

Curriculum Vitae

ROBERT J. KOESTER PH.D.

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EDUCATION

Ph.D. School of Earth and Environmental Science, University of Portsmouth, September 2018. *Determining Probabilistic Spatial Patterns of Lost Persons and their Detection Characteristics in Land Search & Rescue.*

M.S. Biology, University of Virginia, May 1989. Neuroscience emphasis.

B.A. Biology, University of Virginia, May 1985. Neurobiology program.

EMPLOYMENT HISTORY

Senior Scientist, CEO

August 1989 - Current

dbS Productions LLC, Charlottesville, Virginia

Internationally renowned researcher, publisher, and speaker on Search & Rescue with particular emphasis on lost person behavior and search theory. Principle investigator for Phase I, II, IIB, and CRPP SBIR awards from USDA and DHS S&T (awarded \$1,550,000). Projects involved creation of the International Search & Rescue Incident Database (ISRID), a collaborative project collecting data from twelve countries and sixty-one different sources involving over 145,000 incidents. Currently, developing SAR software which uses spatial models to predict locations of lost person and provide suggested tasks using optimal allocation. Developed and conducted train the trainer workshops for Lost Person Behavior course. Coordinate over 250 instructors. Served as a contractor to National Park Service and Justice Institute for British Columbia to develop search & rescue field manuals; to NASA and CSC to conduct search and rescue research on missing aircraft; to VA CIT for sUAV research; and to Search and Rescue Institute in New Zealand for sound-based sweep width study. Consultant to private industry, expert witness for SAR response cases, and provide requested information to media. Deliver lectures and workshops on an international level in ten different countries. Supervise staff, research team, and administer grants and contracts.

Technical Instructor/Principle Investigator

May 1988 - Current

Virginia Department of Emergency Management, Richmond, Virginia

Teach several courses in search and rescue operations. Currently, search mission coordinator serving on more than 75 multi-organization emergency incidents. Directly supervise and train 5-30 staff officers on lost person/missing aircraft operations (total response 5-1000 persons) with a budget of up to \$500,000 per incident. Former member of Virginia Emergency Response Team; served in the positions of State SAR Coordinator and other positions during disaster activations. Principle investigator studying Alzheimer's wanderers with a grant from the Virginia Center of Aging. Duties included grant writing, setting research objectives, data collection, interviewing, development of database, administration of cognitive tests, statistical analysis, and presentations.

Visiting Researcher

January 2019 – Current

School of the Environment, Geography and Geosciences, University of Portsmouth, Portsmouth UK

Appointment to assist with research collaboration and assistance with curriculum development and instruction.

Honorary Fellow

April 2011 – December 2017

Faculty of Science, Engineering & Computing, Kingston University London, London United Kingdom

Appointment to establish technical and professional links and research collaboration under the auspices of the Centre for Earth & Environmental Science Research (CEESR).

Public Assistance Technical Specialist

October 1999 – September 2013

Federal Emergency Management Agency, Philadelphia, PA

Project Manager for developing Emergency Management Institute training course on 406 Hazard Mitigation for Public Assistance, GPS for disasters, and Pilot Public Assistance Procedures. National Public Assistance Training Cadre, responsible for Federal Code, regulation, and policy interpretation. Lead training instructor responsible for supervising staff, coordinating and conducting federal training programs specific to FEMA response and recovery operations.

Senior Analyst

February 2003 - December 2006

Potomac Management Group, Alexandria, VA

Contractor to US Coast Guard Office of Search and Rescue. Researched, prepared, authored reports on development of ground search and rescue search action plan methodology. Principle investigator of *Sweep Width Estimation for Ground SAR* report. Designed, administered, and conducted experiments on land-based sweep widths around country. Member of project team that refined IDEA (Integrated Detection Experiment Assistant) for use on sweep width experiments.

Senior Laboratory Specialist

August 1992 - September 1995

*Center for Research in Reproduction**University of Virginia, Charlottesville, Virginia*

Developed novel experimental protocols, designed patentable research equipment, conducted micro-surgery, and performed experiments in intravital microscopy. Established and maintained laboratory local area network. Installed hardware, software, and integrated computer/video image analysis work station.

Faculty Lecturer II

August 1990 - August 1992

Piedmont Virginia Community College, Charlottesville, Virginia

As adjunct faculty taught introductory biology class and lab sections.

Biology Project Consultant

December 1988 - August 1989

*University of Virginia, Charlottesville, Virginia***Graduate Teaching Assistant**

September 1985 - December 1988

*Department of Biology**University of Virginia, Charlottesville, Virginia***Infirmery Director**

Summers 1989-1991

Y.M.C.A. Camp Letts, Edgewater, Maryland

1981-82, 1984-86

TEACHING/INSTRUCTOR POSITIONS

Virginia Department of Emergency Management

September 1985 - Current

Incident Commander - Ground, Course Developer, Lead Instructor
Practical Search Operations, Instructor
Management Team Member, Instructor
Managing Land Search Operations, Lead Instructor
Search and Rescue First Responder, Instructor
Field Team Leader, Instructor
Field Team Member, Lead Instructor
Incident Command System for Law Enforcement, Instructor
Emergency Operations Center - Incident Command System Interface, Lead Instructor

dbS Productions

October 1988 - Current

Lost Person Behavior, Course developer, Instructor, Train-the-trainer Workshops
Endangered & Vulnerable Adults and Children - Course developer, Instructor, Train-the-trainer Workshops
Fundamentals of Outdoor First-Aid, Course developer
Essentials of Outdoor First-Aid, Course developer
Search Operations for Staff, Course developer
Fatigue, Course developer
Lost Alzheimer's Disease Search Management, Course developer

Federal Emergency Management Agency

May 1996 – September 2013

Public Assistance Group Supervisor - Lead Instructor
Public Assistance Task Force Leader - Instructor
Public Assistance Crew Leader - Lead Instructor
Public Assistance Project Specialist - Lead Instructor
Debris Management - Lead Instructor
Debris Operations - Lead Instructor
Debris Task Force Leader - Lead Instructor
406 Hazard Mitigation - Lead Instructor, Developer
GPS for Disaster Operations - Developer
Disaster Field Office Orientation - Lead Instructor
Federal Response Plan - Lead Instructor

Piedmont Virginia Community College

September 1990 - May 1992

Introductory Biology
Introductory Biology Lab

Department of Biology, University of Virginia

September 1985 - December 1988

Graduate Teaching Assistant
Introductory Biology Laboratory for non-majors
Introductory Biology Laboratory for majors
Neurophysiology Lab 424
Neurophysiology Lab 817

AWARDS AND HONORS

Fellow, Royal Geographic Society, 2019 - FRGS
Fellow, Appalachian Search & Rescue Conference, 2018 – FASRC
Blue Ridge Outdoors, 100 Outdoor Pioneers, 2016
Lisa Hannon Award (Virginia's highest SAR award), Virginia Search & Rescue Council, 2005
Who's Who in America, 2003
Virginia Department of Emergency Management Service Award, 2001, 2002
Kepner Award (for teaching excellence), Department of Biology, University of Virginia. 1988
Graduate Assistantship, University of Virginia, 1985-1988
First Place - Katz Undergraduate Research Symposium, University of Virginia, 1985

GRANTS

US Department of Homeland Security Science & Technology Directorate, SBIR CRPP, 2019 (PI)
Virginia Center for Innovative Technology, Commonwealth Research Commercialization Fund, 2017 (PI)
Virginia Center for Innovative Technology, Commonwealth Research Commercialization Fund, 2016 (PI)
US Department of Homeland Security Science & Technology Directorate, SBIR Phase IIB, 2016 (PI)
National Science Foundation, I-Corps, 2016 (Technical Lead)
US Department of Homeland Security Science & Technology Directorate, SBIR Phase II, 2014 (PI)
US Department of Homeland Security Science & Technology Directorate, SBIR Phase I, 2013 (PI)
Virginia Center for Aging Grant Award (97-2), 1996 (PI)

EDITORIAL POSITIONS/ADVISORY BOARDS

<i>Journal of Search and Rescue</i> , Editorial Board, Acting Editor-in-Chief (2018)	2011 – Current
DroneResponders Public Safety Alliance, Board of Advisors	2019 - Current
Virginia Department of Emergency Management, State SAR Coordinator Selection Board	2017
Virginia Alzheimer's and Related Diseases Research Award Fund, Review Board	2017
<i>International Journal of Information Systems and Social Change</i> , Editorial Review Board	2009 - 2016
<i>Earth & Sky</i> , Advisory Board	2007 - 2010
National Search Dog Alliance, Advisory Board	2007 - 2008
Wilderness Emergency Medical Services Institute Center	1987 - 1995
Editor-in-Chief, SARNews	2001 -2006
Virginia Department of Criminal Justice Services Alzheimer's Committee	1998 - 2009
(Virginia) Governor's Task Force on Disaster Planning	1987 - 1988

PROFESSIONAL MEMBERSHIPS

Royal Geographic Society
ASTM Committee F32 (past)
National Association for Search and Rescue (past)
American Association of Geographers (past)
The Academy of Behavioral Profiling (past)
International Society to Advance Alzheimer Research and Treatment (past)
Society for Science and the Public (past)

LICENSE and CERTIFICATIONS

FAA Remote Pilot, 11/30/2016 – 5/31/2021

PUBLICATIONS

Books

Ballester, J.V.R., Rodriguez, M.J., Koester, R. 2018. *Manual De Búsqueda Y Salvamento Terrestre. Volumen 1: Búsqueda en entorno rural*. Gobierno de Navarra / Nafarroako Gobernua. Departamento de Presidencia, Función Pública, Interior y Justicia Lehendakartzako, Funtzio Publikoko, Barneko eta Justiziako Departamentua

Koester, R. J. 2016 *Endangered & Vulnerable Adults and Children*. Charlottesville, VA dbS Productions.

Koester, R. J. 2014 *ICS FOGSAR: Incident Command System Field Operations Guide for Search and Rescue*. Charlottesville, VA dbS Productions.

Koester R. J. 2008. *Lost Person Behavior: A Search and Rescue Guide on Where to Look - for Land, Air, and Water*. Charlottesville, Virginia: dbS Productions.

Fuller, G., Johnson, E., Koester, R. J. 2000. *Man-Trackers & Dog Handlers in Search & Rescue: Basic Guidelines and Information*. Charlottesville, Virginia: dbS Productions.

Koester, R. 1999. *Lost Alzheimer's disease search management: A law enforcement guide to managing the initial response and investigation of the missing Alzheimer's disease subject*. Charlottesville, Virginia: dbS Productions.

Koester R. J. 1997. *Fatigue: Sleep Management during Disasters and Sustained Operations*. Charlottesville, Virginia: dbS Productions.

Koester R. J. 1997. *Incident Commander for Ground Search and Rescue*. Charlottesville, Virginia: dbS Productions.

Koester R. J. 1996. *Field Operations Guide for Search & Rescue: Standard Operating Guidelines for Search & Rescue using the Incident Command System*. Charlottesville, Virginia: dbS Productions.

Koester R.J. et. al. 1992. *Outdoor First-Aid*. Charlottesville, Virginia: dbS Productions.

Koester R.J. et. al. 1991. *Wilderness and Rural Life Support Guidelines*. Charlottesville, Virginia: dbS Productions.

Chapter in a Book

Conover, K., Circh, R., Koester, R. 2018 Technical Rescue Interface: Search & Rescue and non-Snow/Glacier Mountaineering Rescue in *Wilderness Emergency Medical Services*. Alphen aan den Rijn, The Netherlands, Wolters-Kluwer

Koester, R.J. 2017 Lost Person Behavior in *Search and Rescue Leadership*, Edited by Fontaine B., and Judah C. Supply, North Carolina. CreateSpace

Koester, R. J. 2011 Example ISRID Lost Person Behavior Category: Dementia (Alzheimer's) in *Land Search and Rescue Addendum to the National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual. Version 1.0*. Appendix G National Search and Rescue Committee. Washington, DC.

Kelly, K., Koester, R. J., St. John, M. 2007. Lost Person Behavior. In *Urban Search: Managing Missing Person Searches in the Urban Environment*, C. Young and J. Wehbring. Charlottesville, Virginia: dbS Productions.

Koester R. J. 2006. Missing and Lost Person Behavior. In *The Textbook for Managing Land Search Operations*, R. Stoffel, 189-229. Cashmere, Washington: Emergency Response International, Inc.

Koester R. J. 1993. Dissection of the Fetal Pig. In *Organismal Biology: A Laboratory Introduction*, ed. J. L. Riopel. Dubuque, Iowa: Kendall/Hunt Publishing Company.

Refereed Journal Articles

Koester, R.J., 2020. Review of Search and Rescue Response Guidelines to COVID-19. *Journal of Search and Rescue*. 4:2:214-234

Koester, R.J., Greatbatch, I. 2020. Comparing the impact of COVID-19 on Search and Rescue and fire emergency incident responses. *Journal of Search & Rescue*. 4:2:190-199

Greatbatch, I., Kleinsmith, A., Koester, R. 2018. Rescue Responses during a Full Moon and Friday the 13th, *International Journal of Emergency Services*. 8:2:108-121 DOI: 10.1108/IJES-12-2017-0066

Drexel, S., Zimmermann-Janschitz, S., Koester, R. 2018. Network analysis for search areas in WISAR operation, *International Journal of Emergency Services*. DOI:10.1108/IJES-02-2017-0005

Koester R.J. and Greatbatch, I. 2016. Missing aircraft crash site and spatial relationships to the last radar fix. *Aerospace Medicine and Human Performance*. 87:2:114-121

Sava E., Twardy C., Koester, R., Sonwalker, M. 2016 Evaluating Lost Person Behavior Models. *Transactions in GIS*, 20(1):38-53

Koester R.J., Chiacchia K.B., Twardy C.R., Cooper D.C., Frost, J.R., Robe R.Q. 2014. Use of the Visual Range of Detection to Estimate Effective Sweep Width for Land Search and Rescue based on 10 Detection Experiments in North America. *Wilderness & Environmental Medicine*. 25:2:132-142

Koester R.J., Gordon R., Wells T., Tucker, R. 2013. Auditory and Light Based Two-Way Effective Sweep Width for Responsive Search Subjects in New Zealand Mountainous Terrain. *Journal of Search & Rescue*. 1:1:1-18

Koester R. J. 1997. "Fatigue and Search and Rescue" *Response* 15:4:18-24.

Koester R.J. & Stooksbury D. E. 1995. "Behavioral Profile of Possible Alzheimer's Disease Subjects in Search and Rescue Incidents in Virginia." *Wilderness and Environmental Medicine* 6:34-43.

Koester R.J. and Stooksbury D. E. 1992. "Lost Alzheimer's Subjects-Profiles and Statistics. *Response* 11:4:20-26.

Conference Proceedings

Koester, R. 2020. Land Search and Rescue Probability of Detection: New sweep width values, correction factors, models, and detection model validation. *Journal of Search & Rescue* 4:1:35-64.

Koester, R. 2020. Enhancements to Statistical Probability of Area Models based upon updated ISRID data collection for Autistic Spectrum Disorders and Typically Developing Children. *Journal of Search & Rescue* 4:1:65-83.

Hanna, D., Ferworn, A., Husein, R., Koester, R. 2019. Data Analytics to Predict the Survivability of a Lost Person with Dementia Using R. IEEE IEMCON 2019. Vancouver, B.C. Canada.

Twardy C.R., Jones, N., Goodrich., Koester R.J., Cawi, E., Lin L., Sava, E. 2012. MapScore: a portal for scoring probability maps. Conference Poster presented at the Military Operations Research Society Symposium, Colorado Springs.

Koester R. J. 1998. The Lost Alzheimer's and Related Disorders Subject: New Research and Perspectives. *Response 98 NASAR Proceedings*,165-181. Chantilly, Virginia: National Association of Search and Rescue.

Koester R. J. and Colestock, H. E. 1998. Performance Measurement in Emergency Management: One Government's Experience. *Proceedings of the 5th Annual Conference of the International Emergency Management Society*, May 19-22. Washington D.C.

Government Sponsored Reports

Koester, R. J. 2016. *Final Report SBIR Phase II: Search and Rescue Initial Response Tools*. US Department of Homeland Security Science & Technology Directorate. Washington, DC.

Koester, R.J. 2014. *Final Research & Development Technical Status Report: Lost person Locator for First Responders*. Washington D.C., U.S. Department of Homeland Security, Science & Technology Directorate.

Steinberg, C., Saunders, G., Boltz, M., Hall, E., Hutchison, E., Koester, R., Lindeman, D., Powers, R., Rowe, M., Skone, J., Songer, E. 2012 *Lost and Found: A Review of Available Methods and Technologies to Aid Law Enforcement in Locating Missing Adults with Dementia*. Report by Alzheimer's Foundation of America. New York, NY.

Koester, R. J. 2009. Data Collection and Analysis for NASA World Wind Search and Rescue Visualization Program. National Aeronautics and Space Administration Search and Rescue Mission Office. Greenbelt, MD. Goddard Space Flight Center.

Koester R. J. 2008. Draft *National Park Service Search and Rescue Field Manual*. Washington DC: U.S. Department of the Interior.

Potomac Management Group. 2006. *A Simple Guide to Conducting Ground Search and Rescue Detection Experiments*. Washington D.C.: US Department of Homeland Security, United States Coast Guard.

Koester R. J., Cooper, D. C., Frost, J. R., Robe, R. Q. 2004. *Sweep Width Estimation for Ground Search and Rescue*. Washington D.C.: U.S. Department of Homeland Security, United States Coast Guard Operations (G-OPR).

Computer Software

FIND (for Linux, iOS, and Windows Professional), Version 1.0, Charlottesville, VA, dbS Productions 2020.

SARCAT (Search and Rescue Collection & Analysis Tool)(for Linux, Apache), Version 1.0, Charlottesville, VA, dbS Productions 2016.

Lost Person Behavior (for Android, iOS, and Blackberry). Version 1.0.5, Charlottesville, VA, dbS Productions 2015.

IDEA (Integrated Detection Experiment Assistant)(for Windows). Version 1.0, Washington D.C., United States Coast Guard Operations (G-OPR). 2006.

INVITED LECTURES

“FIND & POD Development: Updates on latest R&D” presented at 2020 Federal-State SAR Coordinators Meeting, Carson City, NV February, 2020.

“Why do People Go Missing? Understanding Lost Person Behavior – Tools to Prepare You for the Worst.” keynote presented at Missing and Unidentified Persons Conference, Las Vegas, NV. September 2019

“Predicting Lost Person Movements Across Geographies, Using the International Search and Rescue Database” presented at 2019 Royal Geographic Society Conference, London, UK August 2019.

“Endangered and Vulnerable Adults & Children” presented at 2019 Washington State SAR Conference, Ellensburg, WA June 2019

“Advances in SAR” presented at VASARCON 2019, Appomattox, VA April 2019

“Research Updates” and “Summary of Syrotuck presentations”, presented at Federal-State SAR Coordinators Meeting, Washington DC March 2019

“Enhancements to statistical Probability of Area models based upon updated ISRID data collection” presented at RESCUE 2018 and Syrotuck Symposium, Reykjavik, Iceland October 2018

“New Sweep width values correction factors, models, UAVs values, and detection model validation” presented at RESCUE 2018 and Syrotuck Symposium, Reykjavik, Iceland October 2018

“Determining Probabilistic Spatial Patterns of lost Persons and their Detection Characteristics in Land Search & Rescue” presented at University of Portsmouth, Portsmouth, United Kingdom November, 2018

“FIND Software Project Update” presented at 2018 Washington SAR Conference, Ellensburg, WA 2018

“Changes in Search and Rescue” keynote at Maine Search and Rescue Conference, Harrison, ME May, 2018

“FIND – Advances in SAR Theory” presented at VASARCON 2018, Appomattox, VA April 2018

“Different profiles of missing persons” presented at Lost and Found Seminar, Monash University/Victorian Institute of Forensic Medicine, Melbourne, Victoria, Australia, November 2017

“Lost Person Behavior: Strategies for Searching for an Individual with Dementia” for Aging Institute of University of Pittsburgh Medical Center Senior Services and the University of Pittsburgh. Allison Park, PA. August, 2017.

“FIND – New SAR Computer Software” presented at Washington DC Council of Governments Search and Rescue Subcommittee, Annandale, VA. June 2017

“FIND – New SAR Computer Software” presented at WASARCON 2017, Republic, WA May 2017

“Advances in SAR” presented at VASARCON 2017, Appomattox, VA April 2017

“Advances in Lost Person Behavior” Keynote presented at ESCAPE 2017, Las Cruces, NM March 2017

“Research Updates” presented at Federal-State SAR Coordinators Meeting, Washington DC January 2017

“FIND Software” – Search and Rescue GIS -8. National Alliance for Public Safety GIS Foundation. Reston, VA November 2016.

“SAR Information – Harmonization and Data Mapping” SARSCENE 2016, Edmonton, Canada October 2016

“Advances in Search Theory” Land Search and Rescue Conference 2016, New Zealand July 2016

“Understanding SAR data modeling” SARSCENE 2015, Prince Edward Island, Canada October 2015

“Advances in SAR” presented at Mountain Rescue Association/National Association for Search and Rescue Conference. Estes Park, CO. June 2015

“Lost Person Behavior” presented at Lost and Found: A Science Symposium about Navigation. Radcliffe Institute for Advanced Study Harvard University, Cambridge MA 2014

“Better Data-Better Decisions” presented at SARSCENE 2014, Niagara Falls, Canada October 2014

“Dementia” and “Advances in Search and Rescue” presented at Rescue 2014, Reykjavik, Iceland, October 2014

“IT technology in Search – Spatial Models” presented at Department of Computer Science Search Symposium, AGH University of Science and Technology, Krakow, Poland. June 2013.

“Creation and evaluation of statistical models for determining Probability of Area for missing subjects” and “Autism and dementia: Similarities and differences in two emerging subject profiles in Search and Rescue incidents” presented at First International Conference on Missing Children & Adults. Portsmouth, UK June 2013.

“Autism” presented at Washington State SAR Conference, Ellensburg, WA 2013

“Sweep Widths, Whistles, Sound, Light, and new field research; how to determine POD on a real task.” Presented at 2012 National Association for Search and Rescue Conference. Lake Tahoe, NV June 2012

“Developing Sweep Width Data for Your Area”, “Search for the Autistic Subject”, and “The Bike Wheel Model for Initial SAR Response” presented at Washington State Search & Rescue Conference, Goldendale, WA. May 2012

“Lost Person Behavior - the where - reconstructed by GIS Models” presented at American Association of Geographers, New York, New York. February 2012

“Overview of Lost Person Behavior” and “Review of Search Theory” Keynote presented at Frivillige Organisasjoners Redningsfaglige Forum, Oslo, Norway November 2011

“Autism” presented at SARSCENE 2011, Winnipeg, Canada October 2011

“Probability of Area Spatial Analysis” presented at SAR GIS Conference at Shenandoah National Park, Virginia April 2011

“Lost Person Behavior Updates” presented at Washington State SAR Conference, Kelso, Washington 2011

“Lost Alzheimer’s Resident!” presented at Michigan Department of Community Health Spring 2011 Joint Provider/Surveyor Training. Novi, Michigan April 2011

“Incident Command System for SAR Workshop” Reykjavik, Iceland. February 2011

“Advances in Search and Rescue” presented at Northwest SARCon 2010. Welches, Oregon. October 2010

“Dementia Search Strategies” keynote address for Project Lifesaver Conference. Virginia Beach, VA. October 2010

“Lost Person Behaviour” presented at Ireland & UK Mountain Rescue Conference 2010. Dublin Ireland. September 2010

“Dementia Workshop” presented for Aruba Alzheimer’s Society. Oranjestad, Aruba. August 2010

"Advances in SAR" presented at National Search and Rescue Conference Response 10. Tunica, Mississippi, May 2010

"Learning from the Past: Looking to the Future" Keynote address for New Mexico Escape Conference. May 2010

"Lost Person Behavior" presented at Virginia Search and Rescue Council Conference. Appomattox, VA April 2010

"Search and Rescue System Overview" presented for University of Virginia School of Medicine, Wilderness Medicine Course. Charlottesville, VA April 2010

"Finding a Needle in a Hay Stack!" Aircare 5L. + V.E. 2010. Weyers Cave, VA April 2010

"Comportement des personnes disparues" APGRT/PGSMA Conference. Surete du Quebec. Quebec City, Quebec. November 2009

"Substance Intoxication Profile" presented at Northwest SARCon 2009. Welches, Oregon. October 2009

"Aeronautical Modeling POC for Missing Aircraft" presented to National Search and Rescue Committee. Research and Development committee. Greenbelt, MD September 2009

"Advances in SAR" presented at Virginia Search and Rescue Council Conference, Appomattox, VA April 2009.

"Searching for the Wandered" for 24th Annual Alzheimer's Regional Conference. Seattle, WA April 2009

"Probability Mapping" presented at National Search and Rescue Conference Response 09. Little Rock, Arkansas. May 2009.

"Missing Aircraft Radar Forensics Statistics" presented at Washington SAR Conference 09. Randle, WA. May 2009.

"International Search & Rescue Incident Database" presented at Shephard Search and Rescue 2009. Washington, DC. April 2009

"Advances in Land SAR Theory Applications" presented at INFORMS conference. Washington DC October 2008

"Advances in SAR" presented at Northwest SARCon 08. Welches, WA. October 2008

"Myths and Legends of Lost Person Behaviour" presented at SARSCENE 2008. St. Johns, Newfoundland. Canada. October 2008

"Lost Person Behavior Advances and Updates" presented at International Society of Professional Trackers Conference. Appomattox, VA October 2008

"Lost Persons Behaviour" Keynote address at Emergency Management Conference Rescue 08. Melbourne, Australia. July 2008

"Lost Person Behavior Workshop" presented at Colorado SAR Board SARCON 2008. Gunniston, CO. July 2008.

"Lost Person Behavior Updates and Advances" presented at National Search and Rescue Conference Response 08. Colorado Springs, CO. May 2008

"Fatigue," "Lost Person Behavior" presented at Washington State SAR Conference 2008 - Washington Emergency Management, Cashmere, WA. May 2008.

"Lost Person Behaviour and ISRID" presented at SARSCENE 2007 - Canadian Search and Rescue Secretariat. Victoria, Canada. October 2007.

"International Search & Rescue Incident Database - Results" presented at Response 2007 - National Association for Search and Rescue. Charlotte, North Carolina. June 2007.

"International Search & Rescue Incident Database - Results" presented at Washington State SAR Conference. Crystal Mountain, Washington. May 2007.

"Learning from the Past: Looking to the Future" Keynote address presented at New Zealand Land SAR Conference 2006. Dunedin, New Zealand. November 2006.

"Alzheimer Search Management Protocols" presented for New Wales Police. Melbourne, Australia. November 2006.

"Reflex Tasking, Initial Incident Response Plan" presented at International ICE-SAR 2006 Conference. Reykjavik, Iceland, October 2006.

"International Search & Rescue Incident Database first report" presented at Response 2006 - National Association for Search and Rescue Conference. Austin, Texas. June 2006.

"Lost Person Behaviour Profile Update Workshop" and "Report on detection experiments for Ground SAR" presented at SARSCENE 2005 - Canadian Search and Rescue Secretariat. Charlottetown, Prince Edward Island, Canada. October 2005.

"Alzheimer's Critical Wandering" presented at Mayo Clinic Research Symposium, Jacksonville, Florida. January 2005.

"Incident Commander", Despondent Profile, Lost Person Behavior, presented at New Zealand SAR Conference. New Zealand. October 2004.

"Lost person behavior" and "Sweep Width Research" presented at Response 2004 - National Association for Search and Rescue Conference. Lansdowne, Virginia. June 2004.

"Updated Alzheimer's Statistics" presented at UK Mountain Rescue Council Conference. Bangor, Wales. September 2004.

"Alzheimer's Profile" presented at Alzheimer's Workshop. Sponsored by Australian New Wales Police. Melbourne, Australia. August 2003.

"Alzheimer's Cases" presented throughout New Zealand. Sponsored by New Zealand Land Search and Rescue and Search and Rescue Institute of New Zealand. July-August 2003.

"Alzheimer's Seminar" presented at SARSCENE 2002 - Canadian Search and Rescue Secretariat. Halifax, Nova Scotia, Canada. September 2002.

"Alzheimer's Profiles" presented at Response 01 - National Association for Search and Rescue Conference. Colorado Springs, Colorado. May 2001.

"Urban Alzheimer's Wandering" presented at the Washington State SAR Conference. Seattle, Washington. May 2001.

"Behavioral and Statistical Profile of Lost ADRD Subjects in Virginia" presented to the Governor's Commission of Alzheimer's disease and related disorders. Richmond, Virginia. November 2000.

"Behavioral and Statistical Profile of Lost Alzheimer's Subjects in Virginia." presented at the Alzheimer's and Related diseases Research Award Fund: Discovering Treatments and Improving the Care of Virginians with Dementia. Richmond, Virginia. June 2000.

"Behavioral profile of Psychotic and mentally retarded lost individuals" presented at Response 99 - National Association for Search and Rescue Conference. Orlando, Florida. May 1999.

"Updated lost Alzheimer's and Related Disorders behavioral profiles" and "Fatigue Management" presented at SARSCENE'98 - Canadian SAR Secretariat Conference and "New behavioral statistics on lost psychotics and mentally retarded subjects" presented at the Fourth Syrotuck International Symposium in conjunction with SARSCENE'98. Banff, Alberta, Canada. September 1998.

"Updated lost Alzheimer's and Related Disorders behavioral profiles" and "Fatigue Management" presented at the New York SAR Conference. September 1998.

"Searching for the lost Alzheimer's and Related Disorders Subject" presented at Search and Rescue/Disaster Response 98. Nashville, Tennessee. June 1998.

"Lost Person Behavioral Updates: The Alzheimer's Case" presented at Response 98 - National Association of Search and Rescue Conference. Portland, Oregon. May 1998.

"Performance Measurement in Emergency Management: One Government's Experience" presented at The International Emergency Management Societies disaster & Emergency Management: International Challenges for the Next Decade, 5th Annual Conference. Washington, D.C. May 1998.

"SAR resource mixing & Operations as the Incident Commander" presented at The Northeast Regional SAR Conference. Fatimia Camp, New Hampshire. May 1998.

"Prospective Alzheimer's and Related Disorders Wandering Research" presented at the Second Syrotuck Symposium in conjunction with SARSCENE 97. Sault Saint Marie, Ontario, Canada. October 1997.

"New prospective Alzheimer's Research results" presented at the Berkshire SAR Conference. Berkshire, New Hampshire. September 1997.

"Fatigue and Search and Rescue" and "Updated Alzheimer's and Despondent Profiles" presented at Response 97 - National Association of Search and Rescue. Richmond, Virginia. May 1997.

"Behavioral and Statistical Analysis of Lost Alzheimer's Disease Patients Requiring a Search & Rescue Response" presented at The Gerontological Society of America Symposia. Washington, D.C. Nov. 1996.

"Behavioral and Statistical Profile of the Lost Alzheimer's and Related Disease Subjects in Virginia" presented to The Virginia Bloodhound Association. Winchester, Virginia. May 1996.

"Updated Alzheimer's Statistics and Future Research" presented at William G. Syrotuck Symposium on Search Theory and Practice. Denver, Colorado. May 1996.

"Air Crash Analysis" presented at the Helicopter Survival Symposium. Charlottesville, Virginia. 1995.

"Initial Actions for Law-Enforcement Searching for the Lost Alzheimer's Disease Subject" presented to Blue Ridge Chapter of the Alzheimer's Association's Police Awareness Conference. 1994.

"Lost Subject Profile for Alzheimer's in Virginia" presented at the National Association for Search & Rescue. Phoenix, Arizona. 1992.

ACTIVITIES

Appalachian Search & Rescue Conference Inc.

September 1981 - Present

Area Command Authority, Incident Commander
Board of Directors
Other positions held: Chairman, Vice-Chairman

April 1985 - 2007

SAR Mission Activity:

Incident Commander/SMC/ACA – 100+ Searches
Incident Staff - 38 Searches
Field Team Leader - 32 Searches

Virginia Search and Rescue Council

Delegate

January 1986 - 2012

President

January 1993 - 2008

Spearheaded legislative changes Virginia Code to enhance SAR response. Assisted in the development of Virginia Annex 1-AA, Virginia Search and Rescue Council SOP and development of state standards.

Charlottesville Albemarle Rescue Squad WEMT-CT

April 1996 – 2008

Western Albemarle Rescue Squad EMT

September 1983 – 1985

MEDIA CONTACTS

Wired, Why Humans Totally Freak Out when They Get Lost. May 2020.
Washington Post, *Lost in the wilderness*: Tech tools help but they don't always find someone in time. December 15, 2019
Outsideonline, How Maui Volunteers Found Two Missing Hikers in a Week. May 2019
Scientific American, Rescue Drones Need to Learn How Lost Humans Think. May 2019
Outside Magazine, How a 6-Year-Old Survived being Lost in the Woods. November 2018
Backpacker Magazine, The Most Dangerous Game: Do you have what it takes to Survive. November 8, 2018
New York Times Magazine. Voyages – Tragically lost in Joshua Tree's wild interior. March 22, 2018
The Inquirer (Philadelphia) Wandering and dementia what caregivers should know. February 14, 2018.
The Inquirer (Philadelphia) His elderly mother wandered out into the cold and died. Whose fault was it? February 9, 2018
Outside Magazine, SOS in the Age of Smartwatches. November 22, 2017
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