

MARTHA R. GRABOWSKI

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EDUCATION

Ph.D.	Management/Information Systems, Expert Systems Rensselaer Polytechnic Institute Troy, NY	May 1987
M.S.	Industrial and Management Engineering Rensselaer Polytechnic Institute Troy, NY	August 1983
M.B.A.	Management Information Systems Rensselaer Polytechnic Institute Troy, NY	August 1982
B.S.	Nautical Science and Marine Transportation U.S. Merchant Marine Academy Kings Point, NY	June 1979

LICENSE

- Second Mate, Unlimited Tonnage, Any Oceans, Radar Observer (US Coast Guard Merchant Marine license, inactive)
- Lieutenant Commander, US Naval Reserve (retired)

TEACHING AND RESEARCH INTERESTS

Information systems, embedded intelligent real-time systems, transportation systems, human factors in systems design, the impact of technology in safety-critical systems, risk analysis and risk mitigation in large-scale systems, the role of human and organizational error in high consequence settings, financial cybersecurity in complex, heterogeneous data environments, high reliability virtual organizations, decision support systems, telecommunications and networking, organizational impact of information technology, use of information systems for competitive advantage.

ACADEMIC EXPERIENCE

LE MOYNE COLLEGE Syracuse, New York	1987 to present
Business Administration Department, Information Systems Program	
<i>McDevitt Associate Chair</i>	September 2010 – present
<i>Coordinator, Syracuse University-Le Moyne College Global Enterprise Technology (GET) Immersion Internship program</i>	September 2010 – present
<i>Coordinator, Syracuse University-Le Moyne College 4+1 MS/BS Information Studies program</i>	September 2010 – present
<i>Chair, Business Administration Department</i>	September 2009 - present
<i>Director, Information Systems Program</i>	September 2001 - present
<i>Coordinator, Le Moyne College SAP University Alliance Program</i>	July 2006 – present
<i>Director, Le Moyne – Zogby Center for Contemporary Catholic Trends</i>	January 2007 - 2010
<i>Acting Chair, Accounting Department</i>	September 2003 – May 2004
<i>Professor</i>	September 1998 - present
<i>Joseph C. Georg Endowed Professor</i>	September 1994 - August 1997
<i>Associate Professor</i>	September 1992 - August 1998
<i>Assistant Professor</i>	September 1987 - August 1992
Teach undergraduate and graduate courses in information systems, systems analysis and design, human factors and ergonomic design, database systems, project management, enterprise resource planning, telecommunication and networking, artificial intelligence, virtual reality, decision support systems, risk management, and information technology strategy and structure.	

RENSELAER POLYTECHNIC INSTITUTE Troy, New York	1988 to present
Department of Industrial and Systems Engineering (name change)	February 2010 to present
Department of Decision Sciences & Engineering Systems	June 1989 to February 2010
<i>Research Professor</i>	July 2001 to present
<i>Research Associate Professor</i>	September 1995 to June 2001
<i>Research Assistant Professor</i>	July 1989 to August 1995
<i>Visiting Assistant Professor</i>	January 1988 to June 1989

Lead various research teams examining the impact of technology in safety-critical systems, risk analysis and risk mitigation in large-scale systems, the role of human and organizational error in high consequence settings, financial cybersecurity in complex, heterogeneous data environments and high reliability virtual organizations(see Research Projects, below).

INDUSTRIAL EXPERIENCE

Program Integration Manager General Electric Company Corporate Research and Development Center Schenectady, New York	June 1991 to June 1992
Manager, Expert Systems Applications General Electric Company Tactical Systems Department Pittsfield, Massachusetts	March 1987 to June 1991
Applications Manager, Navy Marketing General Electric Company Defense Systems Division Pittsfield, Massachusetts	July 1985 - March 1987
Field Change Analyst General Electric Company Machinery Apparatus Operation Schenectady, NY	November 1982 - July 1985
Third Officer, MV OxyProducer Hvide Shipping Company Fort Lauderdale, FL	April 1981 - December 1981
Third Officer, SS El Paso Arzew SS El Paso Consolidated SS El Paso Paul Kayser El Paso Marine Company Solomons, Maryland	July 1979 - March 1981

HONORS AND AWARDS

American Bureau of Shipping Member	2001-present
National Academy of Sciences, National Research Council	
Lifetime National Associate award	2003
Transportation Research Board/Marine Board (Previous Service)	1992-1999; 2001-2008
<i>Chair, Marine Board</i>	2006 – 2008
<i>Vice Chair, Chair-Elect, Marine Board</i>	2004-2006
<i>Executive Board Member, Marine Board</i>	1994-1995; 2002-2008
<i>TRB Executive Committee</i>	2006 - 2008
<i>Chair, Committee on Evaluating Shipboard Display of Automated Identification Systems</i>	2001-2003
<i>Chair, Committee on Advances in Piloting and Navigation</i>	1991-1994 (chair 1993-94)
Committee on the Effect of Smaller Shipboard Crews on Maritime Safety	1998-1990
Symposium on Risk Assessment Methodologies Applied to Accident Prevention in Congested Ports and Waterways	
<i>Planning Committee Chair</i>	1998 -1999
1988 Navy Achievement Medal	1988
1987 General Electric Management Award	1987
1984 General Electric Management Award	1984

HONORS AND AWARDS, continued

Industry/Professional Society Awards

Technical Alliances Council (NY) – ACM/IEEE Educator of Year 2011

Le Moyne College

Ignatian Service (Honorary Alumnus) Award 2010
Bene Merenti Service Award 2007
MBA Teacher of the Year 1999
Joseph C. Georg Endowed Professor 1994 - 1997

Rensselaer Polytechnic Institute

Edith and Del Karger Dissertation award (Advisor to Zhuyu You) 2011
Edith and Del Karger Dissertation prize 1987
Rensselaer Polytechnic Institute doctoral fellowship 1984-1987
IBM Fellowship in Information Systems (won, not accepted) 1985
Rensselaer Topper Management Fellowship 1984-1985
W. Franklin Spaffard prize in Management 1982

United States Merchant Marine Academy

Outstanding Professional Achievement Award 1999, 2004
American Institute of Marine Underwriters Award 1979
Matthew Fontaine Maury Navigation Award 1979
US Merchant Marine Academy Officer's Club Award 1979
Rhodes Scholarship candidate 1979

BOARDS

1. National Research Boards

National Academy of Science, National Research Council.

- a. Member, Committee on Marine Safety & Human Factors 2011 - present
- b. Transportation Research Board/Marine Board, past Chair 2008- present
- c. Task Force on Marine Safety and Human Factors 2008 – 2011

2. National Policy Committees

National Academy of Sciences, National Research Council

- a. Chair, Naval Engineering in the 21st Century policy study 2009- 2011
- b. Vice Chair, Tsunami Readiness Assessment committee 2008 – 2010

3. Corporate, Technical or Safety Boards

Stevens Institute, Center for Secure and Resilient Maritime Commerce 2010- present
U.S. Coast Guard Prevention through People Advisory Board 1995-2000
U.S. Coast Guard Navigation Safety Advisory Council 1994-1998

4. Editorial Boards:

European Journal of Pure and Applied Mathematics 2007 – present
International Journal of Mobile Learning and Organization 2007 – present

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RESEARCH PROJECTS AND GRANTS

Team Fluidity and Organizational Performance in Virtual Organizations: Large Scale Debris Removal September 2011 – August 2014
3-year project for U.S. Army Corps of Engineers investigating the role of team fluidity and organizational performance in loosely structured virtual organizations. Project investigates the role of team interdependence, complexity and external volatility in virtual organizational performance, within the context of large-scale, post-disaster debris removal, in the wake of a burst of 64 tornadoes in the state of Alabama in 2011. Multilevel analyses of organizational, team and individual performance are utilized to model and benchmark performance using a complex data set.

Social Media and Warning Response for Extreme Events June 2011 – August 2013
2-year project to study the role of social media in warning response for extreme events, using data from the March 11, 2011 magnitude 9.0 earthquake and tsunami in Sendai, Japan. Using on-site data collected at two tsunami warning centers (TWCs) in Alaska and Hawaii, as well as one million instances of social media data (Twitter tweets), the project mapped the data collected to the social processes of warning decision making using graphic theoretic models to extract emergency-relevant information from the data. Key warning response behaviors exhibited by social media users were then identified from the resultant data set. Conclusions based on the data and the underlying social theory will be developed in order to improve emergency management strategies with respect to warnings of extreme events.

Business Process Analysis Template for Next Generation Short-Haul Trucking October 2010 – May 2011
9-month project for Riccelli Enterprises to develop an information architecture and business process template for next generation short-haul trucking. The project team also participated in a vendor analysis of new real-time monitoring and control technology. Recommendations to improve the firm's business processes and information architecture were developed, along with a roadmap for the business to evolve their technology and business standards, practices and personnel. The project also examined the ethical questions associated with disruptive new technology introduction that spurs exponential market growth with controversial environmental impacts. An inaugural case study in the Le Moyne College Business Case series was developed from this project.

Financial Cybersecurity in Complex, Heterogeneous Data Environments June 2010 – June 2012
2-year project with the Bank of New York Mellon, Morgan Stanley and the Financial Services Sector Coordinating Council's R&D Committee to integrate design and operations knowledge of secure financial networks, and then assess the observed patterns using a variety of analytical methods. The approach utilizes three techniques: 1) connecting historical data, real-time monitoring data and other data sources to population knowledge and industrial databases of known security risks through data cleansing, data mining and integration; 2) employing time series and statistical estimates, along with baseline behavioral models developed using Geometric Brownian Motion and probabilistic methods to establish baseline use of the cyber systems; 3) fusing the results and simulating the cyber systems concerned using software agents to detect structural risks such as load-related weaknesses and behaviorally-based disruptions, based on the population and behaviorally-based models.

Naval Engineering in the 21st Century February 2009 – June 2011
Chaired a 2-year policy study by the National Academies/National Research Council committee to review the future of naval engineering in the 21st century for the U.S. Navy's Office of Naval Research (ONR). The study evaluated the current state of U.S. naval engineering science and technology (S&T) activities and proposed improvements in innovation, research and educational capabilities for future needs of the Navy.

Bank of New York Mellon – Le Moyne College Technology Partnership August 2008 – present
Coordinator of Le Moyne College- Bank of New York Mellon partnership to establish new curriculum and undergraduate technology pipeline in enterprise and large-scale systems design, development, security and program management.

Enterprise Resource Planning (Curriculum Development) with SAP July 2006 – present
6 year, \$500k grant from SAP to introduce enterprise resource planning, curriculum and software to Le Moyne College. Coordinator of Le Moyne College SAP University Alliance program.

RESEARCH PROJECTS, continued

Tsunami Warning and Forecast Systems and Tsunami Preparedness
2010

July 2008 – September

Vice Chair for an 2 ½ -year National Research Council/Ocean Studies Board study for the U.S. Congress and the National Oceanographic and Atmospheric Administration (NOAA) to review NOAA's Tsunami Program; assess existing U.S. tsunami detection, forecast, and warning systems; provide an overview of national preparedness; highlight opportunities to improve the nation's tsunami preparedness in the future and identify novel, promising approaches to risk assessment and instrumental warning systems.

Leading Safety Indicators of Risk in Marine Transportation

October 2003 – December 2011

8-year project for American Bureau of Shipping, Exxon/Mobil-SeaRiver Maritime, Overseas Shipholding Group, Maersk Lines, LLC, and A.P. Moeller, LLC to investigate potential predictive safety indicators that could lead to human errors, near misses, incidents, and accidents. Developed models, and administered and analyzed longitudinal safety culture perception surveys from 1600 domestic and international shoreside and shipboard personnel to three industry partners. Results identified leading indicators of safety for maritime energy transportation, container and supply chain disruption operations.

Puget Sound Vessel Traffic Risk Assessment, Washington State

May 2006 – June 2009

3-year research project for US Coast Guard, US Army Corps of Engineers, British Petroleum (BP) and Ocean Advocates, as a result of a settlement between BP and Ocean Advocates. Project developed a 20-year vessel traffic and environmental simulation to evaluate the risk of increased tanker traffic over the next twenty years at the BP Cherry Point, Puget Sound refinery. Research focuses on evaluating the impact of technology on maritime risk, accident and incident history analysis; the role of human and organizational error in this large safety-critical system; and the generalizability of the safety culture-safety performance models and results developed.

Risk Analysis of Tanker Tug Escorts

July 2004 – June 2005

1-year project for State of Washington, Department of Ecology, Spill Prevention, Preparedness and Response Program to evaluate risk of tug escorts for laden tankers in Puget Sound, Washington State.

St. Lawrence Seaway AIS Performance Impact Study

April 2002 – December 2005

3-year project for U.S. Department of Transportation, Transportation Security Administration, and St. Lawrence Seaway Development Corporation to evaluate technical, economic, logistical and safety impact of carriage requirements for automatic identification systems (AIS) aboard domestic and international vessels on St. Lawrence Seaway and the Great Lakes.

Distributed Mobile Collaborative Networks

October 2002 - August 2003

10-month joint research project between LeMoyne College and Warsaw University, Warsaw, Poland, investigating cognitive and perceived learning outcomes associated with faculty and student use of distributed mobile collaboration networks facilitated by a variety of electronic collaboration technologies: face-to-face, audio, low resolution audio/video conferencing, high resolution audio-video conferencing, and mobile hand-held audio/video, wireless Internet networks. Project jointly funded by LeMoyne College and Warsaw University.

Shipboard Display of Automatic Identification Systems Information

May 2001 – May 2003

Chaired an 18-month National Research Council study for the U.S. Coast Guard, Transportation Security Administration to evaluate technical and human factors aspects of shipboard display of automatic identification systems information. Committee recommendations to provide basis for U.S. Coast Guard regulations on AIS as well as U.S. position on AIS at International Maritime Organization (IMO) meetings.

Risk Analysis of California-Federal Water Quality and Reliability

March – September 2002

6-month project for State of California-Federal Water Quality (CALFED) program to recommend risk analysis process for levee integrity and water quality reliability.

RESEARCH PROJECTS, continued

Failure Not An Option: High Reliability Financial Telecommunications October 2000 – May 2001
8-month contract from the Society for Worldwide Interbank Financial Telecommunications (SWIFT) to study and recommend best practices for a high reliability financial telecommunications network and a distributed virtual organization.

Design of Embedded Intelligent Real-Time Navigation & Piloting System January - December 2000
1 year contract from Lockheed Martin, Ocean, Radar & Sensor Systems Department to develop an object-oriented design for an embedded intelligent real-time navigation and piloting system for next generation naval vessels.

Design and Evaluation of an Improved Continuous Operational Real Time Monitoring System May 1999 – December 2000
18-month contract from the National Oceanographic and Atmospheric Administration (NOAA) to develop the requirements for and to evaluate a national real-time oceanographic network.

Risk Evaluation of Passenger Vessel Operations June 1998 – June 1999
1 year contract from the Washington State Department of Transportation, Washington State Ferries to evaluate the adequacy of safety provisions for passengers and crew on Washington State Ferries utilizing vessel accident and incident data analysis coupled to vessel traffic and environmental simulation. Research centered on human and organizational error in large-scale systems.

Surface Ship of the Future Automation System Development January 1998 - December 1999
2 year contract from Lockheed Martin Ocean, Radar & Sensor System Department to develop the requirements and design for an object-oriented information architecture for next generation U.S. Navy surface ships (SC 21, DD21).

Evaluation of Maritime Risk: Port of Houston January – September 1997
8-month contract from the Port of Houston Authority to evaluate the risks of passenger vessel traffic to the port of Houston.

Development, Test and Evaluation of SMARTBRIDGE August 1995 to July 1998
3 year contract from Department of Defense Advanced Research Projects Agency (ARPA) to develop, test and evaluate with Lockheed Martin, NOAA, and Chevron Shipping Company an integrated ship's bridge for Chevron tankers.

Evaluating and Monitoring Maritime Risk: Prince William Sound, Alaska April 1995 to June 1997
2 year contract from ARCO Marine Inc., BP Oil Shipping Company, Chevron, SeaRiver Maritime, Inc., Tesoro, Prince William Sound Regional Citizens Advisory Council, State of Alaska Department of Environmental Conservation, and U.S. Coast Guard to conduct risk assessment of oil transportation system in Prince William Sound, Alaska (with Det Norske Veritas and J. Harrald, T. Mazzuchi/GWU) using vessel traffic and environmental simulation coupled with accident and incident data analysis. Research investigated role of human and organizational error in large-scale systems.

Shipboard Manning Model Evaluation February 1994 to June 1997
3 year contract from U.S. Coast Guard Research and Development Center, Avery Point, CT (as part of Coast Guard Research, Development, Test and Evaluation of Human Factors contract) to develop, evaluate and test a decision support system for determining shipboard manning levels.

Research, Development, Test and Evaluation of Human Factors September 1994 to August 1999
5 year task order contract from the U.S. Coast Guard Research and Development Center, Avery Point, CT (with Battelle Human Factors Research Group).

Oil Pollution Research Grant August 1994 to August 1995
1 year grant from U.S. Department of Transportation, Volpe National Transportation Systems Center, Cambridge, Massachusetts to develop St. Lawrence Seaway piloting expert system prototype.

Human Factors in Maritime Shipping March 1994 to October 1994
7-month contract from Prince William Sound Regional Citizens Advisory Committee and Cook Inlet Regional Citizens Advisory Committee to assess the role of human and organizational error in maritime operations in Alaska (with Battelle Human Factors Research Group).

RESEARCH PROJECTS, continued

Evaluating and Monitoring Maritime Risk: Port of New Orleans March 1994 to May 1995
1 year contract from State of Louisiana to evaluate maritime risk of gaming boat operations in Port of New Orleans (with J. Harrald, T. Mazucchi/George Washington University) using vessel traffic simulation coupled to accident analyses.

Shipboard Evaluation of Embedded Piloting Expert System December 1993 to May 1995
1 year contract from U.S. Coast Guard R&D Center to evaluate an embedded real-time knowledge based system embedded within a real-time integrated bridge system.

Oil Spill Prevention Plan Review December 1993 to March 1994
3-month contract from State of Washington, Office of Marine Safety, to develop a methodology for oil spill prevention plan reviews (with J. Harrald, T. Mazucchi/GWU).

Oil Spill Response Information System Design July 1993 to March 1994
9-month contract from US Coast Guard R&D Center, (with Marine Safety International).

Evaluating and Monitoring Maritime Risk: Puget Sound April 1993 to March 1994
1 year contract from State of Washington, Office of Marine Safety to conduct risk assessment and develop vessel screening decision support system (with J. Harrald, T. Mazucchi/GWU).

On Scene Coordinators' Decision Making Training Objectives December 1992 to July 1993
8-month contract from US Coast Guard R&D Center, (with J. Harrald/GWU, T. Hammel, Marine Safety International).

Decision Support through Three Dimensional Imaging in a Tactical Command and Control Environment November 1991 -1993
Two year contract from Rome Laboratories/Air Force Systems Command (with W.A. Wallace) to investigate three dimensional and virtual imaging for command and control.

Development, Evaluation and Test of a Shipboard Piloting Expert System October 1989 to August 1993
Four year contract from US Department Transportation, Maritime Administration.

Development and Evaluation of a Piloting Expert System January 1986 - December 1987
2 year contract from US Department of Transportation, Maritime Administration (MARAD).

Development of a Case-Based Management Information Systems Curriculum May 1990 - December 1992
2 year contract from GE Foundation for MIS curriculum development.

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PUBLICATIONS

BOOKS—AUTHORED, EDITED, NRC COMMITTEE LEADERSHIP

Naval Engineering in the 21st Century: The Science and Technology Foundation for Future Naval Fleets. Washington, D.C.: National Academy Press, 2011 (committee chair).

Tsunami Warning & Preparedness: An Assessment of the U.S. Tsunami Program and the Nation's Preparedness Efforts. Washington, D.C.: National Academy Press, 2011 (committee vice chair).

Shipboard Automatic Identification System Displays: Meeting the Needs of Mariners. Washington, D.C.: National Academy Press, 2003. (committee chair). [Http://books.nap.edu/html/SR273/SR273.pdf](http://books.nap.edu/html/SR273/SR273.pdf)

Advances in Expert Systems for Management: Evaluation and Value in Knowledge-based Systems, Volume 2 (co-editor with W.A. Wallace), Greenwich, Connecticut: JAI Press, 1997.

Advances in Expert Systems for Management, Volume 1, (co-editor with W.A. Wallace), Greenwich, Connecticut: JAI Press, 1993.

Cases in Systems Analysis and Design, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1993.

REGULAR LENGTH ARTICLES: PUBLISHED OR ACCEPTED

1. Grabowski, M.R. & Roberts, K.H. "High Reliability Virtual Organizations: Co-Adaptive Technology and Organizational Structures in Tsunami Warning Systems," *ACM Transactions on Computer-Human Interaction*, 18:4, Article 19, December 2011, 1-23.
2. Dhami, H. & Grabowski, M.R., "Technology Impacts on Safety and Decision-Making over Time in Marine Transportation," *Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability*. September, 2011. 225: 1-24. Special issue on Risk and Reliability in Marine Transportation.
3. Grabowski, M.R. "Wet and Dry Tsunami Warning Systems: Lessons from High Reliability Organizations." *Journal of Homeland Security and Emergency Management*, 7:1, July 2010, 1-25. DOI: 10.2202/1547-7355.1694. <http://www.bepress.com/jhsem/vol7/iss1/46>, 7 July 2010.
4. Grabowski, M.R., You, Z., Song, H., Wang, H. & Merrick, J.R. "Sailing on Friday: Developing the Link between Organizational Safety Culture and Performance in Safety-Critical Systems." *IEEE Transactions on Systems, Man & Cybernetics, Part A, Systems and Humans*, 40:2, March 2010, 263-283. doi: 10.1109/TSMCA.2009.2035300.
5. Grabowski, M.R., You, Z., Zhou, Z., Song, H., Steward, M. & Steward, B. "Human and Organizational Error Data Challenges in Complex, Large-Scale Systems." *Safety Science*, 47:9, October 2009, 1185-1194, doi:10.1016/j.ssci.2009.01.008.
6. Grabowski, M.R., Ayyalasomayajula, P., Merrick, J.R., Harrald, J.H. & Roberts, K.H. "Leading Indicators of Safety in Virtual Organizations." *Safety Science*. 45:10, December 2007, 1013-1043. DOI [doi:10.1016/j.ssci.2006.09.007](https://doi.org/10.1016/j.ssci.2006.09.007).
7. Grabowski, M.R., Ayyalasomayajula, P. Merrick, J., & McCafferty, D. "Accident Precursors and Safety Nets: Leading Indicators of Tanker Operations Safety." *Maritime Policy and Management*, 34:5, October 2007, 405-425.
8. Hanumantharao, S. & Grabowski, M.R. "Effects of Introducing Collaborative Technology on Communications in a Distributed Safety-Critical System." *International Journal of Human-Computer Studies*, 64:8, August 2006, 714-726.
9. Bayrak, T. & Grabowski, M.R. "Network Performance Impacts on Operators in Safety-Critical Systems." *International Journal of Information Technology and Decision Making*, 5:1, March 2006, 173-194. <http://www.worldscinet.com/cgi-bin/details.cgi?id=pii:S0219622006001836&type=html> , DOI:10.1142/S0219622006001836
10. Merrick, J.R.W., Grabowski, M.R., Ayyalasomayajula, P., & Harrald, J.R., "Understanding Organizational Safety Using Value-Focused Thinking." *Risk Analysis*, 25:4, August 2005, 1029-1041.

REGULAR LENGTH ARTICLES: PUBLISHED OR ACCEPTED, continued

11. Coskun, E. & Grabowski, M.R. "Software Complexity and Its Impacts in Embedded Intelligent Real-Time Systems." *Journal of Systems and Software*, June 2005.
12. Coskun, E. & Grabowski, M.R. "Impacts of User Interface Complexity on User Acceptance and Performance in Safety-Critical Systems," *Journal of Homeland Security and Emergency Management*, 2:1, February 2005. <http://www.bepress.com/jhsem/vol2/iss1/3/>, posted 2 March 2005.
13. Grabowski, M.R. & Dhami, H. "Early Adoption of Technology Performance Impacts: AIS on the St. Lawrence Seaway," *Journal of Navigation*, 58:1, 2005, 17-30. <http://journals.cambridge.org/bin/bladerunner?30REQEVENT=&REQAUTH=0&500005REQSUB=&REQSTR1=JournalofNavigation/Vol58No01>, January 2005.
14. Bayrak, T. & Grabowski, M.R., "Safety-Critical Wide Area Network Performance Evaluation," *International Journal of Information Technology and Decision-Making*, 2:4, December 2003. <http://www.informatik.uni-trier.de/~lev/db/journals/ijitdm/ijitdm2.html>, December 2003.
15. Grabowski, M.R. and Sanborn, S.D. "Human Performance and Embedded Intelligent Technology in Safety-Critical Systems," *International Journal of Human-Computer Studies*, 58:6, June 2003, 637-660. <http://portal.acm.org/citation.cfm?id=941179>.
16. Merrick, J.R.W., van Dorp, J.R., Mazzuchi, T.A., Harrald, J.R., Spahn, J.E., & Grabowski, M.R., "The Prince William Sound Risk Assessment," *Interfaces*, 32:6, November/December 2002, 25-40. <http://www.seas.gwu.edu/~dorpjr/Publications/JournalPapers/Interfaces2002.pdf>, December 2002.
17. Grabowski, M.R., & Sanborn, S.D. "Evaluation of Embedded Intelligent Real-Time Systems," *Decision Sciences*, 32:1, Winter 2001, 95-123. http://www.decisionsciences.org/dsj/Vol32_1/32_1_95.htm.
18. Coskun, E. & Grabowski, M.R., "An Interdisciplinary Model of Complexity in Embedded Intelligent Real-Time Systems," *Information and Software Technology*, 43:9, September 2001, 527-537. <http://www.informatik.uni-trier.de/~lev/db/journals/infosof/infosof43.html>.
19. Van Dorp, J.R., Merrick, J.R.W., Harrald, J.R., Mazzuchi, T.A., and Grabowski, M.R. "A Risk Management Procedure for the Washington State Ferries," *Risk Analysis*, 21:1, 2001. <http://www.people.vcu.edu/~jrmerric/Papers/WSFRiskAnalysis.pdf>
20. Merrick, J.R.W., van Dorp, J.R., Harrald, J., Mazzuchi, T.A., Spahn, J.E., & Grabowski, M.R., "A Systems Approach to Managing Oil Transportation Risk in Prince William Sound," *Systems Engineering*, 3:3, 2000, 128-142.
21. Grabowski, M.R., Merrick, J., Harrald, J.R., Mazzuchi, T.A., & van Dorp, J.R., "Risk Modeling in Distributed, Large-Scale Systems," *IEEE Transactions on Systems, Man & Cybernetics, Part A: Systems and Humans*, 30:6, November 2000, 651-660. <http://www.seas.gwu.edu/~dorpjr/Publications/JournalPapers/IEEESSMC2000.pdf>
22. Grabowski, M. and Roberts, K.H., "Risk Mitigation in Virtual Organizations," *Organization Science*, 10:6, November/December 1999, 704-721. Also in *Journal of Computer Mediated Communication*, 3:4, June 1998 and <http://www.ascusc.org/jcmc/vol/issue4/grabowski.html>.
23. Grabowski, M.R. "Distributed Intelligent Navigation Systems," *Marine Technology*, 36:3, July 1999, 175-182. http://www.sname.org/mtonline_363.htm
24. Harrald, J.R., Mazzuchi, T.A., Spahn, J., Van Dorp, R., Merrick, J., Shrestha, S., & Grabowski, M.R. "Using System Simulation to Model the Impact of Human Error in a Maritime System," *Safety Science*, 30, 1998, 235-247. <http://www.people.vcu.edu/~jrmerric/Papers/HumanErrorSafetyScience.pdf>
25. Litynski, D.M., Grabowski, M.R., and Wallace, W.A. "The Relationship between Three Dimensional Imaging and Group Decision Making: An Exploratory Study," *IEEE Transactions on Systems, Man and Cybernetics*, 27:4, July 1997, 402-411.

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REGULAR LENGTH ARTICLES: PUBLISHED OR ACCEPTED, continued

26. Grabowski, M.R. and Roberts, K.H. "Risk Mitigation in Large Scale Systems: Lessons from High Reliability Organizations," *California Management Review*, 39:4, Summer 1997, 152-162
27. H. Sudhendar, and Grabowski, M.R., "Evolution of Intelligent Shipboard Piloting Systems: A Distributed System for the St. Lawrence Seaway," *Journal of Navigation* (U.K.), 49:3, September 1996, 362-376.
28. Grabowski, M. R. & Roberts, K., "Human and Organizational Error in Large Scale Systems," *IEEE Transactions on Systems, Man and Cybernetics*, 26:1, January 1996, 1-16.
29. Grabowski, M.R. & Sanborn, S., "Integration and Preliminary Shipboard Observations of an Embedded Piloting Expert System," *Marine Technology*, 32:3, July 1995, 216-223.
30. Grabowski, M.R. & Sanborn, S. "Smart Charts, Smart Bridge: Observations of the Shipboard Piloting Expert System (SPES)." *International Hydrographic Review*, March 1995, 72:1, 125-139.
31. Grabowski, M.R. & Wallace, W.A., "An Expert System for Maritime Pilots: Its Design and Assessment Using Gaming," *Management Science*, 39:12, December 1993, 1506-1520.
32. Grabowski, M.R. & H. Hendrick, "How Low Can We Go?: Validation and Verification of a Decision Support System for Safe Shipboard Manning," *IEEE Transactions on Engineering Management*, 40:1, February 1993, 41-53.
33. Grabowski, M. & Sanborn, S., "Knowledge Representation and Reasoning in a Real-Time Operational Control System: The Shipboard Piloting Expert System (SPES)," *Decision Sciences*, November/December 1992, 1277-1296.
34. Grabowski, M.R., Massey, A.P., and Wallace, W.A., "Focus Groups as a Group Knowledge Acquisition Technique," *Knowledge Acquisition*, 4:4, 1992, 407-425.
35. Grabowski, M.R., "Decision Support to Masters, Mates on Watch and Pilots: The Piloting Expert System," *Journal of Navigation* (UK), 43:3, Fall 1990, 364-384.
36. Grabowski, M.R., "The Piloting Expert System: Transition from Off-Line Prototype to On-Line Decision Support," *Journal of the Institute of Navigation*, 37:1, Spring 1990, 1-16.

CHAPTERS IN BOOKS

1. Grabowski, M.R., Lepak, G. & Kulick, G. "Collaborative Technology Impacts in Distributed Learning Environments," in H. Ryu and D. Parsons (editors), *Innovative Mobile Learning*, New York: Idea Group Publishing, 2009.
2. Grabowski, M.R. "Marine Navigation," in *McGraw-Hill Yearbook of Science and Technology*. New York: McGraw-Hill Publishing, 2001, 252-254.
3. Roberts, K.H. & Grabowski, M.R. "Organizations, Technology and Structuring," in S. R. Clegg, C. Hardy, and W. Nord (eds.), *Handbook of Organization Studies*. London: Sage Publications Ltd., 1996, 409-423.
4. Grabowski, M.R. and Lee, S., "Linking Information Systems Application Portfolios and Organizational Strategy," in M.A. Mahmood, R. Banker, and R.J. Kauffman (eds.), *Strategic Information Technology Management: Perspectives on Organizational Growth and Competitive Advantage*, Harrisburg, Pennsylvania: Idea Group Publishing, 1993, 33-54.
5. Grabowski, M.R., "A Methodological Approach to Knowledge Acquisition Problems," in M. R. Grabowski and W.A. Wallace (eds.), *Advances in Expert Systems for Management*, Greenwich, Connecticut: JAI Press, 1993, 33-58.
6. Grabowski, M.R., "Towards Next Generation Expert Systems: Technology, Applications, and Strategic Planning," in M. R. Grabowski and W.A. Wallace (eds.), *Advances in Expert Systems for Management*, Greenwich, Connecticut: JAI Press, 1993, 231-255.
7. Hendrick, H.W. & M.R. Grabowski, "Development, Validation, and Macroergonomic Dimensions of a Model for Determining Crew Size on Maritime Vessels," in K. Noro and O. Brown (eds.), *Human Factors in Organizational Design and Management III*, Amsterdam: North-Holland Press, 1990, 323-326.

REFEREED CONFERENCE PROCEEDINGS

1. Tyshchuk, Y., Hui, C., Grabowski, M.R. & Wallace, W.A., "Social Media and Warning Response Impacts in Extreme Events: Results from A Naturally Occurring Experiment," *Proceedings of the 45th Hawaii International Conference on System Sciences (HICSS-45)*, Maui, Hawaii, 4-7 January 2012.
2. Grabowski, M.R., Orne, D., Zimmer, J.C., McCallum, D., Lin, S.-J., O'Connor, D., & Downey Hart, R. "St. Ignatius and the Blackberry: What Can Jesuit Education Tell Us About Teaching Information Systems in a Connected World?" *Proceedings of the 14th Annual Meeting of the Colleagues in Jesuit Business Education Conference*, Xavier University, Cincinnati, Ohio, 7-10 July 2011.
3. Grabowski, M.R., Ayyalasomayahula, P., Wang, H., McCafferty, D., Merrick, J.R., Meador, M. & Kinney, C. "Accident Precursors and Safety Nets: Initial Results from the Leading Indicators of Maritime Safety Project," *Proceedings of the Annual Meeting of the Society of Naval Architects and Marine Engineers*, Fort Lauderdale, Florida, 13-17 November 2007.
4. Bayrak, T. & Grabowski, M.R. "Network Performance Impacts on Operators in Safety-Critical Systems," *Proceedings of the Annual Meeting of the Decision Sciences Institute*, Boston, 20-23 November 2004. <http://www.bus.ucf.edu/dsi2004/>.
5. Grabowski, M.R. & Bayrak, T. "Holistic Evaluation of Real-Time Safety-Critical Large-Scale Networks," *Proceedings of the Americas Conference on Information Systems*, Association for Information Systems (AIS), Tampa, Florida, 3-5 August 2003.
6. Coskun, E. & Grabowski, M.R., "User Interface Complexity in Safety-Critical Systems," *Proceedings of the 10th International Conference on Human-Computer Interaction, HCI International 2003*, Crete, Greece, 22-27 June 2003.
7. Coskun, E. & Grabowski, M.R. "User Interface Complexity Assessment in Large-Scale Safety-Critical Environments," *Proceedings of the 5th International Conference on Enterprise Information Systems*, Angers, France: Ecole Supérieure d'Electronique de l'Ouest, 23-26 April 2003.
8. Roberts, K.H. & Grabowski, M.R. "Coordinating at the Interstices: Improving Reliability in Health Care." *Symposium on Coordination of Expertise in High Reliability Work Environments*. Academy of Management Meetings, Denver, Colorado, 9-12 August 2002.
9. Bayrak, T. & Grabowski, M.R., "Real-time Safety-Critical Wide Area Networks," *Proceedings of the Americas Conference on Information Systems*, Dallas, Texas, 9-11 August 2002.
10. Coskun, E. & Grabowski, M.R., "Assessment of Intelligence Complexity in Embedded Intelligent Real-Time Systems," *Proceedings of the European Conference on Information Systems, ECIS 2002*, Gdansk, Poland, 6-8 June 2002.
11. Bayrak, T. & Grabowski, M.R., "Safety-Critical Wide Area Network Performance Evaluation," *Proceedings of the European Conference on Information Systems, ECIS 2002*, Gdansk, Poland, 6-8 June 2002.
12. Coskun, E. & Grabowski, M.R., "Two Perspectives of Intelligence Complexity in Embedded Intelligent Real-Time Systems," *Proceedings of the International Conference on Fuzzy Sets and Soft Computational Intelligence in Management and Industrial Engineering (FSSCIMIE 2002)*, Istanbul, Turkey, 29-31 May 2002.
13. Harrald, J.R., Mazzuchi, T.A., van Dorp, J. R., Merrick, J.R. & Grabowski, M. "A Collaborative Risk Management Procedure for the Washington State Ferries." *Proceedings of the Society for Risk Analysis Annual Meeting*, 2-5 December 2001.
14. Bayrak, T. & Grabowski, M.R. "Evaluation of Safety-Critical Wide Area Networks," *Proceedings of the Americas Conference on Information Systems 2001*, Boston, Massachusetts, 3-5 August 2001.
15. Coskun, E. & Grabowski, M.R., "An Application of Relative Complexity Metrics to Study Software Complexity to Study Software Complexity in Embedded Intelligent Real-Time Systems," *Proceedings of the International Conference on Intelligent Systems in Manufacturing*, 24-25 May 2001, Sakarya University, Adapazari, Turkey.

M. Grabowski

REFEREED CONFERENCE PROCEEDINGS, continued

16. Coskun, E. & Grabowski, M.R., "Complexity in Embedded Intelligent Real Time Systems," *International Conference on Complexity and Complex Systems*, Warwick, U.K., 19-20 September 2000.
17. Coskun, E. & Grabowski, M.R., "Complexity in Embedded Intelligent Real Time Systems," Research in Progress paper, *International Conference on Information Systems*, Charlotte, North Carolina, December 1999.
18. Hanamantharao, S. & Grabowski, M.R., "Impact of a Distributed Intelligent System in a Large Scale Safety Critical System," Research in Progress paper, *International Conference on Information Systems*, Cleveland, Ohio, December 1996.
19. Grabowski, M.R., "Decision Aiding Technology and Integrated Bridge Design," *Proceedings of the Society of Naval Architects and Marine Engineers Ship Technology and Research Symposium*, New Orleans, 12-15 April 1989, S5-3-1 to S5-3-11.
20. Grabowski, M.R., "Knowledge Acquisition Methodologies: Survey and Assessment," *Proceedings of the Ninth International Conference on Information Systems*, Minneapolis, 30 November – 3 December 1988.

EDITORIALLY REVIEWED CONFERENCE PROCEEDINGS

1. Grabowski, M.R. "Impacts of Next Generation Ship Navigation and Communication Systems," *Proceedings of the 4th International Conference on Computer Application and Information Technology in the Maritime Industries (COMPIT '05)*. Hamburg, Germany, 8-11 May 2005.
2. Grabowski, M.R. "The Future of Bridge and Navigation Systems," *Proceedings of the Nautical Institute Workshop on Integrated Bridges*. London, United Kingdom: The Nautical Institute, 13-14 November 2002, pp. 10-1 to 10-8.
3. Grabowski, M.R. "Navigational Aids and the Human Element: The Intelligent Bridge," *Proceedings of the Safer Seas: Marine Safety and Environmental Protection Conference*, 11-12 March 2002, Brest, France.
4. Harrald, J.R., Mazzuchi, T.A., Merrick, J., Spahn, J., Van Dorp, R., & Grabowski, M.R. "Waterway Risk Assessment Using System Simulation and Expert Judgment." *Proceedings of the 29th International Association of Navigation Congresses*. The Hague, Netherlands, July 1998.
5. Fowler, T., Harrald, J. & Grabowski, M., "Overview of the Prince William Sound Risk Assessment Project," *Proceedings of the Institute of Marine Engineers Conference*. London: 17-18 May 1997.
6. Grabowski, M.R. & Roberts, K.H., "Risk Mitigation and Risk Migration in Large Scale Systems," *Academy of Management Annual Meeting*, Vancouver, B.C., 9 August 1995.
7. Moore, W.H., Bea, R.G., Grabowski, M.R. & Roberts, K.H., "Managing Human and Organizational Error Through the Life Cycle of Offshore Marine Systems," *Proceedings of the Offshore Mechanics and Arctic Engineering Conference 1995*, Copenhagen, Denmark, 18-22 June 1995.
8. Roberts, K.H. & Grabowski, M.R., "Some Requirements for Designing and Managing Reliable Complex Systems," *Proceedings of PSAM II, International Conference on the Advancement of System-based Methods for the Design and Operation of Technological Systems*, San Diego, 20-24 March 1994.
9. Lee, J.D., Sanquist, T.F., & Grabowski, M.R., "Development of a Computer-Based Model to Estimate the Staffing Needs of Commercial Ships," *Proceedings of the Prevention, Response, and Oversight: Five Years after the Exxon Valdez Oil Spill Conference*, Anchorage, Alaska, 23-25 March 1994, 101-110.
10. Hendrick, H.W. & Grabowski, M.R., "Cross Cultural Validation of a Function Analysis Model for Determining Minimal Safe Crew Size on Maritime Vessels," *Proceedings of the 36th Annual Meeting of the Human Factors Society*, Atlanta, Georgia, 12-16 October 1992.
11. Hendrick, H.W. & Grabowski, M.R., "A Process for Developing Functional Generic Models for Determining Personnel Requirements," *Proceedings of the 36th Annual Meeting of the Human Factors Society*, Atlanta, Georgia, 12-16 October 1992.

EDITORIALLY REVIEWED CONFERENCE PROCEEDINGS, continued

12. Jessen, D., Grabowski, M.R., Triscari, T. & Wallace, W.A., "A Test of Stereoscopic Imaging in a Tactical Command and Control Decision Situation," *Proceedings of the 1992 Symposium on Command and Control Research*, Naval Postgraduate School, Monterey, California, 10-11 June 1992. McLean, Virginia: Science Applications International Corporation, Information Systems Division, 85-99.
13. Hendrick, H.W. & Grabowski, M.R., "Macroergonomic Considerations in Determining Minimum Safe Crew Size on Maritime Vessels," *Proceedings of the 34th Annual Meeting of the Human Factors Society*, Orlando, Florida, 8-12 October 1990.
14. Grabowski, M.R., "Smart Charts: The Next Step for Piloting Expert Systems?" *Proceedings of the US Hydrographic Conference '88*, Baltimore, 12-15 April 1988, 194-203.

REPORTS, ARTICLES, AND NON-REFEREED CONFERENCE PROCEEDINGS

1. Van Dorp, J.R., Harrald, J.R., Merrick, J.R.W. & Grabowski, M.R. "Assessment of Oil Spill Risk due to Potential Increased Vessel Traffic at Cherry Point, Washington." Washington, D.C.: The George Washington University, February 2009. Report submitted to U.S. Army Corps of Engineers and BP Shipping, Puget Sound, Washington.
2. Grabowski, M.R. & You, Z. "ABS Leading Indicators of Safety: SeaRiver, OSG and Maersk Project Report." Houston, Texas: American Bureau of Shipping, August 2008.
3. You, Z., Zhou, Z., Steward, M., Grabowski, M.R. and Song, H. "Puget Sound Vessel Traffic Risk Assessment Database: Description, Analysis and Human and Organizational Error." United States Army Corps of Engineers, United States Coast Guard, BP Technical Report 2008, July 2008.
4. Grabowski, M.R. & Wang, H. "ABS Leading Indicators of Safety: Maersk Project Report," Houston, Texas: American Bureau of Shipping, Risk and Human Factors Division, June 2008.
5. Grabowski, M.R., Vortmann, R., Cambridge, J. & Johnson, P. "The Marine Board." *Coast Guard Proceedings*. Summer 2007, 23-26. <http://www.uscg.mil/proceedings>, 25 July 2007.
6. Grabowski, M.R., Ayyalasomayahula, P. & Wang, H. *Leading Indicators of Tanker Safety*. Houston, Texas: American Bureau of Shipping, Guidance Note, August 2007
7. Gray, D.L, Michel, K. Eitken, D. & Grabowski, M.R. "Tug Escorts in Puget Sound," Washington State Department of Ecology, Olympia, Washington. 25 February 2005. <http://www.ecy.wa.gov/programs/spills/hottopics/tug/tugstudystuff/FinalReport.pdf>, 16 July 2005.
8. Grabowski, M.R. & Dhani, H. "St. Lawrence Seaway AIS Performance Impact Study," prepared for the St. Lawrence Seaway Development Corporation, March 2004.
9. Grabowski, M.R. "Risk in the 21st Century Marine Transportation System." *Transportation Research News*, July/August 1999.
10. Harrald, J.R., van Dorp, J.R., Mazzuchi, T.M., Grabowski, M.R., & Merrick, J. *Washington State Ferries Risk Assessment: Final Report*. Olympia, Washington: Blue Ribbon Panel of Washington State Ferries Safety, Washington State Department of Transportation, June 1999. <http://www.seas.gwu.edu/dorpir/Publications/TechnicalReports/WashingtonStateFerriesRiskAssessment/WSFFinalReport.pdf>, 16 July 2005.
11. Mohan, R., Lo, C., Kwong, C., Lo, M., Coskun, E., Hamzah, R., Lin, B., Bahsin, S., Yesiloglu, M. & Grabowski, M.R. *Washington State Ferries Risk Assessment Project, Puget Sound Accident-Incident Database Requirements and Design Document*. Olympia, Washington: Blue Ribbon Panel on Washington State Ferries Safety, Washington State Transportation Commission, December 1998.

REPORTS, ARTICLES, AND NON-REFEREED CONFERENCE PROCEEDINGS, continued

12. Grabowski, M.R. *Risk Evaluation of Passenger Ship Traffic in the Port of Houston*. Houston, Texas: Port of Houston Authority. September 1997.
13. Grabowski, M.R. Safety Brokering: Seven Lessons Learned for Maritime Safety. *Proceedings of the Marine Safety Council*. Washington, D.C.: U.S. Coast Guard, 54:3, July 1997, 12-17.
14. Harrald, J.H., Mazucchi, T.M., Grabowski, M.R., Saebo, E., and Hutton, M. *Prince William Sound Risk Assessment Final Report*. Cleveland, Ohio: BP Oil Shipping Company, USA, December 1996.
15. Kelton, K. and Grabowski, M.R. *Navigation and Piloting Expert System Functional Requirements*. Department of Defense, Advanced Research Projects Agency/Lockheed Martin Technical Report, 15 April 1996.
16. Grabowski, M.R. *Prince William Sound Oil Transportation System Description*. Rensselaer Polytechnic Institute, Department of Decision Sciences and Engineering Systems Technical Report, 31 January 1996.
17. Grabowski, M.R., "Evolution of Intelligent U.S. Piloting Aids," *Proceedings of the 20th U.S.-Japan Marine Facilities Conference*, Washington, D.C., 25 September 1995.
18. Grabowski, M.R. "Prototype PC-Based Shipboard Piloting Expert System." In *U.S. Coast Guard 1994 Oil Pollution Research Grants*. U.S. Department of Transportation, Volpe National Transportation Systems Center. Report No. CG-D-27-96, DOT-VNTSC-USCG-96-2.1, September 1996, 321-345.
19. Grabowski, M.R., "Systems Can Mean Safety," *Proceedings of the Marine Safety Council*. Washington, D.C.: U.S. Coast Guard, 52:4, September/October 1995, 59-62.
20. Grabowski, M.R., "Minding the Helm." *Proceedings of the Marine Safety Council*. Washington, D.C.: U.S. Coast Guard, 52:3, May/June 1995, 10-11.
21. Harrald, J.R., Mazzuchi, T., and Grabowski, M.R. *Evaluating and Monitoring Maritime Risk: The Lower Mississippi River*. New Orleans, Louisiana: The Board of Commissioners of the Port of New Orleans. Final Report, May 1995.
22. Harrald, J.R., Mazzuchi, T., and Grabowski, M.R. *Evaluating and Monitoring Maritime Risk: The Development of a Vessel Risk Model for Puget Sound and the Straits of Juan de Fuca*. Olympia, Washington: State of Washington, Office of Marine Safety. Final Report, January 1994.
23. Sanquist, T.F. and Grabowski, M.R. *Alaska Maritime Human Factors Needs Assessment*. Anchorage, Alaska and Valdez, Alaska: Cook Inlet and Prince William Sound Regional Citizens Advisory Committees, 23 September 1994.
24. Seigel, S., Grabowski, M.R., and Case, J. *Conceptual Design for a USCG Multi-Agency Response Tactical Action Display (MARTAD) System*. Washington, D.C.: U.S. Coast Guard Research and Development Center, Report No. MSI/CAORF 60-9056-01, August 1994.
25. Grabowski, M. and Sanborn, S. *The Shipboard Piloting Expert System: Final Report, Volumes 1 (Final Report), 2 (Phase 1 Final Report) and 3 (SPES Shipboard Evaluation Plan)*, U.S. Department of Transportation, Maritime Administration, Report Nos. MA-RD-840-93003, 93004, and 93005, May 1994.
26. Seigel, S., Harrald, J. R., Grabowski, M.R., Hammel, T. *Final Report: Decision Making Training Alternatives for Marine Spill Response Command Post Personnel* Washington, D.C.: U.S. Department of Transportation, U.S. Coast Guard, Report No. MSI/CAORF 60-9051-01A, January 1994.
27. Grabowski, M. *U.S. Coast Guard Multi Agency Response Tactical Action Display (MARTAD) System, Task A: Prototype System Concepts*, Department of Decision Sciences and Engineering Systems Technical Report 37-93-333, December 1993.
28. Wilkinson, J., Ramaswamy, S., Grabowski, M., Harrald, J., and Mazzuchi, T. *Evaluating and Monitoring Maritime Risk: Causal Analysis of Oil Spills in State of Washington Waters*. Department of Decision Sciences and Engineering Systems, Technical Report 37-93-249, July 1993.

REPORTS, ARTICLES, AND NON-REFEREED CONFERENCE PROCEEDINGS, continued

29. Grabowski, M. *Evaluating and Monitoring Maritime Risk: Literature Review and Analysis*. Department of Decision Sciences and Engineering Systems, Technical Report 37-93-248, 31 May 1993.
30. Grabowski, M., *On Scene Commander/Rapid Response Team Decision Making Training Objectives*. Avery Point, Connecticut: U.S. Department of Transportation, Coast Guard Research and Development Center, May 1993.
31. Ramaswamy, S., and Grabowski, M.R., *Summary of Responses to the Committee on Advances in Navigation and Piloting's Letter of Inquiry*, unpublished contract report to the Marine Board, National Research Council, Washington, DC, July 1992.
32. Grabowski, M., *The Shipboard Piloting Expert System: Simulator and Shipboard Evaluation Plan*, Department of Decision Sciences and Engineering Systems, Rensselaer Polytechnic Institute, Technical Report 37-92-380, July 1992.
33. Grabowski, M., *The Shipboard Piloting Expert System: Shipboard Implementation and Evaluation Plan*, Department of Decision Sciences and Engineering Systems, Rensselaer Polytechnic Institute, Technical Report 37-91-265, April 1991.
34. Grabowski, M., Sanborn, S., and M. Dowd, *The Shipboard Piloting Expert System: Phase 1 Interim Technical Report*, Department of Decision Sciences and Engineering Systems, Rensselaer Polytechnic Institute, Technical Report 37-91-279, August 1991.
35. Grabowski, M. and Sanborn, S., *The Shipboard Piloting Expert System: Design Report*, Department of Decision Sciences and Engineering Systems, Rensselaer Polytechnic Institute, Technical Report 37-90-245, June 1990.
36. Grabowski, M., Dowd, M., and Sanborn, S., *The Shipboard Piloting Expert System: Functional Requirements Document*, Department of Decision Sciences and Engineering Systems, Rensselaer Polytechnic Institute, Technical Report 37-90-229, March 1990.
37. Grabowski, M., *The Piloting Expert System: Decision Support to Masters, Pilots, and Mates on Watch at Sea and in Close Waters: Technical Report and User's Manual*, US Department of Transportation, Maritime Administration, Reports No. MA-RD-840-88008 and 88009, March 1988.

COMPLETED WORKING PAPERS--PAPERS UNDER REVIEW

1. Song, H., You, Z. & Grabowski, M.R. "Anticipating Adverse Events: Generalized Multi-Level Leading Indicators in Distributed Safety-Critical Systems," to be submitted to *Safety Science*, March 2012.
2. Grabowski, M.R. & Roberts, K.H. "CoAdaptive Social Media and Organizational Structures: Transformation in Extreme Warning Systems," submitted to *Information Systems Research*, January 2012.
3. Grabowski, M.R., Orne, D., Zimmer, J.C., McCallum, D., Lin, S.-J., O'Connor, D., & Downey Hart, R. "St. Ignatius and the Blackberry: What Can Jesuit Education Tell Us About Teaching Information Systems in a Connected World?" revised for the *Journal of Jesuit Business Education*, January 2012.
4. Choo, A. & Grabowski, M.R. "Communicating Risks in Operations: A Multilevel Analysis of Safety Communication, Individual Safety Knowledge and Safety Efficacy in Global Shipping Operations," submitted to *Production and Operations Management*, 25 October 2011.
5. Merrick, J. & Grabowski, M.R. "Finding Leading Indicators of Safety in Marine Transportation with Value Focused Thinking," revised for *Risk Analysis*, July 2010.
6. Lockett, R., Notaro, S. & Grabowski, M. "Business Process Analysis Template for Next Generation Short-Haul Trucking," Case study to be submitted to the *Jesuit Case Study Series*, July 2012.

PROFESSIONAL AND PUBLIC LECTURES

Invited presentations

1. "High Reliability Virtual Organizations: Transformational Leadership and the Ignatian Pedagogical Paradigm," Invited presentation, Lockheed Martin Leadership Academy, Lockheed Martin Information Systems and Global Solutions, Baltimore, Maryland, 25 January 2012.
2. "Embedding a Risk Management Culture," U.S. Coast Guard Missions Conference, World Maritime Day Celebration, Tampa, Florida, 28 October 2011.
<http://www.tvworldwide.com/events/propellerclub/111027/default.cfm?id=14085&type=flv&test=0&live=0>
3. "Challenges for Maritime Human Factors in the 21st Century," Keynote address to *ERGOShip Conference on Maritime Human Factors*, Goteburg, Sweden, 14-16 September 2011.
4. "Highly Reliable Crisis and Disaster Systems." Keynote address to the 6th *International Conference on Information Systems for Crisis Response and Management, ISCRAM '09*, Gothenburg, Sweden, 8-13 May 2009.
5. "Leading Indicators of Safety in Virtual Organizations." Keynote address. SINTEF, Norwegian Foundation for Scientific and Industrial Research, Symposium on Human Factors and Control, Halden, Norway, 19-20 April 2006.
6. "Early Adoption of Technology Performance Impacts: AIS on the St. Lawrence Seaway," *Marine Transportation Systems Research and Development Technology Conference*, Washington, D.C., 15-17 November 2004.
7. "Display of AIS Information," *International Association of Lighthouse Authorities Workshop on Training the VTS Operator for the AIS World*, Rotterdam, the Netherlands, 3-7 February 2003.
8. "The Future of Integrated Bridge Systems," *Integrated Bridge and Navigation Systems—User Enhanced Designs*. Conference of the Nautical Institute. London, 13-14 November 2002.
9. "Navigation Aids and the Human Element: The Intelligent Bridge," *Safer Seas: Conference on Marine Safety and Environmental Protection*, University of West Brittany, Brest, France, 11-12 March 2002.
10. "Teaching Effectiveness: What Works? What Doesn't?" *Maine Maritime Academy Teaching Effectiveness Roundtable*, Castine, Maine, 26 February 2002.
11. "Risk Mitigation in Complex Systems," *21st Century Driver and Truck Alliance Roundtable on Risk Taking and Systems Accidents*, American Trucking Associations, Arlington, Virginia, 1 August 2000.
12. "Performance Evaluation of Embedded Intelligent Ship Control Systems," *U.S. Office of Naval Research Workshop on Intelligent Ships*, Navy Center for Applied Artificial Intelligence and U.S. Office of Naval Research, Washington, D.C., 6 March 2000.
13. "Distributed Intelligent Navigation Systems," *Forum Captain Computer II*, Hamburg, Germany; Workshop on Artificial Intelligence and Optimization for Marine Applications, Institute fur Schiffbau Hamburg, Germany, 29 January 1999.
14. "The Marine Information Highway: Intelligent Real Time Bridge Systems," *U.S.-Canadian Safe Marine Transportation (SMART) Forum*, Vancouver, British Columbia, 11-12 June 1998.
15. "Accidents, Incidents, and Lessons Learned for Maritime Safety." *American Petroleum Institute's Workshop on Enhancing Maritime Safety*. New Orleans, Louisiana, 26 June 1997.
16. "Hydrographic Charting for U.S. Ports and Waterways." Testimony before U.S. House of Representatives, Subcommittee on Fisheries Conservation, Wildlife, and Oceans. Washington, D.C., 24 April 1997.
17. "The Prince William Sound Risk Assessment Project." *Annual British Petroleum Safety Conference*. Skytop Lodge, Skytop, Pennsylvania, 23 April 1997.
18. "Mitigating Human and Organizational Risk," *Biannual Meeting of the American Petroleum Institute*, Washington, D.C., 8 October 1996.

PROFESSIONAL AND PUBLIC LECTURES

Invited presentations, continued

19. "Development and Evolution of Intelligent Piloting Systems," National Transportation Safety Board Forum on Integrated Bridges, Reston, Virginia, 5-6 March 1996.
20. "Evolution of Intelligent U.S. Piloting Aids," *20th Meeting of the U.S.-Japan Marine Facilities Panel*, Washington, D.C., 25 September 1995.
21. "Minding the Helm: Advances in Marine Navigation and Piloting," *British Columbia/States Oil Spill Task Force Annual Meeting*, San Diego, California, 18 July 1995.
22. "Handling Oil in the Modern World: A Systems Approach," *Establishing Quality Spill Prevention Systems Conference*, U.S. Coast Guard/State of Washington Office of Marine Safety, Seattle, Washington, 3 November 1994.
23. "Evaluating Human and Organizational Error: What Can Be Done?" *Prevention First: California State Lands Commission Oil Spill Prevention Conference*, Long Beach, California, 22 September 1994.
24. "The State Maritime Academies: Where Should They Be Going?" Massachusetts Maritime Academy Board of Visitors, Boston, Massachusetts, 7 June 1994.
25. "Human Factors in the Maritime Industry--A Research Perspective," U.S. Coast Guard/State of Washington West Coast Conference on Human Factors, Seattle, Washington, 19 November 1993.
26. "Decision Support and Organizational Forms in High Velocity Environments," Hong Kong University of Science and Technology, 12 November 1993.
27. "Maritime Industry--Aerospace Technology Transfer Opportunities," US Department of Transportation, Maritime Administration, Ship Operations Cooperative Program conference, Baltimore, 8 October 1992.
28. "Shipboard Manning: How Low Can You Go?," MIT International Shipping Colloquium series, Boston, 24 September 1992.
29. "Human and Organizational Error in Maritime Systems: Piloting and Human Resource Allocation Modeling," presentation at Fourth BiAnnual Meeting of the Human and Organizational Error Program, University of California at Berkeley, 17-18 August 1992.
30. "An Application of Expert Systems Technology: The Shipboard Piloting Expert System," invited panel on Technological Advances in the Management of Hazardous Materials Transportation, Spring ORSA/TIMS meeting, Ft. Lauderdale, Florida, 29 April 1992.
31. "Shipboard Navigation and the Human Factor," US Coast Guard, Directorates of Merchant Vessel Personnel (M), Navigation (N) and Engineering, Research and Development (ERDA), 24 April 1992 and to National Transportation Safety Board, Washington, DC, 24 April 1992.
32. "Prevention of Maritime Casualties: The Role of Technology," Oil Pollution Act of 1990 (OPA-90) Research and Development Advisory panel meeting, Kings Point, New York, 3 March 1992.
33. "The Advent of Second Generation Expert Systems," closing address, American Association of Librarians, Washington, DC, 17 October 1990.
34. "Who Should Build Expert Systems--Knowledge Engineers or Experts?" Association for Information Systems Technology dinner meeting, Syracuse, New York, 15 November 1989.
35. "Knowledge Acquisition for Management," Expert Systems for Management Conference, Syracuse University, 26 October 1989.
36. "Challenges for Second Generation Expert Systems," Northern Illinois University Graduate Colloquium Series, DeKalb, Illinois, 17-18 July 1989.
37. "Piloting and Navigation Expert Systems," presentation to the National Academy of Sciences, Marine Board, New Orleans, 15 June 1989.

PROFESSIONAL AND PUBLIC LECTURES

Invited presentations, continued

38. "Methodological Issues in Expert Systems: Knowledge Acquisition," CORS/ORSA/TIMS, Vancouver, British Columbia, 8-10 May 1989.
39. "Artificial Intelligence and Expert Systems," Society of Logistics Engineers, Garden City chapter, Garden City, New Jersey, 19 April 1988.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

Association for Information Systems (AIS)	September 2000 to present
The Institute of Management Science/Operations Research Society of America (INFORMS) -- <i>Secretary/Treasurer TIMS College on IS</i>	January 1987 to present
	September 1992 to September 1995
The Institute of Electrical and Electronic Engineers	February 1983 to 2000
Decision Sciences Institute	March 1989 to present
Society of Naval Architects and Marine Engineers	February 1977 to 1998
American Association of Artificial Intelligence	July 1985 to July 1989
The Institute of Navigation	June 1989 to 1995

COLLEGE, COMMUNITY, AND PROFESSIONAL SERVICE

COLLEGE SERVICE

1. College Service (Le Moyne College)

McDevitt Chair Think Tank	January 2010 - 2011
Systems Librarian Search Committee	November 2009 – May 2010
Core Curriculum Task Force, Ex Officio Member	September 2009 - 2010
Director, Zogby Center for Contemporary Catholic Trends	January 2007 - 2010
Coordinator, Bank of New York Mellon – Le Moyne Technology Partnership	January 2008 - present
Coordinator, Le Moyne College SAP University Alliance Program	July 2006 - present
Director, Information Systems program	September 2001 - present
Coordinator, IS Program Industry Advisory Board	September 2001 - present
Information Systems program internship coordinator	September 1991 - present
Presidential Search Committee	September 2007 – 2008
Member, committee to develop Pastoral Ministry program	September 2007 - 2008
Strategic Planning Committee	June 2007 – June 2008
Coordinator, IS program with new Computer Science major, minor	September 2006 to 2008
MBA Advisory Committee	September 2003 – August 2006
Management Division Curriculum Committee	September 2004 - 2006
Acting Chair, Accounting Department	September 2003 – May 2004
College Reorganization Committee	May 1999 - March 2000
Faculty Senate Finance Committee	September 1997 - June 1999
Academic Vice President Search Committee	October 1996 - March 1997
Chair, Faculty Senate Academic Policies and Procedures subcommittee evaluating administrators (Academic Vice President)	Spring 1996
Heights Project Steering Committee (college self assessment)	Fall 1992 - Spring 1993
Faculty Senate, Professional Rights and Welfare Committee	Fall 1992 - Spring 1993
Enrollment Management Advisory Board	Spring 1993
Middle States Self Study Steering Committee	May 1990 - April 1992
Le Moyne College Judicial Board	Fall 1989 - Fall 1992
Student Life Advisory Board	Fall 1990 - Spring 1993
Biology department curriculum review committee	Summer 1990
Le Moyne College Elderhostel	Summer 1989 - 1994

2. Business Department Service (Le Moyne College)

Chair, Business Administration Department	Fall 2009 - present
Information Systems program director	Fall 2001 - present
Information Systems, Business student advisor (~45 students)	Fall 2001 – present
AACSB Instructional Resources team member	Fall 2003 – Spring 2004
MIS Concentration Coordinator	Spring 1993 - 2001
AACSB Candidacy Intellectual Contributions Team Leader	Spring 1998 to Spring 2000
Team Leader, Instructional Resources and Mission Accomplishment Team, AACSB Precandidacy Process	Fall 1996 - Spring 1998
Business Department Resource Committee	Fall 1994 -2000
Chair, Business Department Curriculum committee	Fall 1992 - Spring 1993
Business Department Curriculum committee member	Fall 1990 - Spring 1992

COLLEGE, COMMUNITY, AND PROFESSIONAL SERVICE, continued

COLLEGE SERVICE

3. Doctoral Committee Service (Rensselaer)

Tianshu Feng, Co-chair	August 2014
Zhuyu You, Co-chair	December 2010
Huawei Song, Co-chair	May 2010
Haiyuan Wang Co-chair	May 2008
Premnath Ayyalasomalajula Co-chair	May 2007
Hemil Dhami Co-chair	August 2005
Sudhendar Hanumantharao Co-chair	August 2003
Tuncay Bayrak Co-chair	May 2002
Erman Coskun Co-chair	August 2001
Diane Jessen Member	May 1998
Steven Sanborn Co-chair	May 1995
Sunro Lee Member	May 1993

4. Master's Theses (Rensselaer)

L.Tig Michael Steward, USCG	May 2007
Jae Lee	May 1999
Joseph Staats	May 1999

COMMUNITY SERVICE

- Cazenovia Area Volunteer Ambulance Corps** *November 2009 – present*
 - Dispatcher, Volunteer
- U.S. Naval Academy, Blue & Gold Officer** *September 2009 – present*
 - Interview and provide local contact for candidates for admission to U.S. Naval Academy
 - Monitor candidate progress and coordinate admission requirements
 - Provide liaison between Academy and local high schools in New York State
- Syracuse Rescue Mission** Volunteer *November 2003 – present*
 - Food Service, Mail Room, Thrifty Shopper Store volunteer
- St. James Church, Cazenovia, New York**
 - Parish Coordinator/Representative, Pastoral Care Area committee (committee consolidating 4 parishes in region) *January 2001 – September 2010*
 - Lector, Eucharistic Minister *October 1989 – present*
 - Parish Council member *September 2005 - 2008*
 - Just Faith Social justice committee member *September 2003 – 2006*
 - Finance Committee member *December 1998 – June 2004*
 - Catechist *October 1995 – May 2000*
 - Liturgy Committee member *October 1992 – October 1996*
- Cazenovia Youth Athletic Association** *September 2000 – 2006*
 - Board member (2003-2004)
 - Junior high/high school recreational basketball coach (2003)
 - Volunteer (2000 – present)
- Cazenovia Youth Soccer Association**
 - Board member *January 2000 – June 2004*
 - Referee coordinator, Registrar *April 2003 – 2006, April 2000-2002*
- Cazenovia Middle School-High School PTA**
 - Membership Chair, Treasurer *September 2001 - August 2005, Sept 2005-2007*
- Central New York Girl Scouts**
 - Assistant Leader *September 1998 - 2000*
- Burton Street Elementary School Cazenovia, New York**
- Green Street Middle School Cazenovia, New York**
 - Volunteer, Elementary Education *September 1995 – 2000*

M. Grabowski

PROFESSIONAL SERVICE

Journal Reviewer:

Decision Sciences

IEEE Transactions on Systems, Man, and Cybernetics Part A

Risk Analysis

International Journal of Intelligent Systems in Finance, Accounting, and Management

Production and Operations Management

Journal of Homeland Security and Emergency Management

International Journal of Human-Computer Studies

Journal of Crisis and Contingency Management

Organization Studies

Information Technology and Decision Making

Doctoral Committees (outside of Rensselaer):

Stig Ole Johnsen, Norwegian Technical University, Trondheim, Norway, May 2012

Andreas Aas, Norwegian Technical University, Dept of Computer & Information Science, Trondheim, Norway, September 2010

Torkel Soma, Norwegian Technical University, Trondheim, Norway, February 2005

Hala Annabi, School of Information Studies, Syracuse University, May 2005

19 January 2012