CURRICULUM VITAE
(July 2021)

JAMES ROBERT JAUCHEM, Ph.D.
Scientific expert witness consultant
Forensic Pathophysiology, LLC
San Antonio, Texas
Email: FORENSICLLC@GMAIL.COM
Phone: 210-441-0740

Education:	Degree	Date	Major Field
Heidelberg University Tiffin, Ohio	B.S.	1973	Biology
Baylor College of Medicine Houston, Texas (Dissertation title: "Adrenergic Agonists and Plasma Potassium")	Ph.D.	1978	Physiology

Summary:

Dr. Jauchem has over 40 years of experience in physiology research. The last 10 years of experience were related to pathophysiology of conducted electrical weapons (including TASER® devices). He has served as an expert witness on cases involving use-of-force incidents in which a conducted electrical weapon was used. Other areas of expertise include: non-ionizing radiation, acoustics and infrasound, and non-lethal kinetic projectiles. In addition, Dr. Jauchem is one of the few persons to study decompression sickness (as it relates to spaceflight extra-vehicular activity) in human subjects at both NASA's Johnson Space Center and the U.S. Air Force School of Aerospace Medicine. He has served as an expert witness for a defendant on a capital murder case (post-conviction relief) involving decompression sickness. He was previously Principal Scientific Editor (on contract) for the National Institutes of Health Division of Research Resources. He retired from U.S. Air Force Civil Service in September 2014.

Examples of Paid Expert Witness or Consultant Activities (2014-present):

Retained as expert witness for plaintiff, 14 November 2014, Faltesek v. City of Houston, United States District Court for the Southern District of Texas (wrongful-death case).

Retained as expert witness for defendant, 23 March 2015, State of Arizona v. John Vincent Fitzgerald, Maricopa County Superior Court, and State of Arizona Supreme Court (post-conviction relief for death-penalty sentence in capital-murder case; submitted signed report).

Retained as expert witness for plaintiff, 15 January 2016, Alisha LaBaux v. Mike Tegre, indiv and in his capacity as Sheriff of St. John the Baptist Parish,15 January 2016, 40th Judicial District Court, State of Louisiana (wrongful-death case; submitted signed report).

Retained as consultant for plaintiff, 7 November 2016, Scottie Fields v. Franklin Parish Sheriff, United States District Court, Louisiana Western District (prisoner-civil-rights case).

Retained as expert witness for plaintiff, 11 July 2016, Estate of Norman Cooper v. City of San Antonio, United States District Court for the Western District of Texas (violation-of-civil-rights case; submitted signed report).

Retained as consultant for plaintiff, 25 March 2018, Montes v. City of Bandera, United States District Court for the Western District of Texas, San Antonio Division (violation-of-civil-rights case).

Retained as expert witness for plaintiff, 6 June 2018, Skinner v. Tower et al., United States District Court for the District of Vermont, Civil Action No. 2:16-cv-127 (violation-of-civil-rights case; submitted signed report).

Retained as expert witness for plaintiff, 17 December 2018, Fellows v. Reed, Nevada Eighth Judicial District Court, Clark County, Nevada (abuse of mental health patient – felony; submitted signed report).

Retained as expert witness for defendant, 17 January 2019, State of Texas v. Martinez, 140th District Court, Lubbock County, Texas (aggravated assault on a peace officer; testified in court, jury trial).

Retained as expert witness for plaintiff, 25 February 2019, Maverick Ray & Associates, Criminal/Civil Trial Lawyers, Houston, Texas (aggravated assault; submitted signed report).

Retained as expert witness for defendant, 17 July 2019, State of Texas v. Anthony Jackson, Montgomery County 9th District Court (third degree felony injury to a child).

Retained as expert witness for defendant, 2 June 2021, State of New York v. Amado Zubidi, County of New York (attempt to commit the crime of aggravated murder of a police officer).

Specific Past Scientific Achievements of Note:

Author of over 110 peer-reviewed scientific and medical journal articles (sole or first author of over 75 peer-reviewed articles)
Presented first report of acidosis after long-duration conducted-electrical-weapon exposure.
Discovered relationship of rate of heating to increased heart rate during microwave exposure.
Discovered relationship of cholesterol to decompression sickness.
Discovered arterial smooth-muscle cell chemoattractant role in atherosclerosis.

Immediate Past Positions:

2005-2014 Senior Research Physiologist, Radio-Frequency Branch, Bio-Effects Division, Human Effectiveness Directorate, 711th Human Performance Wing, Air Force Research Laboratory, Fort Sam Houston, Texas (formerly at Brooks Air Force Base [AFB], Texas) (Government Rating: Laboratory Demonstration DR-III, equivalent to GS-14)

2001-2005 Head, Bio-Effects & Standards Integrated Research Team and Senior Research Physiologist, Radio-Frequency Radiation Branch, Directed Energy Bio-Effects Division, Human Effectiveness Directorate, Air Force Research Laboratory, Brooks AFB Texas (Government Rating: Laboratory Demonstration DR-III, equivalent to GS-14)

1989-2001 Research Physiologist, Radio-Frequency Radiation Branch, Directed Energy Bio-Effects Division, Human Effectiveness Directorate, Air Force Research Laboratory, Brooks AFB, Texas (with unit name changes due to re-organizations, formerly: Radiation Physics Branch, Radiation Sciences Division, U.S. Air Force School of Aerospace Medicine, 1989-91; Radio-Frequency Radiation Branch, Directed Energy Division, U.S. Air Force Armstrong Laboratory, 1991-93; and Biological Effects Branch, Radio-Frequency Radiation Division, Occupational and Environmental Health Directorate, U.S. Air Force Armstrong Laboratory, 1993-97) (Government Rating: GS-13)

Summary of duties: Principal investigator on projects to evaluate physiological effects of radio-frequency and acoustic energy, non-lethal projectiles, and electro-muscular incapacitation. Designed experiments, presented results in journals and technical reports (see list of publications). Managed related contracts and additional contracts dealing with other directed energy technologies.

Other Previous Positions:

1987-89 Human Systems Division Research Scholar, Life Sciences Support Branch, Operational Technologies Corporation, San Antonio, Texas (and Universal Energy Systems, Inc., Dayton, Ohio).

Principal investigator on projects to evaluate physiological effects of radio-frequency radiation, using animal models. Designed experiments, presented results in peer-reviewed scientific journals (see list of publications). Served as consultant to U.S. Air Force School of Aerospace Medicine on related research and development efforts.

1986-87 Principal Scientific Editor, Research Resources Information Center, Department of Information and Defense Programs, Tracor Inc., Rockville, Maryland.

Was responsible for production and review of publications providing overviews of research activities supported by the National Institutes of Health Division of Research Resources. Responsible for scientific accuracy, internal quality control, and timeliness of all publications produced by three scientific documentation specialists.

1985-86 Research Physiologist, Crew Technology Division, U.S. Air Force School of Aerospace Medicine, Brooks Air Force Base, Texas.

Designed experiments to investigate decompression sickness in human subjects during simulated altitude exposure. Published results of studies and review articles (for example, see Int. Arch. Occup. Environ. Health 60: 313-319, 1988). Served as contract monitor for contractual work dealing with decompression sickness.

1984-85 National Research Council Senior Research Associate, Medical Sciences Division, National Aeronautics and Space Administration -- Johnson Space Center, Houston, Texas.

Investigated effects of altitude decompression and simulated extravehicular activity on blood factors in human subjects. Managed collaborative studies at University of Texas and Life Clinical Laboratories. Published results in peer-reviewed journals (for example, see Europ. J. Appl. Physiol. 55: 68-73, 1986).

1981-84 Research Scientist, Life Sciences Division, Technology Incorporated (currently Wyle Laboratories), San Antonio, Texas (1982-84 - Chief, RFR Bio-Effects Laboratory).

Designed experiments and led team of 3 Ph.D. scientists and 3 technicians investigating physiological effects of radio-frequency radiation. Published results in numerous journal articles (for example, see Proc. Soc. Exp. Biol. Med. 177: 383-387, 1984).

1980-81 Postdoctoral Fellow; Director of Cell Biology Laboratory, Department of Pathology (and National Institutes of Health Specialized Center of Research), The University of Texas Health Science Center, San Antonio, Texas.

Directed establishment (all phases) of a new Cell Biology Laboratory, which investigated leukocyte chemotaxis in relation to atherosclerosis (see Exp. Molec. Pathol. 37: 166-174, 1982). Supervised work of a visiting professor. Performed collaborative study with the Texas Biomedical Research Institute.

1977-79 Research Associate, Microcirculatory Systems Research Group, University of Missouri, Columbia, Missouri.

Developed in vitro arterial preparation to measure contractile responses to pharmacologic agents.

Studied effects of components of commercial peritoneal dialysis solutions (see Microcirculation 1: 37-54, 1981); conducted other studies on microcirculation (for example, see Proc. Soc. Exp. Biol. Med. 167: 442- 447, 1981). Conducted teaching sessions in medical physiology laboratory course (1st year medical students).

1975-77 Graduate Student Teaching Assistant, Department of Physiology, Baylor College of Medicine, Houston, Texas.

Conducted teaching sessions in medical physiology laboratory course (1st year medical students); taught courses in gastrointestinal and cardiovascular physiology to physician's assistant students.

1970-72 Student Teaching Assistant, Department of Biology, Heidelberg College, Tiffin, Ohio.

Assisted in developing exhibits and course curricula in entomology; taught courses in field zoology to undergraduate students.

Honors and Awards:

1971	Dean's List, Heidelberg College
1971	Member, Tri-Beta (Biological Honorary Society)
1973-77	Graduate Student Scholarship, Baylor College of Medicine
1977-81	National Heart, Lung and Blood Institute Postdoctoral Fellowships
1984-85	National Research Council Senior Research Associate
1986	Award of Excellence, Society for Technical Communication
1987	Award of Merit, International Technical Publications Competition
1990	Civilian of the Quarter, Professional Grade, U.S. Air Force School of Aerospace Medicine
1991-93	U.S. Air Force Performance Awards
1995	Air Force Materiel Command Science & Technology Achievement Award ("Development of Guidance for Human Exposure to Electromagnetic Radiation")
1995	Civilian of the Quarter, Professional Grade, U.S. Air Force Occupational and Environmental Health Directorate
1995	Civilian of the Quarter, Professional Grade, U.S. Air Force Armstrong Laboratory
1996	Harry G. Armstrong Scientific Excellence Award, U.S. Air Force Armstrong Laboratory, Finalist
1997	Harry G. Armstrong Scientific Excellence Award, U.S. Air Force Armstrong Laboratory, Finalist
1998	Air Force Scientist of the Year, Air Force Association – Texas
2000	First Place, Professional Category, Alamo Federal Executive Board Excellence in Government Awards
2004	Air Force Volunteer Excellence Award for Lifetime Achievement, U.S. Air Force Chief of Staff
2006	Scientific Achievement Award, Department of the Air Force, Publication # 2006-4379
2008	Civilian of the Quarter, Professional Grade, 711th Human Performance Wing, U.S. Air Force
2008	Civilian of the Quarter, Category IV, Brooks City-Base, U.S. Air Force
2009	Harry G. Armstrong Scientific Excellence Award, U.S. Air Force Research Laboratory, Finalist

Other Consultant Activities:

1986	Northrop Services Inc. (Northrop Corporation), Houston, Texas
1999	National Institutes of Health, Cardiovascular and Renal Study Section (RO1 Grant Proposal Reviewer)
1999	Johns Hopkins University, Bloomberg School of Public Health (Occupational and Environmental Epidemiology Doctoral Program)

1999	University of Oklahoma Bioengineering Center (Proposal Reviewer)
1999	Betac Corporation, Arlington, Virginia (U.S. Dept. of Justice Programs)
1999	Pathology Associates International, Frederick, Maryland (Mammary Tumor Issues)
2000	Town of Sandwich, Massachusetts (Radar Exposure Issues)
2000	Chief of Training and Education Plans, Air Force Safety Center, Kirtland AFB, New Mexico (High-Power Microwave Reviews)
2000	Deputy for Community Based Programs, Deputy Assistant Secretary of the Air Force for Environment, Safety & Occupational Health
2000	Cape Cod Joint Program Office, Massachusetts Military Reservation (Environmental Impact)
2001	Johnson & Johnson, New Brunswick, New Jersey (Animal Care Issues)
2000-03	U.S. Air Force Space Command (PAVE PAWS Radar Public Issues)
2000-04	Department of Health & Environment, Jefferson County, Colorado (Radio Tower Issues)
2000-04	Earth Tech Incorporated, San Antonio, Texas (Environmental Impact Advisor)
1990-2010	National Research Council Research Associateship Program (Advisor)
2003	Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoek, Fysisch en Elektronisch Laboratorium (Dutch Organisation for Applied Scientific Research, Physics and Electronic Laboratory), The Hague, Netherlands (Project Reviewer)
2003-08	Naval Health Research Center, U.S. Navy (Non-Ionizing Radiation Health & Safety Issues)
2004	U.S. Air Force Institute for Operational Health (Radar Health & Safety Issues)
2009	Focused Acoustics Human Effects Advisory Panel, Institute for Non-Lethal Defense Technologies, Applied Research Laboratory, Pennsylvania State University (Invited as Member of Independent Expert Review Panel)
2009	Canadian Police Research Centre, Defence R&D Canada – Centre for Security Science (Invited as Member of Independent Expert Review Panel)
2010	U.S. Small Business Administration Office of Technology (Reviewer of Department of Defense Small Business Innovative Research proposals)
2011	Special Panel Review of Excited Delirium & Less-Lethal Devices Technology Working Group (National Institute of Justice, Weapons and Protective Systems Technologies Center)

Professional Affiliations and Memberships (past and present):

Aerospace Medical Association
American Physiological Society
Bioelectromagnetics Society
Committee on Man & Radiation, Engineering in Medicine & Biology Society
Divers Alert Network
Environmental & Exercise Physiology Section of American Physiological Society
Institute of Electronics & Electrical Engineers Standards Coordinating Committee, Subcommittee 4 Review Working Group
Society for Experimental Biology and Medicine
Undersea and Hyperbaric Medical Society
Forensic Expert Witness Association (Professional Consulting Member)

Selected to be Adjunct Associate Professor, Department of Radiation Science, School of Medicine, University of Texas Health Science Center, San Antonio, Texas

Selected to be Adjunct Associate Professor, Bioenvironmental Engineering Division, U.S. Air Force School of Aerospace Medicine

Served as Invited Reviewer for the Following Journals (past and present years):

American Journal of Forensic Medicine & Pathology
Applied Occupational & Environmental Hygiene
Archives of Environmental & Occupational Health
Archives of Medical Research
Bioelectromagnetics
BioMedical Engineering OnLine
Biomedicine & Pharmacotherapy
Cell Biochemistry & Biophysics
Environmental Health Perspectives
Forensic Science International
Forensic Science, Medicine, & Pathology
Hypertension Research
IEEE Engineering in Medicine and Biology
IEEE Spectrum
IEEE Transactions on Biomedical Engineering
International Journal of Andrology
International Journal of General Medicine
International Journal of Hygiene and Environmental Health
International Journal of Radiation Biology
Journal of the American Medical Association
Journal of Directed Energy
Journal of Forensic Sciences
Journal of Occupational and Environmental Medicine
Journal of Thermal Biology
Journal of Toxicological Sciences
Physics in Medicine and Biology
Physiology and Behavior
Policing: An International Journal of Police Strategies & Management
Proceedings of the Society for Experimental Biology and Medicine
Radiation and Environmental Biophysics
Radiation Research

Certifications:

Open-Water Scuba Diver (National Association of Scuba Diving Schools, 1980)
Professional Consulting Member (Forensic Expert Witness Association, 2015)

Volunteer Activities:

Delta Society of San Antonio (evaluation of Pet Partners® Teams for Animal-Assisted Therapy)
[Outstanding Visiting Animal Ambassador Team, 2000]
Manor Care Health Services, San Antonio, Texas (Animal-Assisted Therapy)
Chronic Pain Support Group, Warm Springs-Baptist Rehabilitation Hospital, San Antonio, Texas (Volunteer Mentor)
Bexar County Secure Juvenile Correctional Treatment Center, San Antonio, Texas (Special Projects Volunteer)
American Cancer Society, Prostate Cancer Education and Support Group, Brooke Army Medical Center, Fort Sam Houston, Texas (Acting Facilitator)
American Cancer Society, Texas Division (Cancer Survivor Network Visitor)
San Antonio Biomarkers of Risk for Prostate Cancer Project, University of Texas Health Science Center at San Antonio

The Forum Health Center, San Antonio, Texas (Animal-Assisted Therapy)
Wildlife Rescue & Rehabilitation, Kendalia, Texas
Hungarian Vizsla Rescue, The Vizsla Club of America

Additional Training (partial list of examples):

1981	Radiation Safety; Department of Radiology, University of Texas Health Science Center at San Antonio
1985	Executive Leadership Seminar; U.S. Air Force
1991	Completed coursework in Epidemiology for M.P.H. program; School of Public Health, University of Texas Health Science Center at Houston, San Antonio Program
1992	Electromagnetic Compatibility Awareness; U.S. Air Force
2010	Level III Certification in Systems Planning, Research, Development & Engineering – Science & Technology; Director of Program Management, U.S. Air Force
2012	Institutional Animal Care & Use Committee Training Certification; Bio-Effects Division, U.S. Air Force

PUBLICATIONS:

Journal Articles (Original Research):

1. **Jauchem JR**, Vick RL. Isoproterenol-induced hypokalemia: Role of the liver. Proceedings of the Society for Experimental Biology and Medicine 162: 207-210, 1979.

2. Miller FN, Joshua IG, Harris PD, Wiegman DL, **Jauchem JR**. Peritoneal dialysis and the microcirculation. Contributions to Nephrology 17: 51-58, 1979.

3. **Jauchem JR**, Vick RL. Phenylephrine-induced hyperkalemia: Role of the liver. Proceedings of the Society for Experimental Biology and Medicine 163: 478-481, 1980.

4. **Jauchem JR**, Miller FN, Harris PD, Wiegman DL, Joshua IG. Interaction of acetate, lactate, and osmolarity on contraction of mesenteric arteries. Microcirculation 1: 37-54, 1981.

5. Joshua IG, Harris PD, Wiegman DL, Miller FN, **Jauchem JR**. Calcium modulation of microvascular sensitivity during renovascular hypertension. Proceedings of the Society for Experimental Biology and Medicine 167: 442-447, 1981.

6. **Jauchem JR**, Lopez M, Sprague EA, Schwartz CJ. Mononuclear cell chemoattractant activity from cultured smooth muscle cells. Experimental and Molecular Pathology 37: 166-174, 1982.

7. **Jauchem JR**, Frei MR, Heinmets F. Thermal bradycardia during radiofrequency irradiation. Physiological Chemistry and Physics and Medical NMR 15: 429-434, 1983.

8. **Jauchem JR**, Frei MR, Heinmets F. Increased susceptibility to radiofrequency radiation due to pharmacological agents. Aviation, Space and Environmental Medicine 55: 1036-1040, 1984.

9. Heinmets F, Frei MR, **Jauchem JR**, Hurt W. A new method of SAR determination in animals exposed to microwave/radiofrequency radiation (MW/RFR). Physiological Chemistry and Physics and Medical NMR 16: 57-70, 1984.

10. **Jauchem JR**, Frei MR, Heinmets F. Heart rate changes due to 5.6-GHz radiofrequency radiation: Relation to average power density. Proceedings of the Society for Experimental Biology and Medicine

177: 383-387, 1984.

11. **Jauchem JR**, Frei MR, Heinmets F. Effects of doxapram on body temperature of the rat during radiofrequency irradiation. Clinical and Experimental Pharmacology and Physiology 12: 1-8, 1985.

12. **Jauchem JR**, Frei MR, Heinmets F. Effects of psychotropic drugs on thermal responses to radiofrequency radiation. Aviation, Space and Environmental Medicine 56: 1183-1188, 1985.

13. **Jauchem JR**, Waligora JM, Conkin J, Horrigan DJ, Johnson PC. Blood biochemical factors in humans resistant and susceptible to formation of venous gas emboli during decompression. European Journal of Applied Physiology 55: 68-73, 1986.

14. **Jauchem JR**, Waligora JM, Taylor GR, Horrigan DJ, Johnson PC. Hematological changes following repetitive decompressions during simulated extravehicular activity. International Archives of Occupational and Environmental Health 58: 277-285, 1986.

15. Webb JT, Smead KW, **Jauchem JR**, Barnicott PT. Blood factors and venous gas emboli: Surface to 429 mm Hg (8.3 psi). Undersea Biomedical Research 15: 107-121, 1988.

16. **Jauchem JR**, Frei MR, Heinmets F. Thermal responses to 5.6-GHz radiofrequency radiation in anesthetized rats: Effect of chlorpromazine. Physiological Chemistry and Physics and Medical NMR 20: 135-143, 1988.

17. Frei M, **Jauchem J**, Heinmets F. Physiological effects of 2.8 GHz radiofrequency radiation: A comparison of pulsed and continuous wave radiation. Journal of Microwave Power and Electromagnetic Energy 23: 85-93, 1988.

18. Frei M, **Jauchem J**, Heinmets F. Physiological measurements during radiofrequency irradiation. Journal of Microwave Power and Electromagnetic Energy 23: 81-84, 1988.

19. Frei MR, **Jauchem JR**, Heinmets F. Thermoregulatory responses of rats exposed to 9.3-GHz radiofrequency radiation. Radiation and Environmental Biophysics 28: 67-77, 1989.

20. **Jauchem JR**. Blood biochemical and cellular changes during a decompression procedure involving 8 hours of oxygen prebreathing. Clinical Physiology and Biochemistry 7: 47-52, 1989.

21. Frei MR, **Jauchem JR**. Effects of 2.8-GHz microwaves on restrained and ketamine-anesthetized rats. Radiation and Environmental Biophysics 28: 155-164, 1989.

22. Frei MR, **Jauchem JR**, Padilla JM, Merritt JH. Thermal and physiological responses of rats exposed to 2.45-GHz radiofrequency radiation: A comparison of E and H orientation. Radiation and Environmental Biophysics 28: 235-246, 1989.

23. Frei MR, **Jauchem JR**, Padilla JM. Effects of field orientation during 700-MHz radiofrequency irradiation of rats. Physiological Chemistry and Physics and Medical NMR 21: 65-72, 1989.

24. Frei MR, **Jauchem JR**, Padilla JM. Thermal and physiological changes in rats exposed to CW and pulsed 2.8 GHz radiofrequency radiation in E and H orientations. International Journal of Radiation Biology 56: 1033-1044, 1989.

25. **Jauchem JR**, Frei MR, Padilla JM. Thermal and physiological responses to 1200-MHz radiofrequency radiation: Differences between exposure in E and H orientation. Proceedings of the Society for Experimental Biology and Medicine 194: 358-363, 1990.

26. **Jauchem JR**, Waligora JM, Johnson PC Jr. Blood biochemical and cellular changes during decompression and simulated extravehicular activity. International Archives of Occupational and Environmental Health 62: 391-396, 1990.

27. Frei MR, **Jauchem JR**, Padilla JM, Price DL. Field orientation effects during 5.6-GHz radiofrequency irradiation of rats. Aviation, Space and Environmental Medicine 61: 1125-1129, 1990.

28. **Jauchem JR**, Frei MR. Cardiovascular changes in unanesthetized and ketamine-anesthetized Sprague-Dawley rats exposed to 2.8-GHz radiofrequency radiation. Laboratory Animal Science 41: 70-75, 1991.

29. **Jauchem JR**. Effects of electromagnetic fields: Misconceptions in the scientific literature. Journal of Microwave Power and Electromagnetic Energy 26: 189-195, 1991.

30. Frei MR, **Jauchem JR**. Thermoregulatory responses of rats exposed to 9.3-GHz microwaves: A comparison of E and H orientation. Physiological Chemistry and Physics and Medical NMR 24: 1-10, 1992.

31. **Jauchem JR**. Epidemiologic studies of electric and magnetic fields and cancer: A case study of distortions by the media. Journal of Clinical Epidemiology 45: 1137-1142, 1992.

32. **Jauchem JR**. Alleged health effects of electromagnetic fields and microwaves: Additional misconceptions in the literature. Journal of Microwave Power and Electromagnetic Energy 28: 140-155, 1993.

33. **Jauchem JR**, Frei MR. Cardiorespiratory changes during microwave-induced lethal heat stress and *beta*-adrenergic blockade. Journal of Applied Physiology 77: 434-440, 1994.

34. **Jauchem JR**, Frei MR. High-peak-power microwave pulses: Effects on heart rate and blood pressure in unanesthetized rats. Aviation, Space, and Environmental Medicine 66: 992-997, 1995.

35. **Jauchem JR**. Alleged health effects of electromagnetic fields: The misconceptions continue. Journal of Microwave Power and Electromagnetic Energy 30: 165-177, 1995.

36. Frei MR, Ryan KL, Berger RE, **Jauchem JR**. Sustained 35-GHz radiofrequency irradiation induces circulatory failure. Shock 4: 289-293, 1995.

37. **Jauchem JR**, Frei MR, Chang KS, Berger RE. Microwave-induced lethal heat stress: Effects of phentolamine, prazosin, and metoprolol. Methods and Findings in Experimental and Clinical Pharmacology 17: 241-248, 1995.

38. **Jauchem JR**, Chang KS, Frei MR. Tolazoline decreases survival time during microwave-induced lethal heat stress in anesthetized rats. Proceedings of the Society for Experimental Biology and Medicine 211: 236-243, 1996.

39. Ryan KL, Frei MR, Berger RE, **Jauchem JR**. Does nitric oxide mediate circulatory failure induced by 35-GHz microwave heating? Shock 6: 71-76, 1996.

40. Ryan KL, Frei MR, **Jauchem JR**. Circulatory failure induced by 35-GHz microwave heating: Effects of chronic nitric oxide synthesis inhibition. Shock 7: 70-76, 1997.

41. Vijayalaxmi, Frei MR, Dusch SJ, Guel V, Meltz ML, **Jauchem JR**. Frequency of micronuclei in the

peripheral blood and bone marrow of cancer-prone mice chronically exposed to 2450-MHz radiofrequency radiation. Radiation Research 147: 495-500, 1997.

42. **Jauchem JR**, Ryan KL, Lovelace JD, Frei MR. Effects of esmolol on 35-GHz microwave-induced lethal heat stress. Journal of Autonomic Pharmacology 17: 165-174, 1997.

43. **Jauchem JR**, Frei MR. Body heating induced by sub-resonant (350-MHz) microwave irradiation: Cardiovascular and respiratory responses in anesthetized rats. Bioelectromagnetics 18: 335-338, 1997.

44. Ryan KL, Walters TJ, Tehrany MR, Lovelace JD, **Jauchem JR**. Age does not affect thermal and cardiorespiratory responses to microwave heating in calorically restricted rats. Shock 8: 55-60, 1997.

45. Ryan KL, Lovelace JD, Frei MR, **Jauchem JR**. Administration of a nitric oxide donor does not affect hypotension induced by 35-GHz microwave heating. Methods and Findings in Experimental and Clinical Pharmacology 19: 455-464, 1997.

46. Frei MR, Berger RE, Dusch SJ, Guel V, **Jauchem JR**, Merritt JH, Stedham M. Chronic exposure of cancer-prone mice to low-level 2450-MHz radiofrequency radiation. Bioelectromagnetics 19: 20-31, 1998.

47. **Jauchem JR**, Seaman RL, Lehnert HM, Mathur SP, Ryan KL, Frei MR, Hurt WD. Ultra-wideband electromagnetic pulses: Lack of effects on heart rate and blood pressure during two-minute exposures of rats. Bioelectromagnetics 19: 330-333, 1998.

48. Frei MR, **Jauchem JR**, Dusch SJ, Merritt JH, Berger RE, Stedham M. Chronic, low-level (1.0 W/kg) exposure of mice prone to mammary cancer to 2450-MHz microwaves. Radiation Research 150: 568-576, 1998.

49. **Jauchem JR**, Frei MR, Ryan KL, Merritt JH, Murphy MR. Lack of effects on heart rate and blood pressure in ketamine-anesthetized rats briefly exposed to fast-rise-time ultra-wideband electromagnetic pulses. IEEE Transactions on Biomedical Engineering 46: 117-120, 1999.

50. **Jauchem JR**, Ryan KL, Frei MR. Cardiovascular and thermal responses in rats during 94 GHz irradiation. Bioelectromagnetics 20: 264-267, 1999.

51. **Jauchem JR**, Ryan KL, Frei MR. Cardiovascular and thermal effects of microwave irradiation at 1 and/or 10 GHz in anesthetized rats. Bioelectromagnetics 21: 159-166, 2000.

52. Cobb BL, **Jauchem JR**, Mason PA, Dooley MP, Miller SA, Ziriax JM, Murphy MR. Neural and behavioral teratological evaluation of rats exposed to ultra-wideband electromagnetic fields. Bioelectromagnetics 21: 524-537, 2000.

53. **Jauchem JR**, Ryan KL, Frei MR, Dusch SJ, Lehnert HM, Kovatch RM. Repeated exposure of mammary C3H/HeJ mice to ultra-wideband electromagnetic pulses: Lack of effects on mammary tumors. Radiation Research 155: 369-377, 2001.

54. Ryan KL, Tehrany MR, **Jauchem JR**. Nitric oxide does not contribute to the hypotension of heatstroke. Journal of Applied Physiology 90: 961-970, 2001.

55. Mason PA, Walters TJ, DiGiovanni J, Beason CW, **Jauchem JR**, Dick EJ Jr, Mahajan K, Dusch SJ, Shields BA, Merritt JH, Murphy MR, Ryan KL. Lack of effect of 94-GHz radio frequency radiation exposure in an animal model of skin carcinogenesis. Carcinogenesis 22: 1701-1708, 2001.

56. Ryan KL, **Jauchem JR**, Tehrany MR, Boyle HL. Platelet-activating factor does not mediate circulatory failure induced by 35-GHz microwave heating. Methods and Findings in Experimental and Clinical Pharmacology 24: 279-286, 2002.

57. Laughrey MS, Grayson JK, **Jauchem JR**, Misener AE. Radio frequency radiation exposure of the F-15 crewmember. Aviation, Space and Environmental Medicine 74: 851-857, 2003.

58. Cobb BL, **Jauchem JR**, Adair ER. Radial-arm maze performance of rats following repeated low-level microwave radiation. Bioelectromagnetics 25: 49-57, 2004.

59. Seaman RL, **Jauchem JR**. Rat electrocardiogram during acute exposure to synchronized bursts of ultra-wideband pulses. IEEE Transactions on Plasma Science 32: 1644-1652, 2004.

60. **Jauchem JR**, Ryan KL, Tehrany MR. Effects of histamine receptor blockade on cardiovascular changes induced by 35 GHz radio frequency radiation heating. Autonomic and Autacoid Pharmacology 24: 17-28, 2004.

61. **Jauchem JR**, Sherry CJ, Fines DA, Cook MC. Acidosis, lactate, electrolytes, muscle enzymes, and other factors in the blood of *Sus scrofa* following repeated TASER® exposures. Forensic Science International 161: 20-30, 2006.

62. Sherry CJ, Cook MC, **Jauchem JR,** Brown GC, Edris RW. The effects of infrasound on rhesus monkey performance of a continuous compensatory tracking task. Journal of Low Frequency Noise, Vibration and Active Control 26: 53-64, 2008.

63. **Jauchem JR**, Cook MC, Beason CW. Blood factors of *Sus scrofa* following a series of three TASER® exposures. Forensic Science International 175: 166-170, 2008.

64. Beason CW, **Jauchem JR**, Clark CD III, Parker JE, Fines DA. Pulse variations of a conducted energy weapon (similar to the TASER® X26 device): Effects on muscle contraction and threshold for ventricular fibrillation. Journal of Forensic Sciences [Pathology and Biology section] 54: 1113-1118, 2009.

65. **Jauchem JR**, Beason CW, Cook MC. Acute effects of an alternative electronic-control-device waveform in swine. Forensic Science, Medicine, and Pathology 5: 2-10, 2009.

66. **Jauchem JR**, Seaman RL, Klages CM. Physiological effects of the TASER® C2 electronic control device. Forensic Science, Medicine, and Pathology 5: 189-198, 2009.

67. Comeaux JA, **Jauchem JR**, Cox DD, Crane CC, D'Andrea JA. Muscle contraction during electromuscular incapacitation: A comparison between square pulse waves and the TASER® X26 device. Journal of Forensic Sciences [Pathology and Biology section] 56(Suppl 1): S95-S100, 2011.

68. **Jauchem JR**, Seaman RL, Fines DA. Survival of anesthetized *Sus scrofa* after cycling (7 s on / 3 s off) exposures to an electronic control device for 3 min. American Journal of Forensic Medicine and Pathology 32: 124-130, 2011.

69. Comeaux JA, **Jauchem JR**, Cox DD, Crane CC, D'Andrea JA. 40-Hz square-wave stimulation requires less energy to produce muscle contraction: Compared with the TASER® X26 conducted energy weapon. Journal of Forensic Sciences [Pathology and Biology section] 58: 1026-1031, 2013.

70. **Jauchem JR**, Bernhard JA, Cerna CZ, Lim TY, Seaman RL, Tarango M. Effects of a TASER® conducted energy weapon on the circulating red-blood-cell population and other factors in *Sus scrofa*.

Forensic Science, Medicine, and Pathology 9: 308-320, 2013.

71. **Jauchem JR**, Cerna CZ, Lim TY, Seaman RL. Exposures of *Sus scrofa* to a TASER® conducted electrical weapon: No effects on 2-dimensional gel electrophoresis patterns of plasma proteins. Forensic Science, Medicine, and Pathology 10: 526-534, 2014.

72. **Jauchem JR**, Ryan KL, Walters TJ. Pathophysiological alterations induced by sustained 35-GHz radio-frequency energy heating. Journal of Basic and Clinical Physiology and Pharmacology 27: 79-89, 2016.

73. **Jauchem JR**, Burns JM, Voorhees WB, Jirjis MB. Increased hematocrit due to electrical-waveform exposures in splenectomized Sus scrofa. Journal of Forensic Sciences [Pathology and Biology section] doi: 10.1111/1556-4029.13969. [Epub ahead of print] 2018 Dec 3.

Journal Review Articles:

1. **Jauchem JR**. Effects of exercise on the incidence of decompression sickness: A review of pertinent literature and current concepts. International Archives of Occupational and Environmental Health 60: 313-319, 1988.

2. **Jauchem JR**, Merritt JH. The epidemiology of exposure to electromagnetic fields: An overview of the recent literature. Journal of Clinical Epidemiology 44: 895-906, 1991.

3. **Jauchem JR**. Potential confounders in epidemiologic studies of electric and magnetic fields and childhood leukemia. Environmental Carcinogenesis & Ecotoxicology Reviews (Journal of Environmental Science & Health Part C) C11: 163-183, 1993.

4. **Jauchem JR**. Exposure to extremely-low-frequency electromagnetic fields and radiofrequency radiation: Cardiovascular effects in humans. International Archives of Occupational and Environmental Health 70: 9-21, 1997.

5. **Jauchem JR**. Health effects of microwave exposures: A review of the recent (1995-1998) literature. Journal of Microwave Power and Electromagnetic Energy 33: 263-274, 1998.

6. Ryan KL, D'Andrea JA, **Jauchem JR**, Mason PA. Radio frequency radiation of millimeter wavelength: Potential occupational safety issues relating to surface heating. Health Physics 78: 170-181, 2000.

7. **Jauchem JR**. A literature review of medical side effects from radio-frequency energy in the human environment: Involving cancer, tumors, and problems of the central nervous system. Journal of Microwave Power and Electromagnetic Energy 38: 103-123, 2003.

8. **Jauchem JR**. The role of autacoids and the autonomic nervous system in cardiovascular responses to radio-frequency-energy heating [Invited review]. Autonomic and Autacoid Pharmacology 26: 121-140, 2006.

9. **Jauchem JR**, Cook MC. High-intensity acoustics for military nonlethal applications: A lack of useful systems. Military Medicine 172: 182-189, 2007.

10. **Jauchem JR**. Effects of low-level radio-frequency (3 kHz to 300 GHz) energy on human cardiovascular, reproductive, immune, and other systems: A review of the recent literature. International Journal of Hygiene and Environmental Health 211: 1-29, 2008.

11. Committee on Man and Radiation (COMAR) (45 collaborators, including **Jauchem JR**). COMAR technical information statement: expert reviews on potential health effects of radiofrequency electromagnetic fields and comments on the bioinitiative report. Health Physics 97: 348-356, 2009.

12. **Jauchem JR**. Deaths in custody: Are some due to electronic control devices (including TASER® devices) or excited delirium? Journal of Forensic and Legal Medicine 17: 1-7, 2010.

13. **Jauchem JR**. An animal model to investigate effectiveness and safety of conducted energy weapons (including TASER® devices). Journal of Forensic Sciences [Pathology and Biology section] 55: 521-526, 2010.

14. **Jauchem JR**. Repeated or long-duration TASER® electronic control device exposures: Acidemia and lack of respiration. Forensic Science, Medicine, and Pathology 6: 46-53, 2010.

15. **Jauchem JR**. Muscle stimulation by TASER® conducted energy weapons: Similarities with voluntary muscle contractions during exercise. Advances in Medicine and Biology 7: 169-179, 2010.

16. **Jauchem JR**. Increased hematocrit after applications of conducted energy weapons (including TASER® devices) to *Sus scrofa*. Journal of Forensic Sciences [Pathology and Biology section] 56(Suppl 1): S-229-S233, 2011.

17. **Jauchem JR**. Pathophysiologic changes due to TASER® devices versus excited delirium: Potential relevance to deaths in custody? Journal of Forensic and Legal Medicine 18: 145-153, 2011.

18. **Jauchem JR**. Blood lactate concentration after exposures to conducted energy weapons (including TASER® devices): Is it clinically relevant? Forensic Science, Medicine, and Pathology 9: 386-394, 2013.

19. **Jauchem JR**. Exposures to conducted electrical weapons (including TASER® devices): How many and for how long are acceptable? Journal of Forensic Sciences 60(Suppl 1): S116-S129, 2015.

20. **Jauchem JR**. TASER® conducted electrical weapons: Misconceptions in the scientific/medical and other literature. Forensic Science, Medicine, and Pathology 11:53-64, 2015.

"Mini-Reviews":

1. **Jauchem JR**. Effects of drugs on thermal responses to microwaves. General Pharmacology 16: 307-310, 1985.

2. **Jauchem JR**. Leukocyte chemotactic factors from vascular smooth muscle cells. Comparative Biochemistry and Physiology 83A: 603-606, 1985.

3. **Jauchem JR**. Pharmacologic intervention to prevent decompression sickness. General Pharmacology 17: 619-624, 1986.

4. **Jauchem JR**. Environmental stressors during space flight: Potential effects on body temperature. Comparative Biochemistry and Physiology 91A: 425-429, 1988.

5. **Jauchem JR**, Frei MR. Heart rate and blood pressure changes during radiofrequency irradiation and environmental heating. Comparative Biochemistry and Physiology 101A: 1-9, 1992.

Technical Reports, Book Chapters, and Meeting Proceedings:

1. Heinmets F, Frei MR, Friedman RN, **Jauchem JR**, Ballentine C, Teeters C. Temperature cycling in rats exposed repetitively to radiofrequency radiation. U.S Air Force School of Aerospace Medicine Technical Report SAM-TR-82-48:1-27, 1982.

2. **Jauchem JR**, Frei MR, Heinmets F. Terminal exposure to 5.6 GHz microwaves: A comparison of continuous wave and pulsed radiation. In: Preprints of the 54th Annual Scientific Meeting of the Aerospace Medical Association, pp. 241-242, 1983.

3. Waligora JM, Horrigan DJ, **Jauchem JR**, Conkin J. Detection of incipient altitude decompression sickness with Doppler sensors in flight. In: Research and Technology Annual Report 1984 (National Aeronautics and Space Administration Technical Memorandum TM-58263). Houston: Johnson Space Center, p. 74, November 1984.

4. Dixon GA, Krutz RW Jr, Webb JT, **Jauchem JR**. The intravenous bubble formation threshold. In: Proceedings of the 7th International Academy of Astronautics Man-in-Space Symposium ("Physiologic Adaptation of Man in Space"), Houston, Texas, February 1986.

5. Frei MR, **Jauchem JR**. Cardiovascular responses to high power microwaves. In: Proceedings of the 4th National Conference on High Power Microwave Technology for Defense Applications, Monterey, California, 9-13 May 1988, pp. 750-757.

6. **Jauchem JR**. Exposure to electromagnetic fields: An actual vs an imagined hazard. Strughold Researcher, Brooks Air Force Base, July 1991, pp. 1-3.

7. **Jauchem JR**. Thermal and physiological responses of rats exposed to radiofrequency radiation. Final Report (U.S.A.F. Contract F33615-87-C-0612), Operational Technologies Corporation, San Antonio, Texas, 15 February 1992.

8. Frei MR, Berger RE, **Jauchem JR**. Visceral vasodilation precedes circulatory shock during millimeter-wave irradiation. In: Electricity and Magnetism in Biology and Medicine (edited by M Blank), pp. 919-920. San Francisco: San Francisco Press, Inc., 1993.

9. **Jauchem JR**. Cardiovascular responses to radiofrequency radiation. In: Radiofrequency Standards: Biological Effects, Dosimetry, Epidemiology, and Public Health Policy. (Proceedings of NATO Advanced Research Workshop on Developing a New Standardization Agreement [STANAG] for Radiofrequency Radiation, Pratica di Mare Air Force Base, Rome, Italy, May 17-21, 1993) (edited by BJ Klauenberg, M Grandolfo, and DN Erwin), pp. 291-294. New York: Plenum Press, 1995.

10. **Jauchem JR**, Frei MR, Murphy MR. Ultrawideband microwave pulses: Effects on the cardiovascular system. In: Proceedings of the 7th National Conference on High Power Microwave Technology, Monterey, California, 31 October - 4 November 1994.

11. Frei MR, Ryan KL, **Jauchem JR**. Visceral vasodilation precedes circulatory shock during millimeter wave irradiation. In: Proceedings of the 7th National Conference on High Power Microwave Technology, Monterey, California, 31 October - 4 November 1994.

12. **Jauchem JR**. Review of long-term studies of laboratory animals exposed to radiofrequency radiation. International Conference on Electromagnetic Energy, Electromagnetic Energy Association, Washington, DC, 8 May 1995.

13. Merritt JH, Murphy MR, **Jauchem JR**. Biological effects of ultrawide band emissions. In: Proceedings of the 8th National Conference on High Power Microwave Technologies, Laurel, Maryland,

8-10 April 1997.

14. Ryan KL, Frei MR, **Jauchem JR**. Circulatory failure resulting from sustained millimeter wave irradiation. In: Infrared Lasers & Millimeter Waves: The Links Between Microwaves and Laser Optics (edited by ER Adair). Air Force Research Laboratory Proceedings AFRL-HE-BR-PC-1999-0002, pp. 243-261, February 1999.

15. **Jauchem JR**. Potential cognitive/behavioural and cardiovascular effects of low level microwave exposures in humans. In: Countering the Directed Energy Threat: Are Closed Cockpits the Ultimate Answer? (Proceedings of a Human Factors and Medicine Panel Symposium, 26-28 April 1999, Antalya, Turkey) (NATO Research and Technology Agency Publication No. RTO-MP-30 AC/323(HFM)TP/10), pp. 3-1– 3-13, January 2000.

16. Sherry CJ, Cook MC, Brown GC, **Jauchem JR**, Merritt JH, Murphy MR. An assessment of four acoustic energy devices on animal behavior. U.S. Air Force Research Laboratory Technical Report AFRL-HE-BR-TR-2000-0153, October 2000. Available at URL: http://handle.dtic.mil/100.2/ADA385802.

17. Murphy MR, **Jauchem JR**, Merritt JH, Sherry CJ, Cook MC, Brown GC. Acoustic bioeffects research for non-lethal applications. In: Non-Lethal Weapons. New Options facing the Future (Non-Lethal Weapons European Working Group, Proceedings of the 1st European Symposium on Non-Lethal Weapons, 25-26 September 2001, Ettlingen, Germany) (edited by Fraunhofer Institut Chemische Technologie), pp. 9-1—9-13. Karlsruhe, Germany: DWS Werbeagentur und Verlag GmgH, 2001.

18. Cook MC, Sherry CJ, Brown GC, **Jauchem JR**. Lack of effects on goal-directed behavior of high-intensity infrasound in a resonant reverberant chamber. U.S. Air Force Research Laboratory Technical Report AFRL-HE-BR-TR-2001-0154, November 2001. Available at URL: http://handle.dtic.mil/100.2/ADA398702.

19. Sherry CJ, Brown GC, Beason CW, **Jauchem JR**, Dayton TE, Ross JA, Johnson LR, Kuhnel CT, Fines DA, Theis CF. An evaluation of the electrical properties and bio-behavioral effects of four commercially available TASER®s and the Jaycor Sticky Shocker. U.S. Air Force Research Laboratory Technical Report AFRL-HE-BR-TR-2003-0089, June 2003. Available at URL: http://stinet.dtic.mil/cgibin/GetTRDoc?AD=ADA416553&Location=U2&doc=GetTRDoc.pdf.

20. **Jauchem J**. Bibliography of the Radiofrequency Radiation Branch, Directed Energy Bio-Effects Division, Human Effectiveness Directorate, Air Force Research Laboratory: 1997-2003. U.S. Air Force Research Laboratory Technical Report AFRL-HE-BR-TR-2004-0009, February 2004. Available at URL: http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA495128&Location=U2&doc=GetTRDoc.pdf.

21. Sherry CJ, Beason CW, Brown GC, Simonds JL, Ross JA, Cook MC, Fines DA, **Jauchem JR**, Merritt JH. Variable TASER® parameters: Effectiveness (muscle contraction) and cardiac safety (ventricular fibrillation). U.S. Air Force Research Laboratory Technical Report AFRL-HE-BR-TR-2004-0094, July 2004.

22. Sherry CJ, Brown GC, Fines DA, Theis CF, Parker JE, McCrory RA, **Jauchem JR**. Skin damage/penetration of non-lethal kinetic projectiles. U.S. Air Force Research Laboratory Technical Report AFRL-HE-BR-TR-2004-0147, October 2004. Available to U.S. Government Employees and Contractors at: https://www.dtic.mil/portal/site/dticol/.

23. **Jauchem JR**. Effectiveness and health effects of electro-muscular incapacitating devices. University of New Hampshire Non-Lethal Technology Innovation Center's Sixth Annual Non-Lethal Technology and Academic Research Symposium, Winston-Salem, North Carolina, 16 November 2004.

24. **Jauchem JR**. Electro-Muscular Incapacitation: Scientists perform research to evaluate effectiveness of electro-muscular incapacitating devices. Air Force Research Laboratory Technology Horizons, 2005.

25. Beason CW, Clark CD, Cook MC, Ashmore J, Fines DA, Ross JA, Sherry CJ, Parker JE, **Jauchem JR**. Electromuscular incapacitation (EMI) devices: An assessment of effectiveness and risk of injury. U.S. Air Force Research Laboratory Technical Report AFRL-HE-BR-TR-2004-0190, January 2005.

26. **Jauchem JR**. Electro-Muscular Incapacitation. In: Relationship of Directed Energy Technologies to Human Effects Operational Requirements (Report from Human Effects Center of Excellence, Fort Sam Houston, Texas), March 2011.

Peer-reviewed Letters to the Editor:

1. **Jauchem JR**, Frei MR. Comments on modification of heart function with low intensity electromagnetic energy. Journal of Bioelectricity 6: 221, 1987.

2. **Jauchem JR**. Magnetic resonance imaging: Is it safe? Clinical EEG 21: ix-xi, 1990.

3. **Jauchem JR**. Leukaemia following exposure to microwaves: Analysis of a case report. British Journal of Haematology 76: 312-313, 1990.

4. **Jauchem JR**. Hazards of electromagnetic fields to human reproduction: What information is in the scientific literature? Fertility and Sterility 53: 185, 1990.

5. **Jauchem JR**. No cancer link. Nature 347: 418, 1990.

6. **Jauchem JR**. Electromagnetic fields: Is there really a danger? The Lancet 336: 884, 1990.

7. **Jauchem JR**. Electromagnetic fields and cancer. Science 250: 739, 1990.

8. **Jauchem JR**. Electromagnetic fields and cancer in children: A scientific fact? Western Journal of Medicine 154: 228, 1991.

9. **Jauchem JR**. Electromagnetic fields and reproduction: Further evidence against an association. Fertility and Sterility 56: 375-376, 1991.

10. **Jauchem JR**. Electromagnetic fields and cancer: Epidemiologic studies. American Journal of Public Health 82: 897-898, 1992.

11. **Jauchem JR**. Re: "Occupational exposure to electromagnetic fields and breast cancer in men." American Journal of Epidemiology 135: 1423-1424, 1992.

12. **Jauchem JR**. Electric power and breast cancer. The FASEB Journal 6: 3016, 1992.

13. **Jauchem JR**. Electromagnetic fields and cancer: Incorrect citations. Occupational and Environmental Medicine 54: 359-360, 1997.

14. **Jauchem JR**. Reply to Letter to the Editor on "Radial Arm Maze Performance of Rats Following Repeated Low Level Microwave Radiation Exposure" [Bioelectromagnetics 25:49-57 (2004)]. Bioelectromagnetics 26: 525, 2005.

15. **Jauchem JR**. Reply to Letter to the Editor. Re: Acidosis, lactate, electrolytes, muscle enzymes, and other factors in the flood of *Sus scrofa* following repeated TASER® exposures. Forensic Science International 168: e19, 2007.

16. **Jauchem JR**. Author's response to: "Commentary on: Increased hematocrit after applications of conducted energy weapons (including TASER® devices) to *Sus scrofa*. J Forensic Sci 2011;56 (S1): S229-33." Journal of Forensic Sciences, [Pathology and Biology section] 56: 1671-1672, 2011.

Other Letters to the Editor:

1. **Jauchem JR**. Brodeur misinformed on ELFs. Bulletin of the Atomic Scientists 46(9): 46, 1990.

2. **Jauchem JR**. Video terminal hazards. Chemical & Engineering News 68(48): 54, 1990.

3. **Jauchem JR**. Video display terminals. Chemical & Engineering News 69(32): 2, 1991.

Meeting Abstracts:

1. **Jauchem JR**, Vick RL. Exchange of potassium in liver and gut during intraportal infusion of phenylephrine. Federation Proceedings 36:949, 1977.

2. **Jauchem JR**, Vick RL. Kalemotropic effects of isoproterenol infused into the portal vein. Federation Proceedings 37:683, 1978.

3. **Jauchem JR**, Miller FN, Joshua IG, Wiegman DL, Nolph KD, Rubin J, Harris PD. Mechanisms of dilation due to peritoneal dialysis solutions: Studies of the rat microvasculature. Physiologist 21:59, 1978.

4. **Jauchem JR**, Miller FN, Wiegman DL, Joshua IG, Harris PD. Sodium acetate-induced relaxation of mesenteric arterial rings. Federation Proceedings 38:1244, 1979.

5. Wilmoth FR, Miller FN, Harris PD, **Jauchem JR**, Joshua IG, Wiegman DL. In vivo responses of small arteries, veins, and arterioles to serotonin. Federation Proceedings 38:1194, 1979.

6. Miller FN, Wiegman DL, Joshua IG, **Jauchem JR**, Harris PD. Effects of vasodilators on vessels in the mesothelial surface of the rat cecum. Microvascular Research 17:S102, 1979.

7. Wiegman DL, Hoelscher JA, Miller FN, Joshua IG, Harris PD, **Jauchem JR**. Increased beta-adrenergic receptor sensitivity with exercise training in the rat. Microvascular Research 17:S21, 1979.

8. Joshua IG, Wiegman DL, Harris PD, Miller FN, **Jauchem JR**. Norepinephrine sensitivity of three levels of small arteries in the microcirculation of renovascular hypertensive rats. Microvascular Research 17:S61, 1979.

9. **Jauchem JR**, Miller FN, Wiegman DL, Joshua IG, Harris PD. Acetate and lactate-induced contraction and relaxation of the isolated mesenteric artery. Physiologist 22:63, 1979.

10. Schwartz CJ, Fine R, Kelley JL, Sprague EA, **Jauchem J**. Monocyte recruitment in the normal and atheromatous nonhuman primate aorta. Circulation 62 (Suppl. III):96, 1980.

11. **Jauchem JR**, Schwartz CJ, Sprague EA, Collins JF, Fine R. Conditioned media from smooth muscle cells increase monocyte migration. Federation Proceedings 40:335, 1981.

12. Friedman RN, **Jauchem JR**, Frei MR, Hubbard GD, Heinmets F. A potentially hazardous effect of high power, 2.8 GHz, pulsed microwave radiation. Physiologist 25:245, 1982.

13. **Jauchem JR**, Friedman RN, Frei MR, Heinmets F. Heart rate changes during intermittent exposure to pulsed and continuous wave microwave radiation. Physiologist 25:245, 1982.

14. Frei MR, Heinmets F, **Jauchem JR**, Friedman RN. Thermoregulatory efficiency of rats intermittently exposed to continuous wave radiofrequency radiation. Physiologist 25:245, 1982.

15. Fowler SR, **Jauchem JR**, Sprague EA, Kelley JL, Schwartz CJ. Vascular smooth muscle cell-derived chemotactic factor(s) for peripheral blood monocytes. Circulation 66 (Suppl. II):206, 1982.

16. Frei MR, Heinmets F, **Jauchem JR**. Thermal responses of rats intermittently exposed to 2.8, 5.6, and 9.3 GHz continuous wave and pulsed radiofrequency radiation. Proceedings of the 5th Annual Scientific Session of the Bioelectromagnetics Society, p. 75, 1983.

17. **Jauchem JR**, Frei MR, Heinmets F. Effect of average power level on heart rate changes due to 5.6 GHz radiofrequency radiation. Proceedings of the 5th Annual Scientific Session of the Bioelectromagnetics Society, p. 47, 1983.

18. **Jauchem JR**, Frei MR, Heinmets F. Effect of acute chlorpromazine administration on thermoregulation during radiofrequency irradiation. Proceedings of the 5th Annual Scientific Session of the Bioelectromagnetics Society, p. 76, 1983.

19. Frei MR, **Jauchem JR**, Heinmets F. Effects of continuous wave and pulsed radiofrequency radiation upon thermal responses in rats. Physiologist 26:A-78, 1983.

20. **Jauchem JR**, Frei MR, Heinmets F. Terminal exposure to radiofrequency radiation (RFR): Increased susceptibility due to chlorpromazine. Physiologist 26:A-78, 1983.

21. Frei MR, **Jauchem JR**, Heinmets F. Physiological effects of 2.8 GHz radiofrequency radiation: A comparison of pulsed and continuous waves. Proceedings of the 6th Annual Scientific Session of the Bioelectromagnetics Society, 1984.

22. Frei MR, Heinmets F, **Jauchem JR**. Physiological responses of rats intermittently exposed to 9.3 GHz continuous wave and pulsed radiofrequency radiation. Proceedings of the 7th Annual Scientific Session of the Bioelectromagnetics Society, p. 45, 1985.

23. Waligora JM, Horrigan DJ, Conkin J, **Jauchem JR**. The effect of multiple simulated extravehicular activity (EVA) decompressions over a 72-hour period on symptom and bubble incidence. Aviation, Space and Environmental Medicine 56:483, 1985.

24. **Jauchem JR**, Waligora JM, Conkin J, Horrigan DJ, Johnson PC. Blood changes following repetitive decompressions simulating extravehicular activity for 3 days. Aviation, Space and Environmental Medicine 56:484, 1985.

25. Webb JT, **Jauchem JR**, Smead KW, Waters JR. Fluid shifts during a simulated Shuttle launch profile as measured with impedance plethysmography. Aviation, Space and Environmental Medicine 57:493, 1986.

26. Frei MR, Heinmets F, **Jauchem JR**. Relationship between SAR and heat loss rate in rats intermittently exposed to supra-resonance RFR. Proceedings of the 9th Annual Scientific Session of the Bioelectromagnetics Society, p. 67, 1987.

27. Webb JT, Smead KW, **Jauchem JR**, Barnicott PT. Susceptibility to decompression-induced venous gas emboli: Hematology and biochemistry. Space Life Sciences Symposium Abstracts, Washington, DC, June 21-26, 1987, pp. 129-130.

28. **Jauchem JR**, Frei MR. Thermoregulatory responses of restrained vs ketamine-anesthetized rats exposed to 2.8-GHz radiofrequency radiation. Proceedings of the 10th Annual Scientific Session of the Bioelectromagnetics Society, p. 86, 1988.

29. Frei MR, **Jauchem JR**. Thermoregulatory responses of rats exposed in E and H orientation to 2.45-GHz radiofrequency radiation. Proceedings of the 10th Annual Scientific Session of the Bioelectromagnetics Society, p. 87, 1988.

30. **Jauchem JR**, Frei MR. Thermal and cardiovascular responses to 1200-MHz radiofrequency radiation: Differences between exposure in E and H orientation. Proceedings of the 11th Annual Scientific Session of the Bioeletromagnetics Society, 1989.

31. Frei MR, **Jauchem JR**. Orientation and frequency effects on cardiovascular responses of radiofequency irradiated rats. Proceedings of the 11th Annual Scientific Session of the Bioelectromagnetics Society, p. 69, 1989.

32. **Jauchem JR**, Frei MR. Metabolic rate in unanesthetized and ketamine-anesthetized rats exposed to 2450-MHz radiofrequency radiation. Proceedings of the 12th Annual Scientific Session of the Bioelectromagnetics Society, p. 89, 1990.

33. Frei MR, **Jauchem JR**, Welch M. Physiological effects of whole-body exposure to millimeter waves. Proceedings of the 12th Annual Scientific Session of the Bioelectromagnetics Society, p. 87, 1990.

34. Frei MR, **Jauchem JR**, Padilla JM, Price DL. Field orientation effects during 5.6-GHz radiofrequency irradiation of rats. Proceedings of the 12th Annual Scientific Session of the Bioelectromagnetics Society, p. 88, 1990.

35. Frei MR, **Jauchem JR**. Field orientation effects during 9.3 GHz radio-frequency irradiation of rats. Proceedings of the 13th Annual Scientific Session of the Bioelectromagnetics Society, p. 83, 1991.

36. Frei MR, **Jauchem JR**, Berger RE. Circulatory shock during superficial heating with millimeter waves. Physiologist 34:246, 1991.

37. Berger RE, Frei MR, **Jauchem JR**. Computer-based monitoring of thermoregulatory responses of anesthetized rats exposed to radiofrequency radiation. Physiologist 34:246, 1991.

38. Frei MR, Berger RE, **Jauchem JR**. Visceral vasodilation precedes circulatory shock during millimeter wave irradiation. Abstracts of the First World Congress for Electricity and Magnetism in Biology and Medicine, p. 153, 1992.

39. Ryan K, Frei MR, Berger RE, **Jauchem JR**. Pressor responses to nitric oxide inhibition in ketamine- and pentobarbital-anesthetized rats. FASEB Journal 7:A765, 1993.

40. Ryan K, Frei MR, Berger RE, **Jauchem JR**. Inhibition of nitric oxide synthesis during hypotension induced by 35-GHz radiofrequency irradiation of anesthetized rats. Proceedings of the Fifteenth Annual

Scientific Session of the Bioelectromagnetics Society, p. 160-161, 1993.

41. Wieser ES, Luong AU, Ryan KL, Frei MR, Berger RE, **Jauchem JR**. Chronic nitric oxide (NO) inhibition: Effects on hypotension induced by 35-GHz radiofrequency radiation (RFR) exposure. FASEB Journal 8:A593, 1994.

42. **Jauchem JR**, Frei MR. Cardiovascular and respiratory changes during microwave-induced lethal heat stress and beta-adrenergic blockade. Proceedings of the Sixteenth Annual Scientific Session of the Bioelectromagnetics Society, p. 149, 1994.

43. Frei MR, Ryan KL, **Jauchem JR**. Cardiovascular and thermal effects of radiofrequency irradiation at 1 GHz, 10 GHz, and combined 1 and 10 GHz in anesthetized rats. Proceedings of the Sixteenth Annual Scientific Session of the Bioelectromagnetics Society, p. 149, 1994.

44. Lovelace JD, Jones M, Orbegoso JT, Ryan KL, Frei MR, Berger RE, **Jauchem JR**. Effects of nitric oxide (NO) administration on hypotension induced by 35-GHz radiofrequency radiation (RFR) exposure. FASEB Journal 9:A26, 1995.

45. **Jauchem JR**, Frei MR, Ryan KL, Murphy MR. High-peak-power pulses from TEMPO and ultrawideband sources: Heart rate and blood pressure responses in rats. Proceedings of the 17th Annual Scientific Session of the Bioelectromagnetics Society, p. 151-152, 1995. (Also in Abstracts of the First Symposium of the Center for Environmental Radiation Toxicology, University of Texas Health Science Center at San Antonio, September 1995)

46. Frei MR, Berger RE, **Jauchem JR**, Merritt JH. Chronic exposure of cancer-prone mice to low-level 2450-MHz radiofrequency radiation. Proceedings of the 17th Annual Scientific Session of the Bioelectromagnetics Society, p. 109-110, 1995. (Also in Abstracts of the First Symposium of the Center for Environmental Radiation Toxicology, University of Texas Health Science Center at San Antonio, September 1995)

47. Ryan KL, Lovelace JD, Frei MR, Berger RE, **Jauchem JR**. Cardiovascular and thermal effects of 94-GHz irradiation in rats. Proceedings of the 17th Annual Scientific Session of the Bioelectromagnetics Society, p. 193-194, 1995. (Also in Abstracts of the First Symposium of the Center for Environmental Radiation Toxicology, University of Texas Health Science Center at San Antonio, September 1995)

48. **Jauchem JR**, Ryan KL, Lovelace JD, Frei MR. Lethal heat stress induced by 35-GHz microwaves: Effects of β_1-adrenergic blockade with esmolol. FASEB Journal 10:A119, 1996.

49. Ryan KL, Walters TJ, Tehrany MR, **Jauchem JR**. Age does not affect thermal and cardiovascular responses to 35-GHz microwave heating. FASEB Journal 10:A119, 1996.

50. Skitek EB, Reddy S, Ryan KL, Tehrany MR, Frei MR, **Jauchem JR**. Inhibition of platelet-activating factor (PAF) during hypotension induced by 35-GHz microwave heating. FASEB Journal 10:A119, 1996.

51. **Jauchem JR**, Frei MR, Ryan KL, Merritt JH, Murphy MR. Cardiovascular responses to radiofrequency radiation. Aviation, Space and Environmental Medicine 67:690, 1996.

52. Frei MR, Berger RE, Dusch SJ, Guel V, **Jauchem JR**, Merritt JH, Stedham MA. Long-term exposure of cancer-prone mice to low-level 2450-MHz radiofrequency radiation. Aviation, Space and Environmental Medicine 67:690, 1996.

53. **Jauchem JR**, Frei MR. Decreased survival time during 2450-Mhz microwave exposure and alpha-adrenergic blockade with tolazoline: Relation to heart rate and rate of temperature change. Proceedings

of the Eighteenth Annual Scientific Session of the Bioelectromagnetics Society, p. 232, 1996.

54. Ryan KL, Tehrany MR, Trotter RW, Escarciga R, Frei MR, **Jauchem JR**. Lethal heat stress induced by sustained 35-GHz radiofrequency radiation (RFR) exposure: Pathophysiological alterations. Proceedings of the Eighteenth Annual Scientific Session of the Bioelectromagnetics Society, p. 232-233, 1996.

55. Dooley MP, Cobb BL, Merritt JH, **Jauchem JR**. Development of rat embryos exposed to an ultrawideband (UWB) electromagnetic field. Proceedings of the Eighteenth Annual Scientific Session of the Bioelectromagnetics Society, p. 30, 1996.

56. Cobb BL, Mason PA, Miller SA, Kosub KR, **Jauchem JR**, Murphy MR. A teratologic study of ultrawideband electromagnetic field exposure. Proceedings of the Eighteenth Annual Scientific Session of the Bioelectromagnetics Society, p. 259, 1996.

57. Cobb BL, Mason PA, Miller SA, Kosub KR, **Jauchem JR**, Murphy MR. Behavioral and neural teratology of ultrawideband electromagnetic fields: A pilot study. Abstracts of the Second Symposium of the Center for Environmental Radiation Toxicology, University of Texas Health Science Center at San Antonio, Sept 19, 1996.

58. Ryan KL, Tehrany MR, Trotter RW, Escarciga R, Frei MR, **Jauchem JR**. Lethal heat stress induced by sustained 35-GHz radiofrequency radiation (RFR) exposure: Pathophysiological alterations. Abstracts of the Second Symposium of the Center for Environmental Radiation Toxicology, University of Texas Health Science Center at San Antonio, Sept 19, 1996.

59. Vijayalaxmi, Frei MR, Dusch SJ, Guel V, Meltz ML, **Jauchem JR**. Frequency of micronuclei in the peripheral blood and bonemarrow of cancer-prone mice chronically exposed to 2450-MHz radiofrequency radiation. Proceedings of International Conference on Radiation and Health, Beersheav, Israel, 2-8 November 1996.

60. Ryan KL, Tehrany MR, Frei MR, **Jauchem JR**. Histamine receptor blockade does not alter hypotension induced by 35-GHz microwave heating. FASEB Journal 11:A88, 1997.

61. Tehrany MR, Ryan KL, Frei MR, **Jauchem JR**. Effects of nitric oxide (NO) synthesis inhibition on hypotension induced by environmental heating (EH). FASEB Journal 11:A88, 1997.

62. Merritt JH, **Jauchem JR**. Alteration of the blood-brain barrier by microwave-induced hyperthermia. Proceedings of the Second World Congress for Electricity and Magnetism in Biology and Medicine, 1997.

63. Ryan KL, Frei MR, **Jauchem JR**. Circulatory failure resulting from sustained millimeter wave (MMW) irradiation. Abstracts of Fourth Annual Michaelson Research Conference, Canandaigua, New York, 15-18 August1997.

64. Vijayalaxmi, Frei MR, **Jauchem JR**, Meltz ML. Frequency of micronuclei in the bone marrow of cancer-prone mice chronically exposed to 2450-MHz microwave radiation. Abstracts of Fourth Annual Michaelson Research Conference, Canandaigua, New York, 15-18 August1997.

65. Dooley MP, Merritt JH, **Jauchem JR**, Murphy MR. Determination of the influence of ultrawideband exposure of rats during early pregnancy rate, embryonic survival to term, and sex ratio of offspring. Abstracts of Fourth International Symposium on Biologically Closed Electric Circuits in Biomedicine, Bloomington, Minnesota, 26-29 October 1997.

66. Ryan KL, Mahajan K, Lehnert HM, Tehrany MR, **Jauchem JR**, Mason PA. Brain c-fos induced by

35-GHz microwave heating, environmental heating, and cutaneous noxious thermal stimulation. FASEB Journal 12:A120, 1998.

67. **Jauchem JR**, Seaman RL, Lehnert HM, Mathur SP, Ryan KL, Frei MR. Exposures of rats to ultra-wideband electromagnetic pulses: Lack of effects on heart rate and blood pressure. Proceedings of the Twentieth Annual Scientific Session of the Bioelectromagnetics Society, p. 121, 1998.

68. Ryan KL, Mahajan K, Lehnert HM, Scholin TL, Tehrany MR, **Jauchem JR**, Mason PA. Brain c-fos induced by 35-GHz radiofrequency radiation (RFR) exposure in ketamine- and pentobarbital-anesthetized rats. Proceedings of the Twentieth Annual Scientific Session of the Bioelectromagnetics Society, p. 225, 1998.

69. Ryan KL, Mahajan K, Lehnert HM, Tehrany MR, **Jauchem JR**, Mason PA. Brain c-fos induced by 35-GHz microwave heating, environmental heating, and cutaneous noxious thermal stimulation. Abstracts of the Fourth Symposium of the Center for Environmental Radiation Toxicology, University of Texas Health Science Center at San Antonio, Oct 2, 1998.

70. Ryan KL, Frei MR, and **Jauchem JR**. Circulatory failure resulting from localized skin heating. Journal of Burn Care and Rehabilitation 19:S201, 1998.

71. Dooley MP, Hurt WR, Merritt JH, **Jauchem JR**, and Walters TJ. Exposure of female rats to a 35 GHz electromagnetic field on day 1 of gestation does not alter pregnancy recognition, implantation rate, or embryonic and fetal survival to term. Proceedings of the Twenty-first Annual Scientific Session of the Bioelectromagnetics Society, p. 26, 1999.

72. Ryan KL, Walters TJ, D'Andrea J, **Jauchem JR**, and Mason PA. Radio frequency radiation of millimeter wave length: Potential occupational safety issues relating to surface heating. Proceedings of the Twenty-second Annual Scientific Session of the Bioelectromagnetics Society, p. 208, 2000.

73. **Jauchem JR**, Frei MR, Ryan KL, Kovatch RM. Repeated exposure of C3H/HeJ mice to ultra-wideband electromagnetic pulses: No effects on mammary tumors. Proceedings of the Twenty-third Annual Scientific Session of the Bioelectromagnetics Society, p. 122, 2001.

74. Dick EJ Jr, Mason PA, Walters TJ, DiGiovanni J, Beason CW, **Jauchem JR**, Barshay A, Mahajan K, Dusch SJ, Shields BA, Merritt JH, Adair EH, Murphy MR, and Ryan KL. Lack of effect of 94-GHz radio frequency radiation exposure in an animal model of skin carcinogenesis. Annual Meeting of the American College of Veterinary Pathologists and the American Society for Veterinary Clinical Pathology, Salt Lake City, Utah, 1-5 December 2001.

75. **Jauchem JR**. Experimental studies relevant to PAVE PAWS. Abstracts of Eighth Annual Michaelson Research Conference, Kalispell, Montana, 15-18 August 2001.

76. Laughrey MS, Grayson JK, **Jauchem JR**, Misener AE. Radio frequency radiation exposure of the F-15 crewmember. Aviation, Space and Environmental Medicine 74:374, 2003.

77. Seaman RL, **Jauchem JR**, Mathur SP, Phinney AM, Ashmore JL. Lack of change in temporal characteristics of the rat ECG during exposure to ultra-wideband pulses. Abstracts of the Third International Symposium on Non-Thermal Medical/Biological Treatments Using Electromagnetic Fields and Ionized Gases, San Antonio, Texas, 11-13 June, 2003, pp. 123-124.

78. **Jauchem JR**, Sherry CJ, Cook MC, Brown GC, Merritt JH, Murphy MR. The potential use of high-intensity acoustics for non-lethal applications. Fifth Annual Non-Lethal Technology and Academic Research Symposium, Arlington, Virginia, 5 November 2003.

79. Seaman RL, **Jauchem JR**. Heart rate variability in rats exposed to ultra-wideband pulses. Proceedings of the Twenty-eighth Annual Scientific Session of the Bioelectromagnetics Society, 2006.

National Institutes of Health Review Publications:

1. **Jauchem JR**. Advances in treatment of the Marfan syndrome. Research Resources Reporter 10(8):1-4, 1986.

2. **Jauchem JR**. Effects of agonists and antagonists on the density of beta-adrenergic receptors. Research Resources Reporter 10(9):9-10, 1986.

3. **Jauchem JR**. Structural comparisons of cardiac glycosides. Research Resources Reporter 10(9):10-12, 1986.

4. Hyde B, **Jauchem JR**. Drug holidays of limited use for most Parkinson's patients. Research Resources Reporter 10(10):1-4, 1986.

5. **Jauchem J**. Methods for culturing Myxicola infundibulum. Research Resources Reporter 10(12):12-13, 1986.

6. **Jauchem JR**. Research in prevention of sudden cardiac death. Research Resources Reporter 10(12):1-5, 1986.

7. **Jauchem JR**. Research explores binding of antiviral agents to cold viruses. Research Resources Reporter 11(1):6-7, 1987.

8. **Jauchem JR**. Preventing low blood pressure in patients with autonomic neuropathy. Research Resources Reporter 11(4):8, 1987.

9. **Jauchem J**. Science programs for minority students. Research Resources Reporter 11(6):7-8, 1987.

10. **Jauchem JR**. Effect of lidocaine and bretylium on defibrillation threshold. Research Resources Reporter 11(6):12, 1987.

Additional Invited Presentations 1983-2008 (partial list of examples):

"Terminal exposure to 5.6 GHz microwaves: A comparison of continuous wave and pulsed radiation." Aerospace Medical Association (Houston, TX, 15 May 1983).

"Cardiovascular responses to high power microwaves." National Conference on High Power Microwave Technology for Defense Applications (Monterey, California, 9-13 May 1988).

"Cardiovascular responses to radiofrequency radiation." NATO Advanced Research Workshop on Developing a New Standardization Agreement for Radiofrequency Radiation (Pratica di Mare Air Force Base, Rome, Italy, 17 May 1993).

"Ultrawideband microwave pulses: Effects on the cardiovascular system." National Conference on High Power Microwave Technology (Monterey, California, 2 November 1994).

"Visceral vasodilation precedes circulatory shock during millimeter wave irradiation." National Conference

on High Power Microwave Technology (Monterey, California, 3 November 1994).

"Long-term studies of laboratory animals exposed to radiofrequency radiation." Electromagnetic Energy Association (Washington, DC, 8 May 1995).

"Tri-Service Microwave Bio-Effects Activities." Presented to Director of Science & Technology (Major General), Air Force Materiel Command (San Antonio, TX, 6 Dec. 1995).

"Ultra-wideband Pulses: Health and Safety." U.S. Air Force Advisory Board (Brooks AFB, TX, 15 Feb. 1996).

"New World Vistas Program in Cognitive Neuroscience." U.S. Air Force Armstrong Laboratory Chief Scientist (San Antonio, TX, 19 July 1996).

"Limited Effects Technology Program." Defense Advanced Research Projects Agency (Arlington, VA, 11 Aug. 1996).

"Acoustics Program Review." Close Combat Armaments Division, U.S. Army Armament Research, Development & Engineering Center (Picatinny Arsenal, NJ, 14 Nov. 1996).

"Acoustics Bio-Effects Update." U.S. Army Armament Research, Development & Engineering Center (Picatinny Arsenal, NJ, 11 Feb. 1997).

"Infrasound Bio-Effects." U.S. Army Center for Health Promotion & Preventive Medicine (Picatinny Arsenal, NJ, 13 Mar. 1997).

"Combustion-Driven Acoustic Siren Bio-Effects." Joint Non-Lethal Weapons Directorate (Kirtland Air Force Base, NM, 14 Apr. 1997).

"Dismounted Battle Space Battlefield Laboratory Acoustic Siren." U.S. Army Research Laboratory (San Antonio, TX, 22 May 1997).

"Pulsed Acoustic Device." U.S. Marine Corps Non-Lethal Coordinating Cell (Brooks AFB, TX, 26 June 1998).

"Indoor Acoustics Applications." Naval Air Warfare Center Weapons Division (China Lake, CA, 6 Aug. 1997).

"High-Power Acoustics System Tests." U.S. Army Armament Research, Development & Engineering Center (Picatinny Arsenal, NJ, 11 Nov. 1997).

"High-Power Acoustics Effects." U.S. Army Armament Research, Development & Engineering Center (Picatinny Arsenal, NJ, 2 Dec. 1997).

"Non-Lethal Acoustics Effects." U.S. Army Armament Munitions & Chemical Command (San Antonio, TX, 10 Dec. 1997).

"Outdoor Acoustic Range Design." U.S. Air Force Human Systems Center (San Antonio, TX, 12 Dec. 1997).

"Management of Electromagnetic Energy Issues." Electromagnetic Energy Association (San Antonio, TX, 29 Jan. 1998).

"Acoustics Bio-Effects Research at Brooks AFB." Joint Non-Lethal Weapons Program Director's Review (Picatinny Arsenal, NJ, 12 Feb. 1998).

"High-Power Acoustics Sources." U.S. Army Armament Research, Development & Engineering Center (Brooks AFB, TX, 3 Mar. 1998).

"Experimental Acoustic Devices." Access Delay Technology Department, Sandia National Laboratories (Albuquerque, NM, 20 Apr. 1998).

"Acoustics Effects on Biological Tissues." U.S. Army Armament Research, Development & Engineering Center (Picatinny Arsenal, NJ, 2 June 1998).

"Biological Effects of Ultra-Wideband Exposures." Bioelectromagnetics Society, U.S. Air Force Workshop (St. Petersburg Beach, FL, 7 June 1998).

"Radio-Frequency Radiation Bioeffects: Results of Ultra-Wideband Studies." Department of Defense Technology Panel for Directed Energy Weapons (Arlington, VA, 16 June 1998).

"Outdoor High-Power Acoustics Effects." U.S. Army Academy of Health Sciences (Fort Sam Houston, TX, 6 July 1998).

"Environmental Assessment of Acoustics Test Fixture." U.S. Air Force Center for Environmental Excellence (San Antonio, TX, 13 July 1998).

"Radio-Frequency Protection for Personnel." Shipboard Electromagnetic Effects Branch, Naval Surface Warfare Center (San Antonio, TX, 23 July 1998).

"Scientist of the Year Award Acceptance." Air Force Association (San Angelo, TX, 17 July 1998).

"Bio-Effects of Radio-Frequency Radiation." Residency in Aerospace Medicine, U.S.A.F. School of Aerospace Medicine (San Antonio, TX, 4 Aug. 1998).

"Environmental Assessment of Infrasound Facility." U.S. Department of Justice (Washington, DC, 8 Sept. 1998).

"Progress on Acoustics Use in Hostage Rescue Scenarios." National Institute of Justice Joint Program Steering Group (Arlington, VA, 4 Nov. 1998).

"Acoustics Program 1998 Update." Human Effects Advisory Panel, Joint Non-Lethal Weapons Directorate (Picatinny Arsenal, NJ, 6 Nov. 1998).

"Ultra-wideband Pulses: Recent Advances in Bioeffects." United Kingdom-United States Bioeffects Data Exchange Group (San Antonio, TX, 18 Nov. 1998).

"High-intensity Acoustics for Non-lethal Applications." National Institute of Justice Joint Program Steering Group (Arlington, VA, 16 Sept. 1999).

"High-Power Infrasound Biological Experiments." U.S. Army Armament Research, Development & Engineering Center (Brooks AFB, TX, 3 Feb. 1999).

"NIJ Acoustics Program Summary." National Institute of Justice (Washington, DC, 12 Aug. 1999).

"Modeling of Multi-Frequency Microwave Exposures." Mathematical Products Branch, U.S. Air Force

Research Laboratory (Brooks AFB, TX, 19 Aug. 1999).

"Non-Lethal Acoustics Test Program." U.S. Army Armament Research, Development & Engineering Center (Brooks AFB, TX, 26 Aug. 1999).

"Indoor Acoustics Operations." Systems Planning Corporation and Betac Corporation (Arlington, VA, 18 Sept. 1999).

"Epidemiological Studies of Electromagnetic Field Exposures." Johns Hopkins University School of Public Health (Baltimore, MD, 4 Dec. 1999).

"Electromagnetic Field Exposure Guidelines and Safety: Focus on Magnetic Resonance Imaging." University of Texas Health Science Center (San Antonio, TX, 11 Dec. 1999).

"Potential Health Effects of Radio-Frequency Energy." Deputy Assistant Secretary of the Air Force for Environment, Safety & Occupational Health (San Antonio, TX, 12 Jan. 2000).

"Research at the Radio-Frequency Radiation Branch." European Office of Aerospace Research & Development (San Antonio, TX, 19 Jan. 2000).

"Long-Term Experimental Studies of Cancer." Joint Program Office, Massachusetts Military Reservation (Bourne, MA, 8 May 2000).

"Epidemiological Studies of Radio-Frequency Radiation." U.S. Air Force Space Command (Sandwich, MA, 10 May 2000).

"Biological Effects of Microwaves." Commander (Brigadier General), 21st Space Wing (Falmouth, MA, 15 May 2000).

"Reproductive System Effects of Radio-Frequency Radiation." Cape Cod Citizens, Radar Service Life Extension Program Scoping Meeting (Mashpee, MA, 16 May 2000).

"Current Programs on Radio-Frequency Radiation." Air Force Research Laboratory, Plans & Programs Directorate (Brooks AFB, TX, 7 June 2000).

"Less-Than-Lethal TASER® Technology." U.S. Department of Justice Policy Assessment Liability Panel (Washington, DC, 20 June 2000).

"Research Relevant to the Phased Array Warning System." Cape Cod Citizens, Radar Service Life Extension Program Scoping Meeting (Sandwich, MA, 15 Aug. 2000).

"Effects of Radio-Frequency Radiation on Cancer." Cape Cod Citizens, Radar Service Life Extension Program Scoping Meeting (Woods Hole, MA, 16 Aug. 2000).

"Cardiovascular Effects of Radio-Frequency Radiation." Cape Cod Citizens, Radar Service Life Extension Program Scoping Meeting (Marston Mills, MA, 18 Aug. 2000).

"Magnetic Resonance Imaging Safety." Radiobiology Course (Non-Ionizing Radiation Section), University of Texas Health Science (San Antonio, TX, 14 Nov. 2000).

"Non-Ionizing Radiation: Cardiovascular Research." Radiobiology Course (Non-Ionizing Radiation Section), University of Texas Health Science (San Antonio, TX, 14 Nov. 2000).

"Use of Animal Models to Study Cancer and Radar." Deputy Assistant Secretary of the Air Force for Environment, Safety & Occupational Health (Brooks AFB, TX, 14 Dec. 2000).

"Studies of Radio-Frequency Radiation and Breast Cancer." Chief, Environmental Division, Air Force Space Command (Colorado Springs, CO, 18 Jan. 2001).

"Potential Carcinogenic Effects of Microwaves." Vice Commander (Lieutenant General), Air Force Space Command (Colorado Springs, CO, 6 Feb. 2001).

"Radio-Frequency Energy Bio-Effects." Public Meeting of Cape Cod Civic Leaders (Colorado Springs, CO, 7 Feb. 2001).

Animal Models to Study Brain Tumors and Breast Cancer." Chief, Bioenvironmental Engineering, Office of Command Surgeon, Air Force Space Command (Brooks AFB, TX, 26 June 2001).

"Pathophysiology." Tri-Service Non-Lethal Weapons/Directed Energy Casualty Care Working Group (Brooks AFB, TX, 6 December 2001).

"Air Force Bio-Effects Studies in Direct Support of PAVE PAWS Radar." Deputy Assistant Secretary of the Air Force for Installations (Pentagon, Arlington, VA, 14 Mar. 2002).

"Air Force Bio-Effects Studies Relevant to the PAVE PAWS Radar." National Academy of Sciences (Washington, DC, 15 Mar. 2002).

"Exposure to Radio-Frequency Emitters." Director, Environmental Health Services Jefferson County (Colorado) Department of Health & Environment (Brooks FAFB, TX, 10 Apr. 2002).

"FPS-115 Phased Array Radar System." Armed Forces Epidemiology Board (Brooks AFB, TX, 17 Apr. 2002).

"Health and Safety Issues of the Operation of the PAVE PAWS Radar." National Research Council Review Committee (Brooks AFB, TX, 25 Apr. 2002).

"Biological Studies of Radio-Frequency Radiation." Commander, 7th Space Warning Squadron (Beale AFB, CA, 29 July 2002).

"Non-Lethal Acoustics." NATO Research and Technology Organization, Human Factors and Medicine Panel Technology Group on the Human Effects of Non-Lethal Technologies (Brooks AFB, TX, 14 Nov. 2002).

"Electro-Muscular Incapacitation Devices, Human Effects Research." Naval Research Laboratory (San Antonio, TX, 23 Apr. 2003).

"Ultra-wideband Radio-Frequency Bio-Effects Research." Naval Air Warfare Center Weapons Division (China Lake, CA, 29 Apr. 2003).

"Support of Environmental Impact Statement for PAVE PAWS Radar." Earth Tech, Inc. (San Antonio, TX, 18 June 2003).

"Radio-Frequency Radiation During Pilot Training Missions." Residency in Aerospace Medicine, U.S.A.F. School of Aerospace Medicine (Brooks AFB, TX, 21 Jan. 2003).

"High-Intensity Acoustics for Non-Lethal Applications." Non-Lethal Technology Innovation Center

(University of New Hampshire, 6 Nov. 2003).

"Magnetic Resonance Imaging: Safety Issues." Radiobiology Course (Non-Ionizing Radiation Section), University of Texas Health Science (San Antonio, TX, 17 Nov. 2003).

"Epidemiology of Radio-Frequency Radiation Exposures." Radiobiology Course (Non-Ionizing Radiation Section), University of Texas Health Science (San Antonio, TX, 17 Nov. 2003).

“Data Assessment Regarding Injury and Effectiveness of Electro-Muscular Disruptor Devices.” U.S. Marine Corps Joint Non-Lethal Weapons Directorate (Brooks City-Base, TX, 23 Jan. 2004).

“TASER®-like Devices for Non-Lethal Applications.” Defense Advanced Research Projects Agency Advisory Panel (Arlington, VA, 6 May 2004).

“Quarterly Director’s Review.” U.S. Marine Corps Joint Non-Lethal Weapons Directorate (Quantico, VA, 22 July 2004).

“Review of Directed Energy Technology.” KARTA Technologies (San Antonio, TX, 30 July 2004).

“Data Assessment Regarding Injury and Effectiveness of Electro-Muscular Disruptor Devices.” U.S. Marine Corps Joint Non-Lethal Weapons Directorate (Brooks City-Base, TX, 23 Jan. 2004).

“Update on Radio-Frequency Energy Research.” European Office of Aerospace Research & Development (San Antonio, TX, 17 Sept. 2004).

“Directed Energy and Non-Lethal Research at the Radio-Frequency Radiation Division.” U.S. Air Force Safety Center (Albuquerque, NM, 23 Sept. 2004).

“Parametric assessment of waveform characteristics and electrode placement/separation.” Joint Non-Lethal Weapons Directorate Health Effects Advisory Panel (Arlington, VA, 15 Dec. 2004).

“Future Capabilities of Electro-Muscular Disruptor Devices.” Briefing to Chief Scientist, Materials Directorate, Air Force Research Laboratory (Brooks City-Base, TX, 2 Feb. 2005).

“Studies of Muscle Contraction and Blood Factors in Animals Exposed to Electromuscular Incapacitating Devices." Bioelectromagnetics Society Winter Workshop: Exploring the Boundaries of Electromagnetic Field Intervention Techniques (Tempe, AZ, 3 Feb. 2006).

“Effects of Electronic Control Devices.” European Office of Aerospace Research & Development, U.S. Air Force (Brooks City-Base, TX, 21 Feb. 2006).

“Radio-Frequency Radiation Bioeffects.” Radiation Safety Officer Course (Brooks City-Base, TX, 6 Mar. 2006).

“Electronic Control Devices.” Director, Advanced Concepts Group, Sandia National Laboratories (Albuquerque, NM, 20 Mar. 2006).

“Radio-Frequency Radiation Human Exposure Assessment and Weapon Design Parameters.” 2006 Human SystemsTechnology Area Evaluation Conference, Department of Defense (Office of Naval Research, Arlington, VA, 29 Mar. 2006).

“Radio-Frequency Radiation Bio-Effects Research at the Air Force Research Laboratory.” 2006 Department of Defense Electromagnetic Environmental Effects Review (Orlando, FL, 6 Apr. 2006).

"Electromuscular Incapacitation: Historical Perspective." Human Electromuscular Incapacitation Conference (Quantico, VA, 18 Apr. 2006).

"The Use of Acoustics or Electromuscular Disruption Devices as Non-Lethal Weapons." Institute for National Security Studies, U.S. Air Force Academy (Colorado Springs, CO, 4 May 2006).

"Recent Studies of Electromuscular Incapacitation." Principal Investigators' Meeting, University of Chicago (Chicago, IL, 24 Oct. 2006).

"Radio-Frequency Radiation Bioeffects." Radiation Safety Officer Course (Brooks City-Base, TX, 30 Oct. 2006).

"Biological Effects of Radio-Frequency Radiation." Radiation Safety Officer Course (U.S. Air Force School of Aerospace Medicine, TX, 15 May 2007).

"Parametric Studies of Electromuscular Incapacitation Waveforms." Principal Investigators' Meeting, Man-Tech Corporation (San Antonio, TX, 21 Aug. 2007).

"Update of Human Electro-Muscular Disruption Program." Human Effects Advisory Panel, Joint Non-Lethal Weapons Directorate (Arlington, VA, 11 Dec. 2007).

"Electronic Control Devices." Air Force Research Directorate Information Exchange (San Antonio, TX, 24 Jan. 2008).

"Health Risks of Radiofrequency Radiation Exposure." Bioenvironmental Engineering Officer's Course (U.S. Air Force School of Aerospace Medicine (Brooks City-Base, TX, 26 Feb. 2008).

"Electro-Muscular Incapacitation Devices." Directed Energy Bio-Effects Internal Scientific Advisory Board Review (San Antonio, TX, 1 July 2008).

"Radio-Frequency Radiation Bioeffects." Radiation Safety Officer Course (Brooks City-Base, TX, 29 July 2008).

"Electro-Muscular Incapacitation." UK/US Novel Effects Behavioral Workshop for Special Projects, United Kingdom Ministry of Defence (London, United Kingdom, 3 Sept. 2008).

"Electronic Control Devices." Security Forces Squadron, 48th Fighter Wing, U.S. Air Forces in Europe (Royal Air Force Lakenheath, United Kingdom, 4 Sept. 2008).

"Physiological Responses of Repeated Exposures to TASER® Devices." Meeting of the Medical Panel, Committee for the Study of Deaths Following Electro-Muscular Disruption, National Institute of Justice (Baltimore, MD, 13 Nov. 2008).

"Electro-Muscular Incapacitation Experiments." Briefing to Federal Bureau of Investigation (Brooks City-Base, TX, 12 July 2010).

"Update on Radio-Frequency Radiation Bio-Effects Research at the Air Force Research Laboratory." Electric Power Research Institute, Electromagnetic Field & Radio-Frequency Area Council (Palo Alto, CA, 28 Sept. 2010).

"Electro-Muscular Incapacitation Effects." U.S. Marine Corps (Fort Sam Houston, TX, 5 Aug. 2013).

(Site of presentation or location of organization in parentheses)

Unpublished Reports (partial list): (co-author on each)

1. "Thermal and Physiological Responses of Rats Exposed to Radiofrequency Radiation." Final Report (Air Force Contract No. F33615-87-C-0612). Operational Technologies Corporation, San Antonio, Texas, 15 February 1992.

2. "Physiological and Behavioral Effects of Exposure to Infrasound." Report to the Defense Advanced Research Projects Agency, September 1996.

3. "An Outdoor Test of the Effects of High Intensity, Low Frequency Acoustic Energy Delivered by the Mobile Acoustic Source (MOAS) on Fluid Filled Organs in a Living Organism." Report to the U.S. Army Armament Research, Development, and Engineering Center and the Defense Advanced Research Projects Agency, January 1997.

4. "The Effects of Low Frequency Acoustic Energy Delivered by Subwoofer Audio Speakers on Fluid Filled Organs." Report to the U.S. Army Armament Research, Development & Engineering Center and the Defense Advanced Research Projects Agency, February 1997.

5. "The Apparent Resonant Frequency of the Urinary Bladder and the Rectum Elicited by Low Frequency Acoustic Energy Delivered by Subwoofer Audio Speakers." Report to the U.S. Army Armament Research, Development & Engineering Center and the Defense Advanced Research Projects Agency, February 1997.

6. "The Low and High Frequency Compressed Air Driven Siren (CADS): Intensity Measurements and Bioeffects." Report to the U.S. Army Armament Research, Development & Engineering Center and the Defense Advanced Research Projects Agency, July 1997.

7. "Dismounted Battlefield Laboratory Combustion Driven Acoustic Siren Outdoor Bioeffects Test." Report to the U.S. Army Armament Research, Development & Engineering Center and the Defense Advanced Research Projects Agency, July 1997.

8. "The Sequential-Arc Discharge Source: Preliminary Bioeffects and Physical Tests." Report to the U.S. Army Armament Research, Development & Engineering Center and the Defense Advanced Research Projects Agency, July 1997.

9. "A Preliminary Evaluation to determine if Acoustic Exposure can Alter the Rhythm of the Upper Gastrointestinal Tract. Report to the U.S. Army Armament Research, Development & Engineering Center and the Defense Advanced Research Projects Agency, October 1997.

10. "Biological Effects of High Intensity Acoustic Energy." Report to the U.S. Army Armament Research, Development & Engineering Center and the Defense Advanced Research Projects Agency, January 1998.

11. "A Preliminary Report on the Effects of High Intensity Impulsive Energy on Fluid Filled Organs." Report to the U.S. Army Armament Research, Development & Engineering Center and the Defense Advanced Research Projects Agency, July 1998.

12. "Effects of High Intensity Continuous Wave Acoustic Energy in the Low Sonic Range on the Conscious Pig." Report to the U.S. Army Armament Research, Development & Engineering Center, September 1998.

13. “Biological Effects of High Intensity Acoustic Energy II.” Report to the U.S. Army Armament Research, Development & Engineering Center, December 1998.

14. “A Preliminary Evaluation of the Responsiveness of Domestic Goats (*Capra hiscus*) to Ultrasound.” Report to the U.S. Army Armament Research, Development & Engineering Center, August 1999.

15. “Characterization of the Gayl ‘Blaster’.” Report to the U.S. Army Armament Research, Development & Engineering Center, September 1999.

16. “A Preliminary Report of the Bio-Effects of the Gayl Blaster.” Report to the U.S. Army Armament Research, Development & Engineering Center, September 1999.

17. “The Infra-sound Test System (ITS): Effects of Infrasound on Non-human Primate Performance on Primate Equilibrium Platform Task.” Report to the U.S. Army Armament Research, Development & Engineering Center, September 1999.

18. “A Preliminary Evaluation of the Gayl Blaster in an Outdoor Environment: Safety and Bio-Effects.” Report to the U.S. Army Armament Research, Development & Engineering Center, September 1999.

19. “A Preliminary Evaluation of the Gayl Blaster in an Outdoor Environment with the Blaster in Its Handheld Configuration: Bio-Effects.” Report to the U.S. Army Armament Research, Development & Engineering Center, October 1999.

20. “A Final Evaluation of the Gayl Blaster in an Outdoor Environment with the Blaster in Its Handheld Configuration: Bio-Effects with New Signal Generator.” Report to the U.S. Army Armament Research, Development & Engineering Center, October 1999.

21. “A Preliminary Evaluation of Two Commercially Available Sirens.” Report to the U.S. Army Armament Research, Development & Engineering Center, January 2000.

22. “An Evaluation of the Sound Related Technologies Fluid Coupled Subwoofers.” Report to the U.S. Army Armament Research, Development & Engineering Center, January 2000.

23. “A Preliminary Evaluation of the Effects of Moderate Audible Continuous and Modulated Acoustic Energy on Eye Movements and Fixations and Whole Body Sway.” Report to the U.S. Army Armament Research, Development & Engineering Center, January 2000.

Additional Activities in Immediate Past Positions:

Project Manager on following contracts and inter-agency agreements:

“Autonomic Thermoregulation during Resonant Microwave Exposure,” John B. Pierce Foundation, Yale University (1991-1997)

“Chronic 2450-MHz Irradiation of Cancer-Prone Mice,” Southeastern Center for Electrical Engineering Education (1991-1993)

“Endpoints of Chronic Irradiation of Cancer-prone Mice,” Southeastern Center for Electrical Engineering Education (1994-1995)

“Physiological Causes of Cardiovascular Shock Produced by Millimeter Wave Irradiation,” Trinity University (1995-1996)

"Tumor Promotion in Mice Exposed to Low-Level [1 W/kg] Microwaves," Trinity University (1995-97)
"Bio-Effects of High-intensity Acoustic Energy," U.S. Army Armament Research, Development & Engineering Center (1996-1999)
"Animal to Human Extrapolation," Systems Research Laboratories (1996-97)
"Infrasound Technology," Inter-agency Agreement between U.S.A.F. Armstrong Laboratory and National Institute of Justice (1997-2000)
"Bio-Effects of Electronic Stun Projectiles," Inter-agency Agreement between U.S.Air Force Research Laboratory and National Institute of Justice (2001-2006)

Project Officer on following in-house projects:
Construction of New Research, Development, & Training Facility (1991-1993)
Construction of New Primate Housing Facility (1993-1994)
Bio-Effects of Ultra-wideband Electromagnetic Pulses (1994-1999)
Bio-Effects of Infrasound and Low-frequency Acoustics (1996-2000)
Comprehensive Radio-Frequency Radiation Safety Training Course, Air Force Safety Center (2000)
Bio-Effects of Non-Penetrating Projectiles (2000-2002)
Biological Effects of Radio-Frequency Radiation (included all of branch's in-house work) (1990-2003)
Effectiveness and Safety of Electro-Muscular Incapacitation Devices (1997-2014)

Additional activities:
Controlled Substance Monitor (1989-2003)
Mentor for Trinity University Honors Student Program (1989-1998)
Mentor for Air Force Graduate Student Research Program, Air Force Summer Faculty Program (1995-1997)
Liaison for Intelligence Production Requirements, Intelligence Division, Air Force 311th Human Systems Wing (1998)
Liaison with Technology Transfer Office, George C. Marshall Space Flight Center, National Aeronautics and Space Administration (1998)
Advisor, National Research Council Associateship Program (1999-2013)
Member, Brooks Air Force Base Institutional Animal Care and Use Committee (1999-2011)
Chairperson, Brooks AFB Institutional Animal Care and Use Committee (2000-2006)
Member, AFRL Crisis Action Team, Operation Noble Eagle and Operation Enduring Freedom (2002)
Consultant to the Commander, Brooks AFB, Technical Protection Plan (2002-2003)
Mentor, Residency in Aerospace Medicine, U.S.A.F. School of Aerospace Medicine (2001-2003)
Member, Technical Protection Plan Integrated Product Team, Air Force Research Laboratory Headquarters (2003)
Acting Chief, Radio Frequency Radiation Branch (occasional periods, 2000-2014)
Member, Oversight Team, Expeditionary Medical Support Course (2002-2012)
Head, Directed Energy Integrated Research Team (2003-2008)
Member, Health & Safety Integrated Research Team (2003-2008)
Selected for Marine Corps Human Effects Advisory Board (2008)
Member, Department of Defense Base Realignment & Closure Facility Planning Team (2008-2012)
Member, Tri-Service Research Laboratory, Fort Sam Houston, Institutional Animal Care and Use Committee (2011-2014)
Member, Institute of Surgical Research, Brooke Army Medical Center, Institutional Animal Care and Use Committee (2013-2014)