

## CURRICULUM VITAE

# ROBERT J. KOESTER

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January 31, 2012  
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## EDUCATION

M.S. Biology, University of Virginia, May 1989. Neuroscience emphasis.  
B.A. Biology, University of Virginia, May 1985. Neurobiology program.

## EMPLOYMENT HISTORY

### **Senior Scientist, Emergency Management Consultant, CEO**

August 1989 - Current

*dbS Productions LLC, Charlottesville, Virginia*

Researcher and consultant on topics of Search & Rescue/Emergency Management, training, research and statistical analysis. Expert witness for search & rescue response cases. Principle investigator in collaborative research project analyzing Alzheimer's and related disorders critical wanderers. Co-principle investigator in development of search and rescue artificial intelligence software with SBIR grant from USDA. Creator of International Search & Rescue Incident Database (ISRID), a collaborative project collecting data from nine countries and forty-four different sources involving over 50,000 incidents. Publisher of scientific, medical, and search & rescue texts. Developed and conducted train the trainer workshops for Lost Person Behavior course. Coordinate nearly 100 instructors. Publisher of SARNews. Contractor to National Park Service for developing search & rescue field manual. Contributor to Land SAR addendum by National Search and Rescue Committee. Contractor to NASA and CSC to conduct search and rescue research on missing aircraft. Contractor to Search and Rescue Institute in New Zealand to design, conduct, and analyze sound-based sweep width study. Consultant to private industry on SAR topics. Deliver lectures and workshops on an international level in eight different countries. Author of several books on search and rescue, emergency management, and incident command.

### **Research Associate**

April 2011 - Current

*Centre for Earth and Environmental Science Research, Kingston University, London United Kingdom*

Hired to assist with new Search and Rescue Masters Degree program and research.

### **Technical Instructor/Principle Investigator**

May 1988 - Current

*Virginia Department of Emergency Management, Richmond, Virginia*

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. Teach several courses in search and rescue operations. Former member of Virginia Emergency Response Team; served in the positions of State SAR Coordinator and other positions during disaster activations. Currently, Type I Incident Commander 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.

### **Public Assistance Technical Specialist**

October 1999 - Current

*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*

**Infirmiry Director**

Summers 1989-1991

*Y.M.C.A. Camp Letts, Edgewater, Maryland  
A.R.E. Summer camp, Rural Retreat, Virginia*

1981-82, 1984-86

1983

**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

**Federal Emergency Management Agency**

May 1996 - Current

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  
Cost Estimating Format - Instructor  
GPS for Disaster Operations - Developer  
Disaster Field Office Orientation - Lead Instructor  
Federal Response Plan - Lead Instructor

## **dbS Productions**

October 1988 - Current

Lost Person Behavior, Course developer  
Lost Person Behavior - Instructor Workshops, Course developer  
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

## **Piedmont Virginia Community College**

September 1990 - May 1992

Introductory Biology 101, 102, Adjunct Faculty  
Introductory Biology Lab 101, 102

## **Department of Biology, University of Virginia**

September 1985 - December 1988

Graduate Teaching Assistant

Biology 101 Introductory Biology Laboratory for non-majors  
Biology 201-204 Introductory Biology Laboratory for majors  
Biology 424 Neurophysiology  
Biology 817 Neurophysiology

## **AWARDS AND HONORS**

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  
Virginia Center for Aging Grant Award (97-2), 1996  
Kepner Award (for teaching excellence), Department of Biology, University of Virginia. 1988  
Graduate Assistantship, University of Virginia, 1985-1988  
First Place Undergraduate Research Symposium, University of Virginia, 1985.

## **EDITORIAL POSITIONS/ADVISORY BOARDS**

Journal of Search and Rescue	2011 - Current
International Journal of Information Systems and Social Change, Editorial Review Board	2009 - Current
Earth & Sky, Advisory Board	2007 - Current
National Search Dog Alliance, Advisory Board	2007 - 2008
Wilderness Emergency Medical Services Institute Center	1987 - 1995
Editor-in-Chief, SARNews	2001 -2006

## **PROFESSIONAL MEMBERSHIPS**

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

## PUBLICATIONS

- 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.
- Koester, R. J. 2010 *Lost Person Behavior: Instructor's Workbook*. Charlottesville, VA dbS Productions
- Koester R. J. 2009 Sound-Light line Detection Index Experimental Methodology for Search and Rescue, Search and Rescue Institute of New Zealand. Christchurch, New Zealand.
- 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. *Lost Person Behavior: A Search and Rescue Guide on Where to Look - for Land, Air, and Water*. Charlottesville, Virginia: dbS Productions.
- Koester R. J. 2008. *National Park Service Search and Rescue Field Manual*. Washington DC: U.S. Department of the Interior. M.S. in review
- 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.
- 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., et al. 2006. In *In Search of the Alzheimer's Wanderer*, M. Warner. West Lafayette, Indiana: Purdue University Press.
- 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).
- 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. and Stooksbury, D. E. 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.
- Koester R. J. 1997. "Fatigue and Search and Rescue" *Response* 15:4:18-24.
- 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. & 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. 1993. Dissection of the Fetal Pig. In *Organismal Biology: A Laboratory Introduction*, ed. J. L. Riopel. Dubuque, Iowa: Kendall/Hunt Publishing Company.
- Koester R.J. and Stooksbury D. E. 1992. "Lost Alzheimer's Subjects-Profiles and Statistics. *Response* 11:4:20-26.

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.

## INVITED LECTURES

- “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 24<sup>th</sup> 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.

"Outdoor First-Aid" presented at National Police Bloodhound Association. Winchester, Virginia. 1993.

"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.**

Area Command Authority, Incident Commander

Board of Directors

Other positions held: Chairman, Vice-Chairman

September 1981 - Present

April 1985 - 2007

SAR Mission Activity:

Incident Commander - 104 Searches

Incident Staff - 38 Searches

Field Team Leader - 32 Searches

### **Virginia Search and Rescue Council**

Delegate

President

January 1986 - Present

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

### **Virginia Department of Criminal Justice Services Alzheimer's Committee**

June 1998 - 2009

### **Governor's Task Force on Disaster Planning**

October 1987 - October 1988

**EXPERT TESTIMONY**

Testified as an expert at trial or by Deposition

Reubin Matticx v. Emmanuel Care Home Inc et al.  
Pima County Superior Court no. C-2004-4912

Robert E. Fee  
Law Office of Robert E. Fee  
4501 East Grant Rd  
Tucson, AZ 85712-2616