

Curriculum Vitae

Greg A. Jamieson, Ph.D., M.A.Sc., P.Eng.

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PRACTICE AREAS

- **Cognitive Human Factors**
- **Workplace Accidents**
- **Safety Assessments**
- **Display Interface Usage & Control Systems**
- **Control Display Design Assessment**
- **Decision Making & Safety Response Training Assessment**
- **Large Loss Industrial Systems Failures**

ACADEMIC BACKGROUND

Doctorate Degree in Human Factors (Mechanical & Industrial Engineering), University of Toronto, 2003

Master's Degree in Human Factors (Mechanical & Industrial Engineering), University of Toronto, 1998

Bachelor's Degree in Mechanical Engineering, University of Illinois at Urbana-Champaign, 1996

Bachelor's Degree in Psychology, University of Illinois at Urbana-Champaign, 1996

TEACHING APPOINTMENTS

Associate Professor, Department of Mechanical & Industrial Engineering, University of Toronto, 2007 - Present

Assistant Professor, Department of Mechanical & Industrial Engineering, University of Toronto, 2002 - 2007

ADDITIONAL COURSES, TRAINING & AWARDS

- Teaching in Higher Education, University of Toronto Seminar Course
- Faculty Fellow, IBM Center for Advanced Studies, 2004-2009
- Connaught Fellow, University of Toronto, 1996-2000

PROFESSIONAL SOCIETIES & ASSOCIATIONS

Professional Engineers of Ontario, P.Eng. since 2006

Human Factors & Ergonomics Society, member since 1994

Session Chair at HFES Annual Meeting, 2003-2006

Technical paper reviewer of Human Factors Journal since 2005

Technical paper reviewer of HFES Annual Meeting since 2001

Institute of Electrical and Electronics Engineers (IEEE), since 2002

Associate Editor of IEEE Transactions on Systems, Man & Cybernetics, 2007-2009

EMPLOYMENT HISTORY

Advantage Forensics Inc., Toronto

Consultant, May 2012 to present

University of Toronto, Toronto

Assoc. Professor, Human Factors, Dept. of Mechanical & Industrial Engineering, 2007 to present

Chair of Teaching Methods & Resources Committee, 2011-2012

Chair of Curriculum Committee, 2009-2010

Chair of Undergraduate Curriculum Committee, 2007-2010

University of Toronto, Toronto

Assistant Professor, Dept. of Mechanical & Industrial Engineering, 2002 to 2007

Honeywell Laboratories, Toronto

Research Associate & Scientist, 1998 to 2002

Battelle Seattle Research Center, Seattle

Research Associate, 1996

LECTURES

- "Inter-rater Reliability of a Query-based Measure of Situation Awareness in Nuclear Power Plant Control." Invited presentation to the U.S. Nuclear Regulator Commission. Rockville, MD, March 2012.
- "Human Factors Challenges and R&D Opportunities in Emerging and Future Control Rooms". Invited presentation to Atomic Energy Canada Ltd's Chalk River Laboratory. Chalk River, October, 2011.
- "Ecological Interface Design: Testing the 'Handling the Unexpected' Claim." Invited presentation to the Technical University of Berlin Graduate Program in Human Factors. Berlin, Germany. June 2011.
- "Ecological Interface Design: Context, Approach & Examples." Invited presentation to the Technical University of Berlin Graduate Program in Human Factors. Berlin, Germany. June 2011.
- "Problem-driven Formulation of SA Accounts & Measures." Invited presentation to the Technical University of Berlin Graduate Program in Human Factors. Berlin, Germany. June 2011.
- "Coping With Automation with Future Human-System Interfaces". Keynote address for the Norwegian Forum for Human Factors in Control. Oslo, Norway, April, 2011.
- "Domain-specific formulation of situation awareness". Presentation to D-CIS Lab. Delft, Netherlands, Oct 2010.
- "Cognitive Engineering in Mining Operations: An Introduction & Projection", Barrick Gold, Toronto, May 2009.
- "Managing Abnormal Situations with Ecological Interfaces", Charles River Analytics, Boston, March 2009.
- "Human Factors & Human Factors Engineering Program Plans", Cameco Corp, Saskatoon, March 2009.
- "Energy Management in Large Ontario Enterprises", AMPCO, Toronto, October 2008.
- "Managing Abnormal Situations through Ecological Interface Design", ASM Consortium, Fairfax, June 2008.
- "Human Factors & the Nuclear Renaissance", 52nd Annual HFES Meeting, New York, September 2008.
- "Risk Management in Complex Sociotechnical Systems", 19th CASS seminar, Gatineau, May 2007.
- "Simulator Evaluations of Advanced Process Displays", ExxonMobil, Fairfax, December 2006.

- “The Human Factor: A Perspective on Technology that Works for People”, United Technologies Research Center Human Interface Conference, Hartford, USA, November 2006.
- “Risk Management in Complex Sociotechnical Systems”, BC Hydro; Vancouver, October 2006.
- “Applications of Cognitive Engineering in Process Control”, RISØ; Copenhagen, Denmark, July 2006.
- “Applications of Cognitive Engineering in Process Control”, Barco Control Rooms; Gent, Belgium, July 2006.
- “Ecological Interface Design for Boiling Water Reactor Condenser Subsystem”, Delft, Netherlands, July 2006.
- “Risk Management in Complex Sociotechnical Systems.” Presentation to Transport Canada, March 2006.
- “Ecological Interface Design for Nuclear Power Plant Operations: 2005 Research Programme.” Extended Halden Programme Group Meeting; Lillehammer, Norway, October 2005.
- “Human Factors in Process Industries”, Canadian Nuclear Society Conference workshop, Belleville, Sept 2005.
- “Good Design Ideas Gone Bad” Panel expert, 49th Annual HFES Meeting, September 2005.
- “Cognitive Engineering Laboratory: Current Research”, CFES Congress; Toronto, January 2005.
- “Designing for Appropriate Trust in Autonomic Computing”, Virginia Polytech Inst., Blacksburg, Dec 2004.
- “Bases of Trust in Autonomic Computing”, Make IT Easy, 14th IBM Centre for Advanced Studies Annual International Conference on Computer Science & Software Engineering, Toronto, October 2004.
- “Trust as a Selection Pressure in Evolution of Autonomic Computing”. 14th IBM Centre for Advanced Studies Annual International Conference on Computer Science & Software Engineering, Toronto, October 2004.
- “Human Factors: Revolutionizing the Way People Live with Technology”, PEO Chapter Meetings, October 2003, April 2003, February 2003.
- “Design for Human-Automation Interaction”, 13th IBM Centre for Advanced Studies Annual International Conference on Computer Science & Software Engineering; Toronto, Oct 2003.
- “Empirical Evaluation of an Industrial Application of Ecological Interface Design”, OECD Halden Reactor Project; Halden, Norway, June, 2003.
- “Designing for Effective Human-Automation Interaction”, Honeywell Inc., Toronto, May 2003.
- “Refinery Operator Seeks Employment as Database Administrator”, IBM, Toronto, May 2003.
- “Empirical Evaluation of Ecological Interface Design”, Tufts University, Boston, November 2002.
- “Automation in Process Control”, University of Calgary, March 2002 and University of Toronto, Oct 2002.
- “Injecting Cognitive Engineering DNA into Automation Design”, NASA, Moffet Field, July 2002.

JOURNAL PAPERS & PUBLICATIONS

- Stahl, P., Donmez, B. & Jamieson, G.A (in review). "Analysis of Operator-Dispatch Interaction for Haul Truck Scheduling." Human Factors and Ergonomics Society 56th Annual Meeting.
- Jamieson, G. A. "Adapting the Human Factors Program Review Model in Fuel-Cycle Facilities", Proceedings of the 8th International Conference on Nuclear Plant Instrumentation, Control and Human Machine Interface Technologies (July 22-26, 2012).
- Lau, N. & Jamieson, G. A. "Inter-rater Reliability of Expert-based Performance Measurements", Proceedings of the 8th International Conference on Nuclear Plant Instrumentation, Control and Human Machine Interface Technologies (July 22-26, 2012).
- Lau, N. & Jamieson, G. A. "Situation Awareness in Process Control: A Fresh Look". Proceedings of the 8th International Conference on Nuclear Plant Instrumentation, Control and Human Machine Interface Technologies (July 22-26, 2012).

- Jamieson, G. A., Andersson, J., Bisantz, A., Degani, A. & Lind, M. "Model-based Approaches to Human-Automation Systems Design." Proceedings of ASME 2012 11th Biennial Conference on Engineering Systems Design and Analysis (July 2-4, 2012).
- Kan, K.C. & Jamieson, G. A. "Ecological Interface Design for a Water Monitoring Decision Aid." Proceedings of ASME 2012 11th Biennial Conference on Engineering Systems Design and Analysis (July 2-4, 2012).
- Lau, N., Jamieson, G.A. & Skraaning Jr., G. (in review). "Inter-rater Reliability of Query/Probe-based Techniques for Measuring Situation Awareness." Submitted to Ergonomics.
- Neyedli, H.F., Hollands, J. G., & Jamieson, G. A. (2011). "Beyond Identity: Incorporating System Reliability Information Into an Automated Combat Identification System". Human Factors, 53, 338-355.
- Wang, L., Jamieson, G.A. & Hollands, J.G. (2011). "The Effects of Interaction Features on Users' Trust in a Combat Identification System", Proceedings of the HFES 55th Annual Meeting (pp. 375-379).
- Stahl, P., Donmez, B., & Jamieson, G. A. (2011). "A Field Study of Haul Truck Operations in Open Pit Mines." Proceedings of the HFES 55th Annual Meeting (pp. 1845-1849).
- Hilliard, A. & Jamieson, G. A. (2011). "Energy Management in Large Enterprises: A Field Study". Proceedings of the HFES 55th Annual Meeting (pp. 399-403).
- Lau, N., Skraaning Jr, G., Eitheim, M. H. R., Karlsson, T., Nihlwing, C., & Jamieson, G. A. (2011). Situation awareness in monitoring nuclear power plants: The Process Overview concept and measure (HWR-954). Halden, Norway: OECD Halden Reactor Project.
- Lau, N., Skraaning Jr, G., Eitheim, M. H. R., Karlsson, T., Nihlwing, C., & Jamieson, G. A. (2011). The Process Overview Measure: Methodological developments to enhance inter-rater reliability (HWR-971). Halden, Norway: OECD Halden Reactor Project.
- Neyedli, H. F., Wang, L., Jamieson, G. A., & Hollands, J. G. (2010). "Evaluating reliance on combat identification systems: The role of reliability feedback". In D. H. Andrews, R. P. Herz, & M. B. Wolf (Eds.), Human Factors Issues in Combat Identification (pp. 247-262). Farnham, England: Ashgate.
- Jamieson, G. A., & Lau, N. (2010). Scaling Up Ecological Interface Design: Tackling Large Work Domains with International Project Teams. Proceedings of the IFAC/IFIP/IFORS/IEA Symposium on Analysis, Design & Evaluation of Human-Machine Systems.
- Wang, L., Jamieson, G. A., & Hollands, J. G. (2009). "Trust and reliance on an automated combat identification system". Human Factors, 51, 281-291.
- Cassano-Piche, A., Vicente, K. J., & Jamieson, G. A. (2009). "A Test of Rasmussen's Risk Management Framework in the Food Safety Domain Through Case Study: BSE in the UK". Theoretical Issues in Ergonomics Science, 10, 283-304.
- Lau, N. Skraaning Jr, G. & Jamieson, G. A. (2009). Metacognition in Nuclear Process Control. Proceedings of the 17th World Congress on Ergonomics.
- Flemming, S.A.C. & Jamieson, G. A. (2009). Display Design and Energy Conservation Performance: A Microworld Study. Proceedings of the 17th World Congress on Ergonomics.
- Vary, B. A. & Jamieson, G. A. (2009). Design and Evaluation of an Intelligent Water Monitoring Interface. Proceedings of the 17th World Congress on Ergonomics.
- Kilgore, R., St-Cyr, O., & Jamieson, G. A. (2008). "From Work Domains to Worker Competencies: A Five-Phase CWA for Air Traffic Control". In Ann M. Bisantz and Catherine M. Burns (Eds.). Applications of Cognitive Work Analysis (pp. 15-47). Piscataway, NJ: Erlbaum.
- Lau, N., Jamieson, G. A., Skraaning, G., & Burns, C. M. (2008). "Ecological Interface Design in the nuclear domain: An empirical evaluation of ecological displays for the secondary subsystems of a boiling water reactor plant simulator". IEEE Transactions on Nuclear Science, 55, 3597-3610.

- Lau, N., Veland, O., Kwok, J., Jamieson, G. A., Burns, C. M., Welch, R., & Braseth, A. O. (2008). "Ecological Interface Design in the nuclear domain: An application to the secondary subsystems of a boiling water reactor plant simulator". IEEE Transactions on Nuclear Science, 55, 3579-3596.
- Torenvliet, G. L., Jamieson, G. A., & Chow, R. W. Y. (2008). "Object Worlds in Work Domain Analysis: A Model of Naval Damage Control". IEEE Transactions on Systems, Man & Cybernetics, 38, 1030-1040.
- Burns, C. M., Skraaning, G., Jamieson, G. A., Lau, N., Kwok, J., Welch, R. & Andresen, G. (2008). "Evidence that EID Supports Situation Awareness". Human Factors, 50, 663-679.
- Hilliard, A. & Jamieson, G.A. (2008). "Winning Solar Car Races with Interface Design". Ergonomics in Design, 16, 6-11.
- Wang, L., Jamieson, G.A. & Hollands, J.G. (2008). Improving Reliability Awareness to Support Appropriate Trust & Reliance on Individual Combat Identification Systems. Proceedings of the HFES 52nd Annual Meeting (pp. 292-296).
- Wang, L., Jamieson, G.A., & Hollands, J. G. (2008). Selecting Methods for the Analysis of Reliance on Automation. Proceedings of the HFES 52nd Annual Meeting (pp. 287-291).
- Flemming, S.A.C., Hilliard, A., & Jamieson, G. A. (2008). The Need for Human Factors in the Sustainability Domain. Proceedings of the HFES 52nd Annual Meeting (pp. 748-752).
- Lau, N., Skraaning, G., Jamieson, G.A., Burns, C.M. (2008). Enhancing Operator Task Performance during Monitoring for Unanticipated Events through Ecological Interface Design. Proceedings of the HFES 52nd Annual Meeting (pp. 448-452).
- Welch, R., Braseth, A. O., Nihlwing, C., Skraaning, G., Teigen, A., Veland, O., Lau, N., Jamieson, G. A., Kwok, J., & Burns, C. M. (2007). "The 2005 Ecological Interface Design Process and the Resulting Displays (HWR-847)". Halden, Norway: OECD Halden Reactor Project.
- Skraaning, G., Lau, N., Welch, R., Nihlwing, C., Andresen, G., Brevig, L. H., Veland, Ø., Jamieson, G. A., Burns, C. M., & Kwok, J. (2007). "The Ecological Interface Design Experiment (HWR-833)". Halden, Norway: OECD Halden Reactor Project.
- Jamieson, G. A., (2007). "Ecological Interface Design for Petrochemical Process Control: An Empirical Assessment". IEEE Transactions on Systems, Man & Cybernetics, 37, 906-920.
- Jamieson, G. A., Miller, C. M., Ho, W. H., & Vicente, K. J. (2007). "Integrating Task- and Work Domain-based Work Analyses in Ecological Interface Design: A Process Control Case Study." IEEE Transactions on Systems, Man & Cybernetics, 37, 887-905.
- Hilliard, A., & Jamieson, G. A. (2007). "Ecological Interface Design for Solar Car Strategy: From State Equations to Visual Relations". Proceedings of the 2007 IEEE International Conference on Systems, Man & Cybernetics (pp. 139-144).
- Burns, C., Jamieson, G. A., Skraaning, G., Lau, N., & Kwok, J. (2007). "Supporting Situation Awareness Through Ecological Interface Design". Proceedings of the HFES 51st Annual Meeting (pp. 205-209).
- Torenvliet, G., & Jamieson, G. A. (2007). "Functional Modelling, Scenario Development & Options Analysis to Support Optimized Crewing for Damage Control; Phase 2", Defence Research & Development Canada CR 2007-090, Toronto.
- Jamieson, G. A. (2006). "Developing Human-Machine Interfaces to Support Monitoring of UAV Automation", Defence Research & Development Canada CR 2006-251, Toronto.
- Torenvliet, G., Jamieson, G., & Cornoyer, L. (2006). "Functional Modelling, Scenario Development & Options Analysis to Support Optimized Crewing for Damage Control: Phase I", Defence Research & Development Canada CR 2006-090, Toronto.
- Duez, P. & Jamieson, G. A. (2006). "Toward Designing for Trust in Database Automation". Proceedings of the 5th International Topical Meeting on Nuclear Plant Instrumentation Control and Human Machine Interface Technology. (pp. 439-446).

- Cassano-Piche, A., Vicente, K. J., & Jamieson, G. A. (2006). "A Sociotechnical Systems Analysis of the BSE Epidemic in the UK through Case Study". Proceedings of the HFES 50th Annual Meeting (pp. 386-390).
- Duez, P., Zuliani, M. J., & Jamieson, G. A. (2006). "Trust by Design: Information Requirements for Appropriate Trust in Automation". Proceedings of the 16th IBM Centre for Advanced Studies Annual International Conference on Computer Science and Software Engineering.
- Ernst, N., Jamieson, G. A., & Mylopoulos, J. (2006). "Integrating Requirements Engineering & Cognitive Work Analysis: A Case Study". Proceedings of the Fourth Annual Conference on Systems Engineering Research.
- Lau, N. & Jamieson, G. A. (2006). "Ecological Interface Design for the Condenser Subsystems of a Boiling Water Reactor". Proceedings of the 16th World Congress on Ergonomics.
- Lau, N. & Jamieson, G. A. (2006). "Ecological Interface Design for the Condenser Subsystems of a Boiling Water Reactor". Proceedings of the 27th Annual Conference of the Canadian Nuclear Society.
- Lau, N. & Jamieson, G. A. (2006). "Numerical Models in Representation Design: Computing Seawater Properties in an Ecological Interface". Proceedings of the HFES 50th Annual Meeting (pp. 245-249).
- Jamieson, G. A., & Vicente, K. J. (2005). "Designing Effective Human-Automation-Plant Interfaces: A Control-Theoretic Perspective". Human Factors, 47, 12-34.
- Jamieson, G. A. (2005). "Supporting Human-Automation Interaction in Supervisory Control". Proceedings of the Enlarged Halden Programme Group Meeting.
- Bagheri, N., & Jamieson, G. A. (2004). "The Impact of Context-Related Reliability on Automation Failure Detection and Scanning Behaviour". Proceedings of the IEEE 2004 International Conference on Systems, Man and Cybernetics (pp. 212-217).
- Bagheri, N., & Jamieson, G. A. (2004). "An Optimal Sampling Model to Ascertain Automation-induced Complacency in Multi-task Environments". Proceedings of the IFIP Working Conference on Human Error, Safety and System Development (pp. 131-145)..
- Bagheri, N., & Jamieson, G. A. (2004). "Considering Subjective Trust and Monitoring Behaviour in Assessing Automation-induced 'Complacency'". Proceedings of the Human Performance, Situation Awareness & Automation Technology Conference, Vol. 2 (pp. 54-59).
- Jamieson, G. A., & Reising, D. V. C. (2004). "Cost-Justifying Investments in Advanced Human-Machine Interface Technologies". Proceedings of the HFES 48th Annual Meeting (pp. 1179-1183).
- Achonu, J., & Jamieson, G. A. (2003). "Work Domain Analysis of a Financial System: An Abstraction Hierarchy for Portfolio Management". Proceedings of the 22nd European Annual Conference on Human Decision Making and Control (pp. 103-109).
- Jamieson, G. A. (2003). "Bridging the Gap between Cognitive Work Analysis and Ecological Interface Design". Proceedings of the HFES 47th Annual Meeting (pp. 273-277).
- Bagheri, N., Mohite, S., Junta, D., & Jamieson, G. A. (2003). "Influence of Context-related Reliability on Automation Failure Detection Performance". Proceedings of the 22nd European Annual Conference on Human Decision Making & Control (pp. 41-47).
- Jamieson, G. A. (2003). "Comparison of Information Requirements from Task- and System-based Work Analyses". Proceedings of the International Ergonomics Association XVth Triennial Conference.
- Jamieson, G. A., Ho, W. H., & Reising, D.V.C. (2003). "Ecological Interface Design in Practice: A Design for Petrochemical Processing Operations". In Julie Jacko and Constantine Stephanidis (Eds.), Human-Computer Interaction: Theory & Practice, Part I (pp. 133-137). Mahwah, NJ: Erlbaum.
- Guerlain, S., Jamieson, G., & Bullemer, P. (2003). "Visualizzazione dei programmi di controllo predittivi basati su modelli". Operations, 1 (2), 75-78.
- Guerlain, S., Jamieson, G., Bullemer, P., & Blair, R. (2002). "The MPC Elucidator: A Case Study in the Design of Representational Aids". IEEE Transactions on Systems, Man, and Cybernetics, 32, 25-40.

- Jamieson, G. A. (2002). "Empirical Evaluation of an Industrial Application of Ecological Interface Design". Proceedings of the HFES 46th Annual Meeting (pp. 536-540).
- Jamieson, G. A., & Vicente, K. J. (2001). "Ecological Interface Design for Petrochemical Applications: Supporting Operator Adaptation, Continuous Learning, and Distributed, Collaborative Work". Computers & Chemical Engineering, 25, 1055-1074.
- Jamieson, G. A., & Ho, W. H. (2001). "A Prototype Ecological Interface for a Simulated Petrochemical Process (CEL 01-02)". Toronto: Cognitive Engineering Laboratory.
- Jamieson, G. A., Reising, D. V. C., & Hajdukiewicz, J. R. (2001). "EID Design Rationale Project: Case Study Report (CEL 01-03)". Toronto: Cognitive Engineering Laboratory.
- Torenvliet, G. L., Jamieson, G. A., & Vicente, K. J. (2000). "Making the Most of Ecological Interface Design: The Role of Individual Differences". Applied Ergonomics, 31, 395-408.
- Guerlain, S., Jamieson, G. & Bullemer, P. (2000). "Visualizing Model-based Predictive Controllers". Proceedings of the IEA 2000/HFES 2000 Congress, Volume 3 (pp. 511-514).
- Jamieson, G. A., & Miller, C. A. (2000). "Exploring the Culture of Procedures". Proceedings of the 5th International Conference on Human Interaction With Complex Systems (pp. 141-145).
- Jamieson, G. A., & Guerlain, S. (2000). "Operator Interaction With Model-based Predictive Controllers in Petrochemical Refining". Proceedings of the Human Performance, Situation Awareness & Automation Conference (pp. 172-177).
- Jamieson, G. A., & Vicente, K. J. (1998). "Implications of a Control-Theoretic Approach to Human-Automation-Plant Interface Design". Proceedings of the Fourth Annual Symposium on Human Interaction With Complex Systems (pp. 90-98).
- Jamieson, G. A., & Vicente, K. J. (1998). "Modeling Techniques to Support Abnormal Situation Management in the Petrochemical Processing Industry". Proceedings of the Symposium on Industrial Engineering & Management (pp. 249-256).
- Torenvliet, G. L., Jamieson, G. A., & Vicente, K. J. (1998). "Making the most of Ecological Interface Design: The Role of Cognitive Style". Proceedings of the Fourth Annual Symposium on Human Interaction With Complex Systems (pp. 214-225).
- Yu, X., Chow, R., Jamieson, G. A., Khayat, R., Lau, E., Torenvliet, G. L., Vicente, K. J., & Carter, M.W. (1997). Research on the Characteristics of Long-Term Adaptation (CEL 97-04). Toronto: Cognitive Engineering Laboratory.
- Jamieson, G. A. (1996). "Using the Conant Method to Discover & Model Human-Machine Structures". Proceedings of the HFES 40th Annual Meeting (pp. 173-177).
- Moray, N., & Jamieson, G. (1995). "Mental Models, Strategies, And Operator Intervention In Supervisory Control". Proceedings of the XVI European Annual Conference on Manual Control.

PATENTS HELD

- Jamieson, G.A., & Reising, D.V.C.:
Measuring economic cost/benefit of human/machine interfaces, US 20040143479 A1, July 22, 2004 (Outstanding)
- Guerlain, S., Jamieson, G.A. & Bullemer, P.:
Process variable generalized graphical device display and methods regarding same, US 6,901,560, May 31, 2005
Process variable gauge interface and methods regarding same, US 6,952,808, October 4, 2005
Multivariable process trend display and methods regarding same, US 6,577,323 B1, June 10, 2003
Multivariable process matrix display and methods regarding same, US 6,587,108 B1, July 1, 2003