

Curriculum Vitae

Jeffrey Richard Ryan

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Professional Skills: Retired Army Lieutenant Colonel. Published author, certified instructor and research scientist experienced in diagnostics development, clinical trials, entomological sciences, course development, risk assessment and technical writing. Extensive background in team building and leadership. Research experience and network of collaborations in 12 countries. Functional knowledge of French and Spanish. Active SECRET clearance.

Civilian Education:

Ph.D. Medical and Veterinary Entomology. North Carolina State University, NC. 1996.

M.S. Biomedical Sciences. Hood College. Frederick, MD. 1984

B.S. Entomology. Syracuse University, College of Environ. Science & Forestry. 1978

Military Education:

Command and General Staff College, 1997.

Preventive Medicine Officer's Course (6AF5), 1991.

Chemical Officer's Advanced Course (74A), 1988.

Chemical Officer's Basic Course (74A), 1984.

Honors:

- The Honor Society of Phi Kappa Phi. Inducted May 2020.
- Cleo & Carla Thomas Outstanding Community Education and Service Award, 2018-2019 Academic Year, Jacksonville State University
- The Colonel William Oates Award, 2018, Alabama National Guard
- Faculty Research Award, 2015-2016; and, 2008-2009 Academic Years, Jacksonville State University
- Department of the Army Legion of Merit. 2002
- Department of the Army Meritorious Service Medal. 5 awards
- Department of the Army Commendation Medal. 6 awards
- Department of the Army Achievement Medal. 5 awards
- United States Surgeon General's Exemplary Service Medal. 1992
- Humanitarian Service Medal. Hurricane Andrew Relief. 1992
- Vigil Honor, Order of the Arrow. 1974. Boy Scouts of America
- Eagle Scout. 1973. Boy Scouts of America

Employment and Experience:

2020-present. Chief of Program Operations. Jacksonville State University, Jacksonville, AL. Responsible for the effective leadership and administration of major operational areas of the University. These areas include public safety, emergency preparedness, environmental health, external affairs, marketing, communications, and public relations. Participates in strategic planning and the creation of new policies that affect university operations. Also serves as **COVID-19 Task Force Leader**.

2005–2020. Professor. Department of Emergency Management. Jacksonville State University, Jacksonville, AL. Provide instruction on various aspects of emergency preparedness with a focus on terrorism, Weapons of Mass Destruction, medical aspects of emergency management, public health preparedness, research methodology, and biosecurity. Research interests in bioterror pathogen detection, field epidemiology and the role of military forces in disaster response. Responsible for promoting regional stewardship and professional development of emergency professionals and their organizations at the Federal, State, and local level. Managed short-term recovery efforts for March 2018 tornado. Served as **Department Chair** from July 2012 to October 2019.

2020 - Present. Distributive Learning Training Manager, Leidos, Center for Domestic Preparedness (FEMA), Anniston, AL. Responsible for Virtual Instructor Led Training delivery of select CDP courses. This effort also involves assisting the government with adapting their current CDP/FEMA curriculum for online delivery.

2002–Present. Managing Director, Quetzal Consulting, Inc. Ohatchee, AL. Performs a wide array of consultative services related to homeland security course development, bioterror pathogen detection, tropical diseases research, diagnostics development, marketing, and product management. History of services provided to the U.S. Department of Defense, Department of Homeland Security, Department of Agriculture, contractors, and small biotechnology companies. Certified Principal Instructor and Subject Matter Expert at the Center for Domestic Preparedness (DHS) for biological warfare threats and pandemic influenza. Primary instructor for Healthcare Leadership (HCL), Highly Infectious Diseases (HID) and Instructor Training Certification (ITC) courses.

2008–2010. Senior Scientist, CBRN and Pandemic Threats. Davis Strategic Innovations, Inc. (DSI). Grant, AL. Responsible for research, analysis, education, and business development of CBRN (Chemical, Biological, Radiological, Nuclear) issues and potential catastrophic disease situations, such as pandemic influenza. Identifies currently available tools, sensors, or systems to detect and warn against bioterror agents. Assesses future capabilities for biodetection. Identifies gaps and redundancies in biodetection capabilities. Primary author of a report on national-level biodetection capabilities and ways forward in biodefense for U.S. Northern Command (For Official Use Only).

2003–2005. Director, Government & Bioterror Business. Cepheid. Sunnyvale, CA. Responsible for the strategic development and commercialization of new diagnostic assays for bioterror agents, clinical infectious diseases, and cancer. Had primary responsibility for Federal Government business opportunities in research, development, and acquisition of the Biohazard Detection System (BDS). Worked with clients to resolve technical issues with fluorogenic polymerase chain reaction (PCR), gene expression and assay optimization and validation. Presented at international scientific conferences, seminars and gave presentations to university faculty and government officials on state-of-the-art nucleic acid based detection strategies.

2002–2003. Research Grade Evaluation Program Coordinator. United States Geological Survey, Biological Resources Division, Reston, VA. Was responsible for the programmatic and scientific peer reviews of approximately 560 research scientists engaged in basic and applied research in natural sciences, epidemiology, biostatistics, and demographics. Division coordinator for National Research Council appointments and program budget.

2001–2002. Research Coordinator & Chief, Department of Entomology, Division of Communicable Diseases and Immunology, Walter Reed Army Institute of Research, Silver Spring, MD. Was responsible for the development and execution of Cooperative Research and Development Agreements, Interagency Agreements, and Small Business Innovative Research grants. Managed a departmental operating budget of more than \$2.6M. Additional duties included Research Coordinator for the Department of Defense Entomological Research Program and manager of the Walter Reed Biosystematics Unit (Smithsonian Institute). In this capacity, coordinated the research activities of 5 overseas laboratories and a budget in excess of \$2M. Directed a department of 35 scientists performing research to assess and prevent the threat of vector-borne diseases.

2000-2001. Research Coordinator. Common Diagnostics. Military Infectious Diseases Research Program. Coordinated all research efforts and product team leadership for development of new generation diagnostics for malaria, dengue, shigellosis, and Hantavirus infection. Managed a research budget of \$1.6 million and the efforts of 9 principle investigators. Incorporated product acquisition milestones into comprehensive plans for assay validation and procurement. Coordinated with FDA staff in the Center for Devices and Radiological Health, Office of *in vitro* Diagnostic Device Evaluation and Safety to determine requirements for assay development and clinical trial results reporting.

1997-2000. Chief, Rapid Detection and Diagnostics Section, Department of Entomology, Division of Communicable Diseases and Immunology, Walter Reed Army Institute of Research, Silver Spring, MD. Conducted research in antigen discovery and the employment of state-of-the-art technologies to develop new diagnostics for Leishmaniasis and for the rapid detection of arthropod-borne pathogens, to include *Plasmodium*, Dengue virus and a number of other arboviral agents (Eastern Equine Encephalitis, West Nile, St. Louis encephalitis, and Western Equine encephalitis viruses). Partnered with two biotechnology companies to commercialize assays.

1993–1996. Graduate Student, North Carolina State University, Raleigh, NC. Majored in Medical and Veterinary Entomology and minored in molecular biology. Graduate program and research endeavors focused on antigenic variation of *Borrelia burgdorferi*, the etiologic agent of Lyme disease. Extensive experience in working with laboratory animals, nucleic acid and protein chemistry, Western blotting, pulsed-field gel electrophoresis and Northern blots.

1991-1993. Commander, Headquarters Support Company, 261st Area Support Medical Battalion (Airborne), Detachment Commander, 714th Medical Detachment, LX Entomology (Airborne), and Detachment Commander, 274th Forward Area Surgical Team (Airborne), Fort Bragg, NC. Commander of a rapid deployment medical company, preventive medicine detachment and surgical team providing worldwide support for the 18th Airborne Corps. Led the preventive medicine effort in Hurricane Andrew relief. Served as Liaison Officer to FEMA.

1989-1991. Volunteer. Smithsonian Institute. Worked as a volunteer at the Smithsonian Institute's National Museum of Natural History in the living Insect Zoo.

1989-1991. Project Officer. Entomological Sciences Department, United States Army Environmental Health Agency - North, Fort Meade, MD. Conducted special projects relevant to risk assessment, medical entomology, and preventive medicine on numerous military installations across the United States. Primary services focused on pest profiles and health risk assessments for Lyme disease.

1985-1988. Nuclear, Biological and Chemical Reconnaissance Tank Platoon Leader, Squadron Adjutant and Subcommunity Commander. 3rd Squadron, 12th Cavalry. Büdingen, Germany. Responsible for a nuclear, biological, and chemical (NBC) reconnaissance platoon assigned to a heavy armored division protecting the West German border. Subsequently, was responsible for the day-to-day administration of a 750-soldier unit and a 3,000-member community.

1980-1984. Biological Research Assistant, United States Army Medical Bioengineering Research and Development Laboratory, Fort Detrick, MD. Manager of an insectary that produced approximately 100,000 mosquitoes weekly. Conducted bioassays in the search for new biological control agents used to control mosquitoes and black flies. Designed and tested new pesticide dispersal units for military use.

Patents Held:

J. R. Ryan, S. K. Martin, and A. Smithyman. U.S. Patent No. 7,008,774 B2. Practical Serological Assay for the Clinical Diagnosis of Leishmaniasis. March 7, 2006.

Books:

Ryan, J.R. *Pandemics and Pestilence.* Publisher: Kendall Hunt; Dubuque, IA. ISBN 9781792453915. January 2021.

Ryan, J.R. *Biosecurity and Bioterrorism: Containing and Preventing the Biological Threat. 2nd Edition.* Publisher: Elsevier; Boston, MA. ISBN-10: 9780128020296. March 2016.

Islam, T., and **J. R. Ryan. *Hazard Mitigation in Emergency Management.*** Publisher: Elsevier; Boston, MA. ISBN-10: 0124201342; September 2015.

Ryan, J.R. and J. F. Glarum. *Biosecurity and Bioterrorism: Containing and Preventing the Biological Threat. 1st Edition.* Publisher: Butterworth-Heinemann, Elsevier; Boston, MA. ISBN-10: 0750684895; March 2008

Ryan, J.R. Editor. *Pandemic Influenza: Emergency Planning and Community Preparedness.* Publisher: Taylor and Francis, CRC Press; Boston, MA. ISBN-10: 1420060872; August 2008

Invited Book Chapter:

Ryan, J. R., S. Raychaudhuri, and L. Hochberg. 2003. Advances in the Diagnosis of Visceral Leishmaniasis. Research Advances in Microbiology. Global Research Network. E. Mohan, editor.

Publications in Refereed Journals:

Marlow, R., S. Singleton, D. Campeau, T. Russell, R. Hunt, J. Hick, M. Harvey, and **J. R. Ryan.** 2019. The evolution of healthcare disaster preparedness and response training at the FEMA Center for Domestic Preparedness. *American Journal of Disaster Medicine.* 14(1): 5-8

Stewart, A., R. Marlow, D. Campeau, T. Russell, and **J. R. Ryan**. 2019. The Evolution of Response and Management Training at the FEMA Center for Domestic Preparedness. *Journal of Emergency Management*. Special Issue: Emergency Management Higher Education and Professional Development. 17(1): 53-60.

Gaddy, J., E. Clark, and **J. R. Ryan**. 2014. How Does Climate Adaptation Affect Emergency Management? *Journal of Homeland Security and Emergency Management*. 11(1): 243-256.

Heffelfinger, D., C. Tuckett, and **J. R. Ryan**. 2013. The Military's Response to Domestic CBRNE Incidents. *Journal of Homeland Security and Emergency Management*. 10(1): 57-75.

Lombardo, J. and **J. R. Ryan**. 2013. Building Public Health Preparedness and Food, and Agriculture Defense Capabilities using *Whole Community* and *One Health* Concepts. *Journal of Homeland Security and Emergency Management*. 10(1):77-93.

Coleman, R. E., L. P. Hochberg, J. L. Putnam, K. L. Swanson, J. S. Lee, J. C. McAvin, A. S. Chan, M. L. O'Guinn, **J. R. Ryan**, R. A. Wirtz, J. K. Moulton, K. Davé, and M. K. Faulde. 2009. Vector Diagnostics during Military Deployments: Recent Experience in Iraq and Afghanistan. *Military Medicine*. 194: 904-920.

Ryan, J.R. 2008. Invited Book Review of *Advances in Biological and Chemical Terrorism Countermeasures*. *Journal of Homeland Security and Emergency Management*. Vol. 5 (1): Article 54.

Meyer, W. E., S. W. Stephens, S. C. Meyer, J. F. Glarum and **J. R. Ryan**. 2008. Protect Yourself with *DOCTOR*: Training for the biological challenges of respiratory patients. *Journal of Emergency Medical Services*. 33: 48-59.

Wortmann, G. W., L. P. Hochberg, B. A. Arana, N. R. Rizzo, F. Arana, and **J. R. Ryan**. 2007. Diagnosis of Cutaneous Leishmaniasis in Guatemala Using a Real-Time Polymerase Chain Reaction and the SmartCycler™. *American Journal of Tropical Medicine and Hygiene*. 75 (6): 906-908.

Ryan, J. R., A. W. Kirchner, J. G. Glarum, J. Davey, M. Lavender, D. George, M. Abernathy, A. Knight, H. Horn, M. Castillo, and F. M. Cain. 2006. Training the Nation's Responders for Pandemic Influenza: A Department of Homeland Security Planning and Preparedness Initiative. *Journal of Emergency Management*. November/December: 4 (6)1-7.

Bautista, C. T., A. S. T. Chan, **J. R. Ryan**, C. Calampa, M. H. Roper, A. W. Hightower, and A. J. Magill. 2006. Epidemiology and Spatial Analysis of Malaria in the Northern Peruvian Amazon. *American Journal of Tropical Medicine and Hygiene*: 75 (6): 1216-1222.

Hurston, E. A., A. H. Sato, and **J. R. Ryan**. 2006. National Guard Civil Support Teams: Their Organization and Role in Domestic Preparedness. *Journal of Emergency Management*: September/October: 4 (5) 20-27.

Ryan, J. R., J. A. Stoute, J. Amon, R. F. Dunton, R. Mtalib, J. Koros, B. Owour, S. Luckhart, R. A. Wirtz, J. W. Barnwell, and R. Rosenberg. 2006. Evidence for Transmission of *Plasmodium vivax* Among a Duffy Antigen Negative Population in Western Kenya. *American Journal of Tropical Medicine and Hygiene* 75 (4): 575-581.

Ryan, J. R., J. Mbui, J. R. Rashid, K. M. Wasunna, G. Kirigi, C. Magiri, D. Kinoti, P. M. Ngumbi, S. K. Martin, S. O. Odera, L. P. Hochberg, C. T. Bautista, and A. S. Chan. 2006. Spatial Clustering and Epidemiological Aspects of Visceral Leishmaniasis in Two Villages, Baringo District, Kenya. *American Journal of Tropical Medicine and Hygiene* 74(2): 308-317.

Halsey, E.S., L. M. Bryce, G. W. Wortmann, P. J. Weina, **J. R. Ryan**, and C. C. DeWitt. 2004. Visceral Leishmaniasis in a soldier returning from Operation Enduring Freedom. *Military Medicine* 169 (9): 699-701.

Tonui, W. K., J. S. Mejia, L. Hochberg, L. M. Mbow, **J. R. Ryan**, A. S. Chan, S. K. Martin, and R. G. Titus. 2004. Immunization with *Leishmania major* exogenous antigens protects susceptible BALB/c mice against challenge infection with *L. major*. *Infection and Immunity* 72(10): 5654-61.

Wortmann, G. W., L. I. Romero, H. M. Paz, E. Ortega-Barria, V. Bayard, L. P. Hochberg, and **J. R. Ryan**. 2004. Real-time PCR diagnosis of leishmaniasis in Panama from both fresh and frozen tissue. *Transactions of the Royal Society for Tropical Medicine and Hygiene* 98 (3): 148-151.

Collins, K. M., L. P. Hochberg, P. R. Ryan, W. E. Collins, R. A. Wirtz and **J. R. Ryan**. 2004. Quantification of *Plasmodium malariae* infection in mosquito vectors. *Annals of Tropical Medicine and Parasitology* 98(5): 469-472.

de Arruda, M., K. M. Collins, L. P. Hochberg, P. R. Ryan, R. A. Wirtz and **J. R. Ryan**. 2004. Quantitative determination of sporozoites and circumsporozoite antigen in *Plasmodium falciparum* and *Plasmodium vivax* infected mosquitoes. *Annals of Tropical Medicine and Parasitology* 98(2): 121-127.

Romero, L. I., H. M. Paz, E. Ortega, V. Bayard, L. P. Hochberg, K. M. Collins, A. S. Chan, and **J. R. Ryan**. 2004. Evaluation of serological assays based on a novel secreted antigen preparation for the diagnosis of cutaneous Leishmaniasis in Panama. *Journal of Microbiological Methods*. 57(3): 391-397.

Sattabongkot, J., C. Kiattibut, C. Kumpitak, A. Ponlawatt, **J. R. Ryan**, A. S. Chan, K. Davé, R. A. Wirtz, and R. E. Coleman. 2004. Evaluation of the VecTest™ Malaria Antigen Panel Assay for the detection of *Plasmodium falciparum* and *P. vivax* circumsporozoite protein in anopheline mosquitoes in Thailand. *Journal of Medical Entomology* 41: 209-214.

Ryan, J. R., K. Davé, É. Emmerich, B. Fernández, M. Turell, J. Johnson, K. Gottfried, K. Burkhalter, A. Kerst, A. Hunt, and R. Nasci. 2003. Wicking assays for the rapid detection of West Nile and St. Louis encephalitis viral antigens in mosquitoes. *Journal of Medical Entomology* 40: 95-99.

Luckhart, S., K. Li, R. F. Dunton, E. E. Lewis, A. L. Crampton, **J. R. Ryan**, and R. Rosenberg. 2003. *Anopheles gambiae* immune gene variants associated with natural *Plasmodium* infection. *Molecular and Biochemical Parasitology* 128: 83-86.

Ryan, P. R., B. A. Arana, **J. R. Ryan**, R. A. Wirtz, G. W. Wortmann, and N. R. Rizzo. 2003. The domestic dog: A potential reservoir for *Leishmania* in the Peten region of Guatemala. *Veterinary Parasitology* 115: 1-7.

Nasci, R. S., K. L. Gottfried, K. L. Burkhalter, **J. R. Ryan**, and K. Davé. 2003. Sensitivity of the VecTest™ Antigen Assay for Eastern Equine Encephalitis and Western Equine Encephalitis viruses. *Journal of the American Mosquito Control Association* 19(4): 440-4.

Bangs, M. J., S. Rusmiarto, Y. R. Gionar, A. S. Chan, K. Davé, and **J. R. Ryan**. 2002. Evaluation of a dipstick malaria sporozoite panel assay for detection of naturally infected mosquitoes. *Journal of Medical Entomology* 39: 324-330.

Coleman, R. E., C. Kiattibut, J. Sattabongkot, **J. R. Ryan**, D. A. Burkett, H. C. Kim, W. J. Lee, and T. A. Klein. 2002. Evaluation of anopheline mosquitoes as vectors of *Plasmodium vivax* in the Republic of Korea. *Journal of Medical Entomology* 39: 244-247.

Ryan, J. R., A. M. Smithyman, G. H. Rajasekariah, L. P. Hochberg, J. M. Stiteler, and S. K. Martin. 2002. Enzyme-Linked Immunosorbent Assay Based on Soluble Promastigote Antigen Detects Immunoglobulin M (IgM) and IgG Antibodies in Sera from Cases of Visceral and Cutaneous Leishmaniasis. *Journal of Clinical Microbiology* 30 (4) 1037 - 1043.

Ryan, J.R., K. Davé, K. M. Collins, L. Hochberg, J. Sattabongkot, R. E. Coleman, R. F. Dunton, M. J. Bangs, C. M. Mbogo, R. D. Cooper, G. B. Schoeler, Y. Rubio, M. Magris, L. I. Romero, N. Padilla, I. A. Quakyi, R. G. Leke, O. Akinpelu, B. Evans, M. Walsey, P. Patterson, R. A. Wirtz, and A. S. Chan. 2002. Extensive Multiple Test Centre Evaluation of the VecTest™ Malaria Antigen Panel Assay. *Veterinary and Medical Entomology* 17: 321-328.

Nasci, R. S., K. L. Gottfried, K. L. Burkhalter, V. L. Kulasekera, A. J. Lambert, R. S. Lanciotti, and **J. R. Ryan**. 2002. Comparison of Vero cell plaque assay, TaqMan reverse transcriptase RNA assay, and VecTest™ antigen assay for detection of West Nile virus in field-collected mosquitoes. *Journal of American Mosquito Control Association* 18: 294-300.

Ryan, J. R., K. Davé, E. Emmerich, R. Coleman, J. Sattabongkot, R. Dunton, L. Yi, A. S. Chan, and R. Wirtz. 2001. Dipsticks for the rapid detection of *Plasmodium* in *Anopheles* mosquitoes. *Medical and Veterinary Entomology* 15: 225-230.

Rajasekariah, G. R., **J. R. Ryan**, S. R. Hillier, L. Yi, J. M. Stiteler, A. M. Smithyman, L. Cui and S. K. Martin. 2001. *Leishmania donovani* Antibody ELISA: Antigen level, blocking, conjugate quality and other parameters influence the kinetics of specific antibody reactivity. *Journal of Immunological Methods* 252: 105 -119.

Ryan, J. R., C. S. Apperson, P. E. Orndorff, and J. F. Levine. 2000. Characterization of Lyme disease spirochetes isolated from ticks and vertebrates in North Carolina. *Journal of Wildlife Diseases* 36:48-55.

Ryan, J. R., J. F. Levine, C. S. Apperson, L. Lubke, R. A. Wirtz, & P. E. Orndorff. 1998. An experimental chain of infection reveals distinct *Borrelia burgdorferi* populations are selected in arthropod and mammalian hosts. *Molecular Microbiology* 30(2): 365-79.

Orndorff G. R., B. A. Cooper, W. Smith, and **J. R. Ryan**. 2000. Risk of infection with *Leishmania infantum* due to assignment in Catania Province, Sicily. *Military Medicine* 165: 29-32.

Baneth, G., E. B. Breitschwerdt, B. C. Hegarty, B. Papalardo, and **J. R. Ryan**. 1998. A survey of tick- borne bacteria and protozoa in naturally exposed dogs of Israel. *Veterinary Parasitology* 74: 133-142.

Hembree, S. C. and **J. R. Ryan**. 1982. Observations on the vertical transmission of a new microsporidian pathogen of *Aedes aegypti* from Thailand. *Mosquito News* 82: 49-54.

Technical Writing for Government Agencies and Professional Associations

Instructor Training Course, Program of Instruction. *Federal Emergency Management Agency. Center for Domestic Preparedness. 2020*

Instructor Training Course, Instructional Systems Design & Learning Objectives Module. *Federal Emergency Management Agency. Center for Domestic Preparedness. 2020*

Instructor Training Course, Classroom Management & the Use of Multimedia Module. *Federal Emergency Management Agency. Center for Domestic Preparedness. 2020*

Islam, T. and **J.R. Ryan**. 2018. The Use of GIS in Flood Management and Decision-Making Processes. *International Association of Emergency Managers Bulletin*. 35(1): 10-12.

Alabama Association of Emergency Managers. Quarterly Newsletter. Chief Editor and Writer. January 2014 – March 2015.

Hazardous Materials Technicians Course, Biological Agents Module & Lanes Training. Department of Homeland Security, Center for Domestic Preparedness. 2011

NORTHCOM-NORAD: WMD Standoff Detection Study. Phase III. Report on Gaps and Redundancies in Capabilities for the Detection of Anthrax Spores. Submitted in partial fulfillment of Technical Area Task 685, Delivery Order 0535. 10 December 2009

NORTHCOM-NORAD: WMD Standoff Detection Study. Phase II. Report on Current and Projected Capabilities for the Detection of Anthrax Spores. Submitted in partial fulfillment of Technical Area Task 685, Delivery Order 0535. 18 May 2009

NORTHCOM-NORAD: WMD Standoff Detection Study. Phase I. Report of Current Studies on Detection of Anthrax Spores. Submitted in partial fulfillment of Technical Area Task 685, Delivery Order 0535. 16 December 2008

A Tale of Two Disasters: Hurricanes and the Next Pandemic. Presentation and Tabletop exercise for Baptist Health South Florida. Miami, Florida. October 2007

Pandemic Influenza: Tackling the Tough Issues. *Interactive Training Session for Department of Homeland Security, Office of Grants and Training, Annual Conference. 2006.*

Pandemic Influenza Planning and Preparedness Course, Program of Instruction. Department of Homeland Security, Center for Domestic Preparedness. 2006

Pandemic Influenza Planning and Preparedness Course, Types of Influenza Module. Department of Homeland Security, Center for Domestic Preparedness. 2006

Pandemic Influenza Planning and Preparedness Course, Avian Influenza Module. Department of Homeland Security, Center for Domestic Preparedness. 2006

Pandemic Influenza Planning and Preparedness Course, Mass Prophylaxis Module. Department of Homeland Security, Center for Domestic Preparedness. 2006

Pandemic Influenza Planning and Preparedness Course, Medical Supply Management and Distribution Module. Department of Homeland Security, Center for Domestic Preparedness. 2006

Pandemic Influenza Planning and Preparedness Course, Caring for the Dead and Palliative Care Module. Department of Homeland Security, Center for Domestic Preparedness. 2006

Pandemic Influenza Planning and Preparedness Course, Tabletop Exercise Module. Department of Homeland Security, Center for Domestic Preparedness. 2006

Agricultural Emergency Response Training Course Case Study. United States Department of Agriculture. 2006.

Agricultural Emergency Response Training Course, Zoonotic Diseases Module. Department of Homeland Security, Center for Domestic Preparedness. 2006

Hazardous Materials Technicians Course, Biological Agents Module. Department of Homeland Security, Center for Domestic Preparedness. 2005

Hazardous Materials Technicians Course, Chemical Agents Module. Department of Homeland Security, Center for Domestic Preparedness. 2005

Emergency Medical Services Course, Cold Lanes Training, Plague Scenario. Department of Homeland Security, Center for Domestic Preparedness. 2005

Technical Emergency Response Training Course, Biological Agents Module. Department of Homeland Security, Center for Domestic Preparedness. 2004