil, C. (1997). *Operation Heli-STAR - Cargo simulation system*. Final Report DOT/FAA/ND-15 Vol. 7 of 9. Atlanta, GA: Georgia Tech Research Institute.
20. Ernst-Fortin, S.T., Small, R.L., Bass, E.J. & Hogans, Jr., J. (1997). *An adaptive cockpit hazard monitoring system*. Final Report under US Air Force #F33615-95-C-3611. Norcross, GA: Search Technology, Inc.
21. Honeywell Air Transport Systems (1997). *Strategic flight path management route planning and replanning crew interface concepts: Evaluation and refined guidelines*. Report under NASA NAS1-20219, Task 10. Phoenix, AZ: Honeywell Air Transport Systems.
22. Bass, E. J. (1996). *Design and implementation of a distributed simulation architecture for agent-based intelligent aiding in air traffic control*. Final Report to the Link Foundation Fellowship in Advanced Simulation and Training.

Invited Lectures and Presentations

1. “Human-automation interaction with alerting systems: Signal Detection Theory and Event Prediction and Mitigation,” Center for Operator Performance Fall 2009 Meeting, Richmond, CA, November 5, 2009
2. “Impact of increased spatio-temporal radar data resolution on forecaster wind assessments, warning, and confidence,” Department of Electrical and Computer Engineering, University of Massachusetts, Amherst, MA, October 28, 2009.
3. “Impact of increased spatio-temporal radar data resolution on forecaster wind assessments”, School of Industrial Engineering , University of Oklahoma, Norman, OK, April 3, 2009
4. “Spatial awareness for Synthetic Vision Systems: Using spatial and temporal judgments and subjective measures to evaluate texture and field of view and to identify spatial biases”, Department of Psychology, University of Virginia, Charlottesville, VA, Oct. 30, 2008.
5. “Human interaction with information analysis automation”, Department of Mechanical & Industrial Engineering Seminar, University of Iowa, Iowa City, IA, February 14, 2008.
6. “Measuring human-automated judge interaction in complex systems”, Department of Industrial Engineering Seminar, University at Buffalo, State University of New York, March 26, 2004.
7. “Human-automated judge learning: A methodology for examining human interaction with automated judges”, Department of Psychology, University of Virginia, Charlottesville, VA, March 18, 2004.

TEACHING/ADVISING

Mentoring Highlights

- Undergraduate students' efforts with respect to social norms marketing campaign targeting the Spring Foxfield Races highlighted on National Public Radio's Morning Edition (<http://www.npr.org/templates/story/story.php?storyId=95937183>) and UVaToday (<http://www.virginia.edu/uvatoday/newsRelease.php?id=7049#>)
- Advisor to Matthew Bolton, Recipient of the 2008 Award for Excellence in Scholarship in the Sciences & Engineering
- Advisor to Doug Lee, Recipient of the 2008 UVEF Fellowship
- Advisor to Justin DeVoge, Co-winner of the UVA Dept of Systems and Information Engineering Louis T. Rader Outstanding Master's Student Award, 2007
- Advisor to Matthew Bolton, winner of the UVA Dept of Systems and Information Engineering Louis T. Rader Outstanding Master's Student Award, 2006
- Advisor to Jeffrey Boyd, finalist for the 2006 SEAS Undergraduate Research and Design Symposium
- Co-advisor to Michael Smoot, winner of the UVA Dept of Systems and Information Engineering Louis T. Rader Outstanding Ph.D. Student Award, 2005
- Advisor to Roger Counihan, selected for the SEAS 2004 Summer Science and Engineering Scholars Program

Graduate Students

Ph.D. in Systems Engineering

1. Michael E. Smoot, May 2005, Analyzing, exploring, and visualizing near-optimal protein sequence alignments (earned the Louis T. Rader Outstanding Ph.D. Student Award). Co-advised with Stephanie Guerlain.

Mike is currently a Supervisor Programmer/Analyst for UC San Diego

Current Ph. D. Graduate Students

2. Leigh Baumgart
3. Matthew Bolton
4. Justin DeVoge
5. Brendan Hogan
6. Doug Lee (Co-advised with Steve Patek)
7. Erik Vargo

M.S. in Systems Engineering

1. Jeffrey A. Boyd, Jan. 2008, A methodology for analyzing an aircraft wake vortex encounter
Jeffrey is a Systems Engineer at BAE Systems in San Diego, CA
2. Jonathan H. Evans, Jan. 2008, Design interventions to support error correction in a reading aloud system

Jonathan is an Information Architect at Classmates.com.

3. K. Doruk Akan, Jan. 2007, Validation of the aggregation and integration of protein signatures using the InterPro metadatabase
Doruk is currently a consultant for IBM in Fairfax, VA
4. Roger Counihan, Aug. 2006, An analysis of two heuristics for solving the forward reserve problem
Roger is currently a consultant with Capgemini in Atlanta, GA
5. Justin DeVoge, Aug. 2006, A framework for the development of aviation weather training content re-use (earned the Louis T. Rader Outstanding Masters Student Award).
Justin is currently my advisee in the Ph.D. program
6. Leigh Baumgart, May 2006, Using part-task scenarios to understand emergency manager decision-making
Leigh is currently my advisee in the Ph.D. program
7. Richard Sledd, May 2006, Characterization of sign-out in pediatric acute care wards to inform process improvement
Rick is currently a consultant for Booz Allen Hamilton in Linthicum, MD
8. Matthew L. Bolton, Jan. 2006, An investigation of the effects of texture and field of view on spatial awareness in synthetic vision head-down displays (earned the Louis T. Rader Outstanding Masters Student Award).
Matthew is currently my advisee in the Ph.D. program
9. Sinem C. Gökür, Aug. 2005, Measuring operator conformance with air traffic self-separation alerting systems
Sinem is currently a Ph.D. student in the Department of Computer Science and Engineering (CSE) at the University of Minnesota
10. Aaron M. Gussman, Aug. 2005, Identification of ambiguous and conflicting information in protein classification metadatabases
Aaron is currently a Bioinformatics Engineer for J. Craig Venter Institute (JCVI) in Rockville, MD
11. Kathryn A. Klein, Aug. 2005, The effects of cognitive feedback on trust and performance while using information analysis automation
Katie is currently a Lead Simulation Modeling Engineer and the Terminal/Wake Vortex System Engineering Project Team Manager at the The MITRE Corporation's Center for Advanced Aviation System Development (CAASD) in McLean, VA

Current M.S. Students

12. Kim Daugherty
13. Alex Gessner
14. Sharon Meth
15. Thomas "Ted" Perez
16. Donald Rude

Ph.D. Committees

1. Jonathan Bakdash (Psychology, in process)
2. Ray Buse (Computer Science, in process)
3. Barb Tawney (Systems Engineering, in process)
4. Scott Crino (Systems Engineering, 2006)
5. Tracy Kline (Psychology, 2005)

6. Sy Miin Chow (Psychology, 2004)
7. Missy Cummings (Systems Engineering, 2003)

M.S. Committees

1. Oliver Platt-Mills (Systems Engineering, in process)
2. Sarah Rigsbee (Systems Engineering, 2009)
3. Daine Lesniak (Systems Engineering, 2008)
4. M. Anthony Aiello (Computer Science, 2005)
5. Kelly O'Hargan (Systems Engineering, 2005)
6. Jianhong Lv (Systems Engineering, 2004)
7. Kristina Buenafe (Systems Engineering, 2003)
8. David Okano (Systems Engineering, 2003)
9. Tom Shin (Systems Engineering, 2003)
10. Steve Tropello (Systems Engineering, 2003)
11. Nicole White (Systems Engineering, 2003)

NLM Short-term Training Position Trainees

1. Thomas "Ted" Perez (Summer 2009)
2. Mangwi Atia (Summer 2008)
3. Sherry Springs (Summer 2008)

Graduate teaching

SYS 727 Quantitative Models of Human Performance
SYS 797 Human Factors in Healthcare and Patient Safety
SYS 895 Supervised Project Research

Undergraduate teaching

SYS 323 Human-Machine Interaction
SYS 334 System Evaluation
SYS 453 Senior Design I
SYS 454 Senior Design II
SYS 495 Supervised Projects
USEM 170 LGBTQ in Virginia: Past and Future

Undergraduate theses supervised

2007-2008

1. Patrick Giesecke, Requirements and prototype evaluation for an ergonomics problem reporting system
2. Blair Hubbard, Sistema de informação de SMS do abastecimento (SISA): Ergonomics problem reporting in a Brazilian oil company
3. Michael Purvis, Systems analysis to reduce binge drinking

4. Monica Weaver, Developing social norms materials to influence binge drinking at the Foxfield Races
5. Matthew White, Development of a web-based information system for describing the inpatient clinical experiences of medicine housestaff

2006-2007

6. Matthew Burnham, A systems approach to health system policy: A case study of the Russian health system (Spring 2007)
7. Nicole Cobb, US-Brazil cognitive systems engineering exchange program: A cognitive engineering approach to a Brazilian ergonomic problem reporting system (Spring 2007)
8. Eric Danziger, Developing a resource allocation advisory system: Truck routing in Rio Grande do Sul (Spring 2007)
9. Glenn Keaton, Improving the distribution system of an oil company in Brazil (Spring 2007)
10. Kathy Tejano, Improving SISA: Designing potential solutions to Petrobras's ergonomic reporting system (Spring 2007)
11. Thomas Wu, Testing the capabilities and limits of airspace analysis software: Complexity Density Analysis

2005-2006

12. Jeffrey Boyd, Discrete event simulation model for future air taxi services; **Finalist for the 2006 SEAS Undergraduate Research and Design Symposium**
13. Protip Neil Guha, An analysis of student drinking norms at Foxfield
14. Thomas Hagan, Increasing Synthetic Vision System Toolset functionality in support of human-in-the-loop experiments
15. Deniz Kustu, Enhancing a toolset for NASA to test synthetic vision systems
16. Lancen LaChance, Enhancement and assessment of synthetic vision systems experimentation software
17. Steven Li, Design of a usability test to evaluate the enhancement and documentation of the synthetic vision systems

2004-2005

18. K. Doruk Akan, A web-based tool to facilitate annotation of the *Streptococcus sanguis* genome
19. Roger Counihan, The development of content and an web-based delivery architecture for a training tool for flight dispatchers on icing

2003-2004

20. Matthew Brophy, Development of a web-based icing training system for flight dispatchers
21. Jason Chou, Preferences with respect to medical research
22. Courtney Lane, Developing a web-based prototype for flight dispatcher icing training: The flight dispatcher decision-making process
23. Ricky Li, Flight dispatcher icing training program: A scenario-based approach
24. Ryan Swigler, Web-based flight dispatcher icing training: A prototype development

2002-2003

25. Jason Burns, Icing training for flight dispatchers: Developing an effective training system

26. Aaron Gussman, Preliminary accomplishments in the development of a completely integrated genome sequencing pipeline
27. Greg Joiner, Survey and analysis of the feasibility of a University of Virginia men's basketball home game student ticket distribution online registration system
28. Carolyn Quil, Icing training for flight dispatchers: Investigating web-based requirements
29. Martin Radio, Where are the students???
30. Joshua Reeder, Developing flight dispatcher icing training
31. Brandon Rogers, Helping the Hoocrew: Improving the line management system for camping out prior to basketball games and other major events
32. Rebecca Um, Protein database research forum
33. Thomas Walls, A predictive model of student basketball attendance
34. Ivan Young, Icing training for flight dispatchers: Developing an effective training system

Undergraduate Research Assistants

1. Sara Hoffberg, summer 2009
2. Robert Turverey, spring 2009; fall 2009 and spring 2010
3. Vicente Cunha, summer 2007
4. Rachel Kammerer, summer 2007
5. Matthew White, summer 2007
6. Kerem Doruk Akan (Advisor through the Virginia Commonwealth University Bioinformatics/Bioengineering Summer Institute), summer 2005
7. Kerem Doruk Akan (Advisor through the Virginia Commonwealth University Bioinformatics/Bioengineering Summer Institute), summer 2004
8. Roger Counihan (Also advised him as part of the 2004 Summer Science and Engineering Scholars Research Program), summer 2004
9. Shawn Menz, summer 2004
10. Nicholas Ward, summer 2004
11. Jason Chou, summer 2003
10. Eric Issadore, fall 2002 and spring 2003

PROFESSIONAL SERVICE

Service to the University of Virginia

- Participant in School of Medicine's Transition and Change Seminar on Generational Differences, April 21, 2009
- First Year Seminar participant, 2009
- Member of the Investigator Advisory Committee (IAC) to support the HSR-IRB, SBS-IRB and ACUC, 2008-2009
- Member of the Speakers Bureau, 2003-2009
- Member of UVA Pride, 2002-present, Co-convener 2008-present
- Speaker at Women's Work, December 8, 2008
- Member of the Committee on Benefits, 2007-2008
- Member of the Advisory Committee on Alcohol and Substance Abuse, 2006-2008
- Faculty advisor to the UVA student chapter of the Human Factors and Ergonomics Society, 2002-present

- Started the UVA student chapter of the Human Factors and Ergonomics Society, 2002
- Chapter continually receives recognition from the national chapter
- Faculty advisor to Girls Excited about Math and Science, 2002-present
- Participant in the Survivor Support Network 2008-present
- Participant in the Safe Space program, 2002-present
- Participant in Forum on Supporting Early-Career Underrepresented Faculty (“Honing Your Mentoring of Junior Faculty”), Oct. 12, 2007
- Member of the Ad hoc committee on the delivery of education in statistics at the university (Chair John Nesselrode), 2002-2003

Service to the School of Engineering and Applied Science (SEAS) at the University of Virginia

- Supported development of Aerospace Systems Engineering curriculum with senior Systems and Information Engineering and Mechanical and Aerospace Engineering faculty, 2005-2007
- Member of the SEAS Rules and Courses Committee, 2005-2009
- Faculty marshal for final exercises, 2005
- Member of SEAS Student Affairs Committee, Chair 2004-2008; Member 2002-2004
- Member of SEAS Open House Committee, 2003-2005
- TCC 101/STS 101 Research Interview 2003-2008
- Common Reading Experience Leader, 2002-2008
- First year advisor, 2002-2008
- UVA Society of Women Engineers High School Visitation Speaker, 2002-2008

Service to the Department of Systems and Information Engineering at the University of Virginia

- Member of the executive committee for the National Library of Medicine training grant “A Systems Engineering Focus on Medical Informatics”, 2006-present
- Chair of the Equipment Committee, 2007-2008; member 2004-2007
- Member of the graduate committee, 2005-2007
- Member of the undergraduate committee, 2002-2005; 2007-2009
- Member of the assistant professor search committee, 2002-2003; 2004-2005; 2005-2007

The Practice of One's Profession

Professional Society Memberships

- American Institute of Aeronautics and Astronautics (AIAA)
- Association for Aviation Psychology
- Human Factors and Ergonomics Society (HFES)
- Institute of Electrical and Electronics Engineers (IEEE): Senior member

Professional Society Offices Held and Committee Assignments

- Program Chair, Cognitive Engineering and Decision Making (CEDM) Technical Group of the HFES, 2010-2011
- IEEE Systems, Man, and Cybernetics Society (SMCS), Vice President of Human-Machine

Systems, 2008-2009

- IEEE Systems, Man, and Cybernetics Society (SMCS), Member of the Board of Governors, 2005-2007
- IEEE SMCS, Co-chair of the Human Machine Systems Technical Committee, 2005-2007
- Program Chair Elect, Cognitive Engineering and Decision Making (CEDM) Technical Group of the HFES, 2008-2009
- Secretary/Treasurer, CEDM Technical Group of the HFES, 2006-2007
- IEEE SMCS, Member of the Membership and Student Activities Committee, 2005-2007
- Newsletter Editor, CEDM Technical Group of the HFES, 2003-2005

Editorships/Editorial Boards

- Member of the editorial board for *Human Factors*: 2005-present
- Contributing Editor of *The International Journal of Applied Aviation Studies*, 2003-present
- Associate Editor for *IEEE Transactions on Systems, Man, and Cybernetics, Part A*, 2002-present

Conference Organizing

- Member of the program committee for the IEEE International Conference on Systems, Man & Cybernetics, 2003-present
- Member of the program committee for the IEEE International Conference on Distributed Human-Machine Systems, 2008
- 2007-2009, Program Chair Elect, Cognitive Engineering and Decision Making (CEDM) Technical Group of the Human Factors and Ergonomics Society
- 2009 IEEE Systems & Information Engineering Design Symposium: Finance chair
- 2008 IEEE Systems & Information Engineering Design Symposium: Finance chair
- 2005 IEEE Systems & Information Engineering Design Symposium: Publications chair
- 2004 IEEE Systems & Information Engineering Design Symposium: Program chair
- 2003 IEEE International Conference on Systems, Man & Cybernetics: Special Sessions Chair
- 2003 IEEE Systems & Information Engineering Design Symposium: Program co-chair

Reviewer for Journals

- AIAA Journal of Aircraft
- Applied Ergonomics
- Journal of Experimental Psychology
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Transactions on Systems, Man, and Cybernetics, Part A
- International Journal of Human-Computer Studies
- International Journal of Industrial Engineering

Reviewer for Conferences

- Annual meeting of the IEEE Systems, Man, and Cybernetics Society
- Annual meeting of the Human Factors and Ergonomics Society

Government Agency Service

- National Science Foundation Panelist, 2005, Advanced Learning Technology (ALT)
- National Science Foundation Panelist, 2004, ITR Medium
- National Research Council, April 5-7, 2005, Reviewer for Modeling and Simulation, Systems Engineering, and Cost and Risk Analysis, one of ten panels to review NASA's Capability Roadmaps
- National Academies Aeronautics and Space Engineering Board (ASEB), October 6-7, 2004 Reviewer of the Integrated Plan for a Next Generation Air Transportation System prepared by the Joint Planning and Development Office (JPDO)

Leadership, Citizenship, Mentoring, Public Service

- Member of Equality Virginia, 2002-present
- Advisory Board Member for ROSMY Blue Ridge, 2008-present
- Youth facilitator for ROSMY Blue Ridge, 2008-present
- President for OutYouth of the Blue Ridge, 2007-2008, Treasurer, 2003-2007
- Treasurer for the 2nd Annual Q-munity Fair, Charlottesville, VA, 2007