

# *Curriculum Vitae*

## **JAMES BRADFORD BURCH**

### **BUSINESS ADDRESSES**

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### **EDUCATION**

- 1997      **Ph.D., Environmental Health (Specialization: Epidemiology)**, Department of Environmental & Radiological Health Sciences, Colorado State University, Ft. Collins, CO.
- 1984      **M.S., Pharmaceutical Sciences (Major: Pharmacology)**, School of Pharmacy, University of Colorado, Boulder, CO.
- 1980      **B.A., Psychology (Minors: Chemistry & Biology)**, Psychology Department, University of Colorado, Boulder, CO.

### **ACADEMIC & PROFESSIONAL EXPERIENCE**

- 2011-Present **Associate Professor** (Tenured), Department of Epidemiology & Biostatistics, Cancer Prevention and Control Program, Arnold School of Public Health, University of South Carolina, Columbia, SC.
- 2006-Present **Health Science Specialist**. Dorn Department of Veteran's Affairs Medical Center, Columbia, SC.
- 2015      **Visiting Faculty**. Massey University Sleep/Wake Research Centre (Wellington, NZ, Aug/Sept) & Otago University School of Medicine, Dept. of Social and Preventive Medicine, (Dunedin, NZ, Sept/Dec).
- 2005-2010 **Assistant Professor (Tenure-Track)**, Department of Epidemiology & Biostatistics, Cancer Prevention and Control Program, Arnold School of Public Health, Center for Colon Cancer Research, University of South Carolina, Columbia, SC.
- 2008      **Consultant**, Environmental Public Health Tracking Network, South Carolina Department of Health & Environmental Control, Columbia, SC.
- 2000 - 2005 **Assistant Professor (Research Appointment)**, Department of Environmental & Radiological Health Sciences, Colorado State University, Fort Collins, CO.
- 1997 - 1999 **Post-Doctoral Fellow / Research Associate**, Department of Environmental Health, Colorado State University, Fort Collins, CO.
- 1995 - 1996 **Graduate Research Assistant**, Department of Environmental Health, Colorado State University, Fort Collins, CO.

## ACADEMIC & PROFESSIONAL EXPERIENCE (Continued):

- 1994 - 1995 **Consultant**, Health risk assessment for a CERCLA (Superfund) hazardous waste site (nuclear weapons production facility), SM Stoller Corp, Boulder, CO.
- 1994 **Graduate Teaching Assistant**, Environmental Sanitation 1 (EH 312), Fall Semester, Department of Environmental Health, Colorado State University, Fort Collins, CO.
- 1993 -1994 **Graduate Research Assistant**, Symptom and disease prevalence among residents living near the Rocky Mountain Arsenal (CERCLA - Superfund) hazardous waste site, Department of Environmental Health, Colorado State University, Ft. Collins, CO.
- 1992 -1993 **Project Scientist**, Management of health risk assessments for hazardous waste site investigations, Woodward-Clyde Consultants, Denver, CO.
- 1988 -1991 **Health & Safety Officer / Asst. Project Scientist**, Project management for: occupational health & safety, management of asbestos building materials, and hazardous waste site health risk assessments. Woodward-Clyde, Denver, CO and Frankfurt, Germany.
- 1986 -1988 **Senior Staff Scientist**, Health risk assessment for hazardous waste site investigations, environmental regulatory compliance, Woodward-Clyde Consultants, Denver, CO.
- 1985 **Research Technician**, Chemical and hydrological survey of the Orinoco River, Dept. of Biology, U. of Colorado Field Research Lab, Ciudad Bolivar, Venezuela.
- 1985 **Field Operations Supervisor**, Asbestos management & air monitoring, Environmental Testing Services, Denver, CO.
- 1984 **Biological Research Assistant**, Research on acid deposition in wilderness lakes, U.S. Forest Service, Durango, CO.
- 1981 -1984 **Graduate Research Assistant**, Role of cholinergic neurotransmitter receptors in the development of ethanol-nicotine tolerance and cross tolerance, School of Pharmacy, U. of Colorado, Boulder, CO.
- 1980 -1981 **Professional Research Assistant**, Behavioral & pharmacogenetic aspects of ethanol and nicotine tolerance. Institute for Behavioral Genetics, U. of Colorado, Boulder, CO.

## RESEARCH EXPERIENCE

**RESEARCH INTERESTS:** Occupational, environmental, and molecular epidemiology; shift work, circadian rhythm disruption and cancer; stress, inflammation and racial health disparities; epidemiology of non-ionizing and ionizing radiation.

## RESEARCH GRANTS

### Awarded

**Project Title:** HRV Biofeedback in Pain Patients: Pilot Intervention for Pain, Fatigue & Sleep. **Co-Principal Investigators:** Jim Burch, MS, PhD, and Jack Ginsberg, MA, PhD. **Agencies:** U.S. Dept. of Veterans Affairs Office of Research & Development, Biomedical Laboratory Research & Development Service (Award Number: I01BX007080). **Type:** Merit Award. **Period:** 07/01/2015 - 06/30/2019. **Project Costs:** \$647,858 Total. **Objectives:** This randomized, sham-controlled, pilot intervention trial will examine whether heart rate variability biofeedback improves parasympathetic tone and ameliorates pain, stress and insomnia among Veteran patients with chronic, neuromusculoskeletal pain. **Role:** Co-Principal Investigator.

## **Awarded** (Continued):

**Project Title:** Use of Heart Rate Variability (HRV) Biofeedback for Symptom Management among Cancer Survivors: Pilot Intervention. **Co-Principal Investigators:** Jim Burch, MS, PhD, and Mark O'Rourke, MD. **Agency:** Greenville Health System Cancer Institute. **Type:** Internal Research Project. **Period:** 5/01/2015 - 6/30/2016. **Project Costs:** \$25,806 Total. **Objectives:** This study will test the hypothesis that heart rate variability biofeedback (HRV-B) restores autonomic balance and has the effect of reducing pain and related symptoms among cancer survivors. The specific aims are to: (1) conduct a randomized, controlled, pilot intervention trial to determine whether HRV-B increases HRV coherence among cancer survivors (minimum N of 20 [10 per group], up to 100 total [50 per group]); (2) determine whether HRV-B reduces pain, stress, fatigue, depression or insomnia among cancer survivors; and (3) determine whether an increase in HRV coherence reduces pain, stress, fatigue, depression, or insomnia in the study population. **Role:** Co-Principal Investigator.

**Project Title:** Study of Novel Adenoma Risk Factors. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** South Carolina Medical Endoscopy Center. **Type:** Contract. **Period:** 5/01/2014 - 4/30/2015. **Project Costs:** \$24,000 Total. **Objectives:** This project will establish a biospecimen repository among patients undergoing a screening colonoscopy. The objective of this study is to identify biochemical, genetic, and epigenetic biomarkers of adenomatous polyp formation that can be targeted for colon cancer prevention. **Role:** Principal Investigator.

**Project Title:** Site Assessment and Conceptual Design for Water Development Project in Cedros, Ecuador. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** Magellan Scholar Program, University of South Carolina. **Type:** Mentored Undergraduate Research. **Period:** 5/1/2014 - 4/30/2015. **Project Costs:** \$3,000 Total. **Objectives:** The objective of this project is to build upon previous work performed by the student chapter of Engineers Without Borders at the University of South Carolina to perform a new site assessment and conceptual design for a pipeline that will supply drinking water to the rural community of Cedros, Ecuador. **Role:** Principal Investigator, Faculty Mentor, Health & Safety Officer.

**Project Title:** Behavioral-Biomedical Interface Program. **Co-Directors:** Ron Prinz, PhD, and Rosemarie Booze, PhD, Department of Psychology, University of South Carolina. **Agency:** National Institute of General Medical Sciences. **Type:** NRSA Institutional Predoctoral Training Grant (T32) **Period:** 7/1/13 - 6/30/18 **Project Costs:** \$1,916,010 Total. **Objectives:** The program is designed for select students beginning their doctoral studies in epidemiology, exercise science, or psychology. The program aims to train behavioral scientists in biomedical/biological content so that they will function effectively as members of interdisciplinary research teams. **Role:** Faculty Mentor.

## **Submitted:**

**Project Title:** Mumbai Cohort Study: Cancer Epidemiology in Urban India. **Principal Investigator:** James Hebert, MSPH, ScD, Department of Epidemiology and Biostatistics, University of South Carolina. **Agency:** National Institutes of Health, Core Infrastructure and Methodological Research for Cancer Epidemiology Cohorts. **Type:** U01. **Period:** 04/01/2016 - 03/31/2021. **Project Costs:** \$12,654,964 Direct; \$14,786,429 Total. **Objectives:** The proposed Mumbai Cohort Study Phase III (MCS-III) will provide a unique opportunity to measure and test a wide range of environmental and genetic factors that modulate cancer susceptibility. The goal is expansion of the original study by: 1) gathering detailed data on socio-demographic variables, diet, physical activity, tobacco and alcohol use, sleep, psychosocial stress, anthropometry, and metabolic syndrome, in 150,000 MCS-III members; and 2) collecting biological samples for genetic, epigenetic and other analyses. **Role:** Co-Investigator. **Pending.**

**Submitted** (Continued):

**Project Title:** Autonomic Blunting and Restoration in Veterans with Gulf War Syndrome: The Heart Rate Variability Index of Cognitive Performance, Fatigue, and Rest/Activity. **Principal Investigator:** Jack Ginsberg, PhD, Dorn Department of Veterans Affairs Medical Center (DVAMC). **Agency:** US Department of Defense, Gulf War Illness Research Program. **Type:** Subcontract to DVAMC. **Period:** 07/01/2016 - 06/30/2019. **Project Costs:** \$169,461 Total. **Objectives:** Inflammation, autonomic dysregulation, and brain activation changes may be part of the underlying mechanisms for potential effects among veterans with Gulf War Syndrome, and associated with neurological/cognitive function, fatigue, and cardiometabolic disease. The investigative team at the University of South Carolina will provide scientific expertise in measurement of metabolic biomarkers, rest/activity rhythms and autonomic data, and fMRI scans of brain activation during performance of cognitive tasks. **Role:** Co-Investigator. **Pending.**

**Project Title:** Gut Microbiome Connection to Gulf War Illness Associated Metabolic Syndrome and Nonalcoholic Fatty Liver Disease. **Principal Investigator:** Saurabh Chatterjee, PhD, Dept. of Environmental Health Sciences, University of South Carolina. **Agency:** US Department of Defense, Gulf War Illness Research Program. **Period:** 08/01/2016 - 07/31/2019. **Project Costs:** \$715,047 Total. **Type:** Grant. **Objectives:** The overarching hypothesis tests the paradigm that GW chemical exposure causes gastrointestinal disturbances, metabolic syndrome and fatty liver disease. **Role:** Co-Investigator. **Pending.**

**Project Title:** U.S. Fulbright Senior Specialist Call for Appointment 2015-2016. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** U.S. Department of State, Bureau of Educational and Cultural Affairs, and Institute of International Education's Council for International Exchange of Scholars. **Type:** Fulbright Specialist Program. **Period:** 6/1/2016 - 12/31/2016. **Project Costs:** 8% Effort. **Objectives:** The aim of this project is to strengthen faculty expertise in the fields of epidemiology, biostatistics, environmental and public health at the Instituto de Salud Pública (Institute of Public Health), Universidad Austral de Chile (UAC), in Valdivia, Chile. Dr. Burch will teach and conduct research over a 3-4 week period to bolster teaching content and assist in the development of Chilean investigator-initiated research. **Role:** Principal Investigator. **Pending.**

**Project Title:** TLR4-induced miRs as a Molecular Signature of Environmental Potentiation of NAFLD. **Principal Investigator:** Saurabh Chatterjee, PhD, Dept. of Environmental Health Sciences, University of South Carolina. **Agency:** National Institute of Environmental Health Sciences. **Type:** R01, Outstanding New Environmental Scientist (ONES) Award. **Period:** 08/01/2016 - 07/31/2019. **Project Costs:** \$275,000 Direct, \$398,227 Total. **Objectives:** These studies, once completed will advance our understanding of: (1) environmental potentiation of nonalcoholic steatohepatitis (NASH); (2) environmental exposure-mediated oxidative stress induction of TLR4 and miRs that are key for NASH progression; (3) the role of TLR4-induced miRs as early and novel biomarkers for environment-linked NASH progression; and (4) miR inhibitors as possible therapeutic tools in NASH. **Role:** Co-Investigator. **Pending.**

**Project Title:** Interdisciplinary Graduate Training Program in Cancer Disparities. **Principal Investigators:** Susan Steck, PhD, MPH, RD & Angela Murphy, PhD. **Agency:** Susan G. Komen Foundation. **Period:** 07/01/2016-06/30/2019. Type of award: **Type:** Training grant. **Project Costs:** \$405,000 Total direct. **Objectives:** The objectives of this training grant are to 1) attract promising doctoral students, particularly those from underrepresented groups affected by health disparities, into research careers focused on breast cancer disparities, 2) empower the trainees with the skills and knowledge necessary to flourish as independent investigators and 3) inspire trainees to continue to research throughout their careers the causes of breast cancer disparities and interventions to reduce or eliminate these disparities. **Role:** Co-Investigator & Faculty Mentor. **Pending.**

## **Submitted** (Continued):

**Project Title:** Inflammation, Biobehavioral Risk Factors, and Racial Disparities in Colon Cancer. **Principal Investigator:** James Hebert, MSPH, ScD, Department of Epidemiology and Biostatistics, University of South Carolina. **Agency:** National Cancer Institute. **Type:** P01. **Period:** 5/16/2014 - 8/15/2019. **Project Costs:** \$7,387,846 Total Direct; Project 1: \$1,010,449 Total Direct. **Objectives:** This Program Project Grant will test the role of biobehavioral risk factors in modulating inflammation and associated biological phenomena across the natural history of colon cancer from: 1). incident precancerous lesions in a screened population; to 2). follow up/intervention on individuals found on colonoscopy to have high-risk lesions; to 3). individuals with a colon cancer diagnosis. In Project 1, a case-control study will examine gastrointestinal inflammation and adenoma status in a high risk population of African Americans. **Role:** Project 1 Co-Leader. **In Revision.**

## **Completed**

**Project Title:** Sleep Disruption among Veterans: Implications for Cancer Risk. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** Dept. of Veterans Affairs, Health Services Research & Development. **Type:** Pilot Grant. **Period:** 10/1/2010 - 9/30/2014. **Project Costs:** \$134,507 Total Direct. **Objectives:** This retrospective cohort study will utilize pre-existing, de-identified data to test the hypothesis that sleep disorder diagnoses among Veterans are associated with an increased incidence of prostate, breast, colorectal, or total cancer. **Role:** Principal Investigator. Two manuscripts submitted, one in preparation.

**Project Title:** Role of Brominated Water Disinfection By-Products in Liver Function, Diabetes and Metabolic Syndrome. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** Dept. of Environmental Health Sciences, Arnold School of Public Health, University of South Carolina. **Type:** Internal Research Project. **Period:** 5/16/2014 - 5/15/2015. **Project Costs:** \$22,014 Total. **Objectives:** This study will examine the relationship between water disinfection by-products and liver disease, Type II diabetes, and metabolic syndrome in a nationally representative sample of the United States population (NHANES 1999-2006). **Role:** Principal Investigator. One manuscript published.

**Project Title:** Assessing Public Health Needs and Developing a Sustainable Water Irrigation System for Organic Coffee Crops in La Victoria, Ecuador. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** Magellan Scholar Program, University of South Carolina. **Type:** Mentored Undergraduate Research. **Period:** 5/1/2014 - 4/30/2015. **Project Costs:** \$9,000 Total. **Objectives:** In collaboration with community members, we completed construction of a gravity fed water pipeline and irrigation system to address the needs of organic coffee farmers in La Victoria, Ecuador. We interviewed community leaders and stakeholders to identify Public Health needs in La Victoria, including issues related to water access and sanitation. **Role:** Principal Investigator, Faculty Mentor, Health & Safety Officer.

**Project Title:** Preparing for a Program Project Grant in Diet, Physical Activity, and Energy Balance to Address Large Racial Disparities in Colon Cancer Prevention and Control. **Principal Investigator:** James Hebert, MSPH, ScD, Department of Epidemiology and Biostatistics, University of South Carolina. **Agency:** University of South Carolina Office of Research Development. **Type:** ASPIRE II Grant. **Period:** 5/16/2012 - 8/15/2013. **Project Costs:** \$100,000 Direct. **Objectives:** This grant provided preliminary data for preparation of a Program Project Grant (P01) grant application to the National Cancer Institute on the role of diet, physical activity, energy balance and related factors (obesity, fitness, sleep, circadian rhythms) in relation to primary, secondary, and tertiary colon cancer prevention. The objectives are to: analyze and publish data from 8 projects, and to prepare the P01 application. **Role:** Project Co-Leader.

**Completed** (Continued):

**Project Title:** Exercise: A Novel Treatment for Combat Post Traumatic Stress Disorder (PTSD).  
**Principal Investigator:** Shawn Youngstedt, PhD, Dept. of Exercise Science, University of South Carolina.  
**Agency:** U.S. Army Medical Research and Materiel Command. **Type:** INTRuST Clinical Consortium. **Period:** 8/01/2011 - 7/31/2013. **Project Costs:** \$250,000 Direct. **Objectives:** This study will examine the effect of exercise on combat PTSD. Veterans (n=30) with combat PTSD will be randomized to 8 weeks of exercise (4 times a week for 45 minutes) or a stretching control. Participants will be assessed for improvements in sleep, and symptoms of PTSD, anxiety, depression and sleep disruption. **Role:** Co-Investigator.

**Project Title:** Developing a Water Irrigation System for Organic Coffee Crops in La Victoria, Ecuador. **Principal Investigator & Faculty Mentor:** Jim Burch, MS, PhD. **Agency:** Magellan Scholar Program, University of South Carolina. **Type:** Mentored Undergraduate Research. **Period:** 1/1/2013-12/31/2013. **Project Costs:** \$6,000 Total. **Objectives:** This project initiated the design of a water supply and irrigation system for organic coffee farmers in La Victoria, Ecuador. We also developed a plan to conduct a community health needs assessment and evaluate issues concerning water quality in the region. **Role:** Principal Investigator & Faculty Mentor.

**Project Title:** International Society for Environmental Epidemiology 24<sup>th</sup> Annual Conference. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** Centers for Disease Control and Prevention. **Type:** H13 Public Health Conference Support Program. **Period:** 07/01/2012 - 06/30/2013. **Project Costs:** \$45,000 Direct. **Objectives:** This meeting will facilitate the development of novel strategies to ameliorate public health burdens imposed by environmental pollutants in land, air, and sea. Requested funds will help support travel for distinguished experts, US-based state and local epidemiologists and public health practitioners, community representatives, and students of public health and epidemiology to attend this meeting. **Role:** Principal Investigator.

**Project Title:** International Society for Environmental Epidemiology (ISEE) 24th Annual Conference. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** National Institute of Environmental Health Sciences. **Type:** R13. **Period:** 04/01/2012 - 03/31/2013. **Project Costs:** \$21,250 Total. **Objectives:** This grant provided scholarships to distinguished experts, young investigators, and scientists from disadvantaged countries to enhance the global development of environmental health work forces and foster collaborations and information exchange both nationally and internationally. **Role:** Principal Investigator.

**Project Title:** International Society for Environmental Epidemiology 24<sup>th</sup> Annual Conference. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** US Environmental Protection Agency. **Type:** Conference Grant. **Period:** 06/04/2012 - 08/30/2012. **Project Costs:** \$10,000 Direct. **Objectives:** This grant supported the International Society for Environmental Epidemiology's 2012 Conference through increased awareness of environmental issues for scientists and policy makers. **Role:** Principal Investigator.

**Project Title:** Role of Genetic and Dietary Factors in Breast Cancer Risk: Study of a Population in Demographic Transition. **Principal Investigator:** Jim Burch, MS, PhD. **Agency:** University of South Carolina Office of Research and Economic Development. **Type:** Grant, Research Opportunity Program. **Period:** 7/01/09 - 9/1/13. **Project Costs:** \$20,000 Total. **Objectives:** The specific aims were to: 1.) genotype 500 breast cancer cases and controls for 19 candidate single nucleotide polymorphisms (SNPs) associated with inflammation, carcinogen metabolism, and clock genes (cell cycle/DNA repair pathways); and 2.) perform a case-control analysis to test the hypothesis that candidate SNPs are associated with increased breast cancer risk. **Role:** Principal Investigator. One manuscript published, one in preparation.

**Completed** (Continued):

**Project Title:** Epigenetics and Diet in the Carcinogenesis Process. **Project Co-Leaders:** Jim Burch, MS, PhD and Susan Steck, PhD, Department of Epidemiology and Biostatistics, University of South Carolina. **Agency:** National Cancer Institute. **Type:** Supplemental Grant. **Center Title:** South Carolina Cancer Disparities Community Network. **Principal Investigator:** James Hebert, MSPH, ScD, Department of Epidemiology and Biostatistics, University of South Carolina. **Period:** 05/01/08–04/30/12. **Project Costs:** \$99,679 Direct. **Objectives:** This case-control study examined whether circadian disruption or dietary factors influence methylation of specific cancer-related genes, including clock genes, among individuals with adenomatous polyps and controls. **Role:** Project Co-Leader. Two manuscripts published, one submitted.

**Project Title:** SC FISH - South Carolina Forum for Investigative Studies of Mercury. **Co-Principal Investigators:** Jim Burch, MS, PhD, and Erik R. Svendsen, PhD, Department of Epidemiology and Biostatistics, University of South Carolina. **Agency:** South Carolina Department of Health and Environmental Control (DHEC). **Type:** Internal Study. **Period:** 10/1/08-9/30/11. **Project Costs:** \$50,000 Total. **Objectives:** This study evaluated pre-term birth and low birth weight in areas with elevated mercury in fish using a geographic information system (GIS) and spatial statistics. **Role:** Co-Principal Investigator. One manuscript published.

**Project Title:** Role of Circadian Disruption in Polyp Formation and Recurrence. **Principal Investigator:** Jim Burch, MS, PhD **Agency:** Department of Veteran's Affairs. **Type:** Research Career Development Award. **Period:** 5/31/2006-6/1/2008 **Costs:** 63% salary release. **Objectives:** Evaluate whether circadian disruption is associated with inflammatory cytokine secretion or a clock gene polymorphism, and whether such differences may influence the racial colorectal cancer disparity. **Role:** Principal Investigator. One manuscript published.

**Project Title:** SCOPE-SC Colonoscopies: Quality Indicators and Equity of Patient Referrals. **Principal Investigator:** Sudha Xirasagar, PhD, Health Services Policy & Management, University of South Carolina **Agency:** South Carolina Dept. of Health and Environmental Control. **Type:** Grant. **Period:** 8/01/2010-2/01/2011 **Project Costs:** \$12,000 Total. **Objectives:** The project will evaluate the Program "Screening Colonoscopies on People Everywhere in South Carolina, SCOPE-SC" using Year 1 screening data. **Role:** Co-Investigator. **Completed.** One manuscript published.

**Project Title:** Bright Light: An Adjunct Treatment for Combat PTSD. **Principal Investigator:** Shawn Youngstedt, PhD, Dept. of Exercise Science, University of South Carolina. **Agency:** Department of Veteran's Affairs. **Type:** Merit Award. **Period:** 10/1/08 - 9/30/11. **Project Costs:** \$592,000 Total. **Objectives:** This study will determine whether bright light is an effective adjunct treatment for combat-related post-traumatic stress disorder (PTSD), reducing clinical assessment of PTSD severity and associated morbidity. **Role:** Co-Investigator. Manuscript in preparation.

**Project Title:** Groundwater Uranium and Cancer Incidence, Kidney and Bladder Disease, and Hypertension in South Carolina. **Principal Investigator:** Jim Burch, MS, PhD, Department of Epidemiology and Biostatistics, University of South Carolina. **Period:** 6/1/08 - 5/31/10. **Project Costs:** Self-funded. **Objectives:** This study used a geographic information system (GIS) and spatial statistics to test the hypothesis that elevated groundwater uranium concentrations are associated with increased cancer incidence, or with hospitalizations for hypertension, or kidney or bladder disease. **Role:** Principal Investigator. Two manuscripts published.

**Completed** (Continued):

**Project Title:** Circadian Rhythm Disruption among Police Officers. **Principal Investigator:** Jim Burch, MS, PhD, Department of Epidemiology and Biostatistics, University of South Carolina. **Agency:** National Institute for Occupational Safety & Health. **Type:** Contract **Period:** 12/17/07 - 12/16/09. **Project Costs:** \$11,236 Total. **Objectives:** Test the hypothesis that police officers with low sleep:work salivary melatonin ratios, disrupted circadian cortisol secretion, or genetic polymorphisms in melatonin or clock genes had an increased prevalence of sleep disruption, fatigue, or depressive symptoms. **Role:** Principal Investigator. Two manuscripts published.

**Project Title:** Impact of Colonoscopies Performed by Primary Care Physicians. **Project Leader:** Sudha Xirasagar, PhD **Agency:** National Cancer Institute **Type:** R03 **Center Title:** South Carolina Cancer Disparities Community Network. **Principal Investigator:** James Hebert, MSPH, ScD, Department of Epidemiology and Biostatistics, University of South Carolina. **Period:** 6/1/07-5/31/09. **Project Costs:** \$49,979 Direct. **Objectives:** This project examined the quality and effectiveness of screening colonoscopies performed by primary care physicians among African and European American patients. The impact of training African American physicians on patient compliance per American Cancer Society's recommendations was also be examined. **Role:** Scientific Advisor. Two manuscripts published.

**Project Title:** Endotoxin Exposure and Genetic Factors in Organic Dust Lung Disease. **Principal Investigator:** Steve Reynolds, PhD, CIH, Dept. Environmental & Radiological Health Sciences, Colorado State University. **Agency:** National Institute for Occupational Safety & Health **Type:** R01 **Period:** 9/1/03-8/31/08 **Costs:** \$408,099 Direct, \$491,397 Total **Objectives:** The primary goals of this study were to: characterize exposure to endotoxin-containing corn dust in a population of workers; evaluate respiratory symptoms, lung function, and immune markers in the same population; identify a measurement method for endotoxin that is the best predictor of these responses; and measure genetic markers to identify workers with increased endotoxin sensitivity. **Role:** Co-Investigator. Two manuscripts published.

**Project Title:** Indoor Air Pollution and Respiratory Health among Honduran Women: Evaluating Intervention Effectiveness. **Principal Investigator:** Jim Burch, MS, PhD (prior to 2005), Steve Reynolds, PhD, CIH, and Jennifer Peel, PhD, MPH (after 2005), Dept. Environmental & Radiological Health Sciences, Colorado State University. **Agency:** College Research Council, Colorado State University College of Veterinary Medicine and Biomedical Sciences. **Type:** Grant **Period:** 10/1/04-9/30/07 **Costs:** \$18,900 Total. **Objectives:** This study quantified residential air pollutant exposures and respiratory health among Honduran women using low emission stoves or traditional wood burning stoves to determine the effectiveness of an indoor air quality intervention. We hypothesized that women in homes without improved stoves had elevated carbon monoxide and particulate exposures, reduced peak expiratory flow, more respiratory symptoms, and increased levels of C-reactive protein compared to those with improved stoves. **Role:** Principal Investigator/Co-I. Two manuscripts published.

**Project Title:** Role of Melatonin in the Prevention of Breast Cancer in Patients with Gross Cystic Breast Disease. **Co-Principal Investigators:** Jim Burch, MS, PhD, and Robert Wells, PhD, Dept. Environmental & Radiological Health Sciences, Colo. State U. **Agency:** U.S. Army Medical Research and Materiel Command **Type:** Grant - *Idea Award* **Period:** 9/1/99-8/31/04 **Costs:** \$508,081 Total. **Objectives:** Melatonin and growth agents were measured in human breast cyst fluid (BCF), the proliferative effects of BCFs on human (MCF-7) breast cancer cells were quantified *in vitro*, and those measures were compared with known breast cancer risk factors. **Role:** Co-Principal Investigator and primary proposal author. One manuscript published.



**Completed** (Continued):

**Project Title:** Human Responses to Residential RF Exposure. **Principal Investigator:** John S. Reif, DVM, MSc, Dept. Environmental & Radiological Health Sciences, Colorado State University. **Agency:** National Institute of Environmental Health Sciences **Type:** R01 **Period:** 4/1/01-3/31/05 **Costs:** \$500,000 Direct, \$713,173 Total. **Objectives:** This study evaluated the effects of residential RF exposure on human biomarkers. The goal was to determine whether RF or 60 Hz exposures suppress melatonin, and to assess the melatonin-modulated effects of EMFs on oxidative DNA damage and repair, and immune markers. **Role:** Co-Investigator and a primary proposal author. Dr. Burch coordinated a population census, subject recruitment, RF/60 Hz and biological monitoring, data processing and statistical analyses. Two manuscripts published.

**Project Title:** RF Exposure and Melatonin Levels in Heat Sealer Operators. **Subcontract Principal Investigator:** Jim Burch, MS, PhD, Dept. Environmental & Radiological Health Sciences, Colorado State University. **Principal Investigator:** Michael Yost, PhD, Department of Environmental and Occupational Health Sciences, U. of Washington. **Agency:** National Institute for Occupational Safety & Health **Type:** R01 **Period:** 8/1/00-7/31/03 **Costs:** \$209,669 Direct, \$301,604 Total **Objectives:** This study used personal monitoring to assess full-shift RF exposures among heat sealer operators on permanent day, swing, or night shifts, and examined melatonin production and several related biomarkers. The role of shift work on melatonin and sleep was also examined. **Role:** Subcontract Principal Investigator and primary proposal author. Dr. Burch supervised all recruitment, data collection and statistical analyses. One manuscript published.

**Project Title:** Factors Influencing Human Biological Responses to Magnetic Field Exposures. **Principal Investigator:** Jim Burch, MS, PhD, Dept. Environmental Health, Colorado State University. **Agency:** Platte River Power Authority **Type:** Grant **Period:** 7/1/00-6/30/02 **Costs:** \$9,056 Direct, \$9,962 Total **Objectives:** This project measured magnetic field characteristics in work environments linked with melatonin suppression. **Role:** Principal Investigator. Dr. Burch supervised three research assistants, performed statistical analyses and prepared a technical report and manuscript. One manuscript published.

**Project Title:** The Role of Shift Work Adaptation on Stress and Performance. **Principal Investigator:** Jim Burch, MS, PhD, Dept. of Environmental Health, Colorado State University. **Agency:** College Research Council, Colorado State University College of Veterinary Medicine and Biomedical Sciences. **Type:** Grant **Period:** 7/1/00-6/30/01 **Costs:** \$19,986 Total **Objectives:** This study evaluated work factors, coping strategies, sleep disruption, health outcomes and psychological stress among health care workers on different work shifts. **Role:** Principal Investigator. One manuscript published.

**Project Title:** Melatonin as a Biomarker of Oxidative Stress. **Principal Investigator:** Howard Ramsdell, PhD, Dept. of Environmental Health, Colorado State University. **Agency:** National Cancer Institute **Type:** R03 **Period:** 3/1/98-2/29/00 **Costs:** \$49,971 Direct, \$72,458 Total **Objectives:** The study objective was to determine whether the melatonin metabolite, AMK, is a urinary marker of melatonin's antioxidant activity. **Role:** Co-Investigator and primary proposal author. One abstract published.

**Project Title:** Physical Activity and Human Biological Responses to EMFs and Shift Work. **Principal Investigator:** Jim Burch, MS, PhD, Dept. Environmental & Radiol. Health Sci., Colorado State University. **Agency:** Dept. of Environmental Health Small Grants Program, Colorado State University **Type:** Grant. **Period:** 10/5/00-6/30/01 **Costs:** \$9,350 Total **Objectives:** The project goal was to identify EMF exposure characteristics that are critical for suppressing melatonin production in humans. The relationship between physical inactivity, temporally stable MF exposures, melatonin metabolite excretion, and sleep parameters was evaluated using personal physical activity monitors. **Role:** Principal Investigator.

**Completed** (Continued):

**Project Title:** The Role of Inflammation in Human Toxicological Responses to Diesel Exhaust Exposure  
**Co-Principal Investigators:** Jim Burch, MS, PhD, and Phil Bigelow, MHS, PhD, Dept. Environmental Health, Colorado State University. **Agency:** College Research Council, Colorado State University College of Veterinary Medicine and Biomedical Sciences. **Type:** Grant **Period:** 7/1/99-6/30/02 **Costs:** \$29,493 Total **Objectives:** This study quantified personal diesel exhaust exposures in transportation workers to test the hypothesis that exposure was associated with increased urinary excretion of biomarkers of inflammation (leukotriene E4) and oxidative DNA damage and repair (8-OHdG). **Role:** Co-Principal Investigator. Abstract published.

**Project Title:** Validation of Task-Specific Magnetic Field Exposures. **Principal Investigator:** Jim Burch, MS, PhD, Dept. Environmental Health, Colorado State University. **Agency:** U. of Washington **Type:** Subcontract **Period:** 7/1/99-8/31/99 **Costs:** \$4,290 Direct, \$6,220 Total **Objectives:** The objective was to compile magnetic field exposure data associated with specific occupational tasks in electric utility workers. A task-specific exposure matrix was then developed. **Role:** Subcontract Principal Investigator.

**Project Title:** Melatonin and Occupational Magnetic Field Exposure. **Principal Investigator:** John S. Reif, DVM, MSc, Dept. Environmental Health, Colorado State University **Agency:** NIEHS **Type:** R01 **Period:** 8/1/96-7/31/99 **Costs:** \$504,550 Direct, \$708,799 Total **Objectives:** The goal was to determine whether melatonin production was reduced (Phase 1) and chronically suppressed (Phase 2) by 60 Hz magnetic field exposures in electric utility workers. **Role:** Co-Investigator and primary proposal author. Dr. Burch coordinated daily project activities, supervised 2 graduate students and 2 hourly employees, directed recruitment, exposure monitoring, biochemical assays, custom software development, and data analyses. Three manuscripts published.

**Project Title:** Human Biological Responses to Occupational and Residential Magnetic Fields.  
**Principal Investigator:** John S. Reif, DVM, MSc, Dept. Environmental Health, Colorado State University.  
**Agency:** Platte River Power Authority & US DOE **Type:** Grant **Period:** 12/1/97-7/31/99 **Costs:** \$9,044 Direct, \$9,948 Total **Objectives:** The objectives of this project were to: 1) determine 60 Hz magnetic field exposures alter immune markers in peripheral lymphocytes from electric utility workers; and 2) determine whether residential wire codes were associated with decreased melatonin production in workers. **Role:** Co-Investigator and primary proposal author. Dr. Burch managed daily project activities and supervised one graduate intern and one undergraduate independent study student. One manuscript published.

**Project Title:** Melatonin in Electric Utility Workers. **Principal Investigator:** John S. Reif, DVM, MSc, Dept. Environmental Health, Colorado State University. **Agency:** U.S. DOE **Type:** Research Contract **Period:** 2/1/95-1/31/96 **Costs:** \$32,909 Direct, \$47,718 Total **Objectives:** Determine whether melatonin production in electric utility workers is reduced by exposure to 60 Hz magnetic fields. **Role:** Co-Investigator and proposal co-author. Dr. Burch directed daily project activities, supervised one graduate student and one hourly employee. Three manuscripts published.

**Project Title:** Melatonin Levels in Electric Utility Workers. **Principal Investigator:** Jim Burch, MS, PhD, Dept. Environmental Health, Colorado State University. **Agency:** American Public Power Association **Type:** Scholarship. **Period:** 3/1/95-2/28/96 **Costs:** \$3,000 Total **Objectives:** Evaluate the feasibility of using melatonin production as a biological marker of exposure to magnetic fields.

## HONORS, AWARDS, AND APPOINTMENTS

- 2015 Nominee, Distinguished Undergraduate Research Mentor Award, University of South Carolina Office of Undergraduate Research.
- 2013 Two Thumbs Up Award, Office of Student Disability Services, University of South Carolina, Columbia, SC & Delta Alpha Pi Honor Society.
- 2012 Alice Hamilton Award for Excellence in Occupational Safety & Health, Epidemiology & Surveillance (Honorable Mention), National Institute for Occupational Safety & Health, 2012.
- 2011 Science Advisory Board, National-Scale Mercury Risk Assessment for Coal and Oil-Fired Electric Generating Units. US Environmental Protection Agency Office of Air and Radiation, Wash. DC.
- 2011 Poster Award, "Groundwater Uranium and Cancer Incidence in South Carolina" James E. Clyburn Health Disparities Series, Institute for Partnerships to Eliminate Health Disparities, University of South Carolina, Columbia, SC.
- 2008 Award for Excellence in Research, South Carolina Cancer Alliance, Columbia, SC.
- 2007 Certificate of Appreciation, Dept. of Veteran's Affairs, VISN 7 Research Group, Charleston, SC.
- 2001 Merit in Authorship Award, American College of Occupational and Environmental Medicine, San Francisco, CA.
- 1998 Expert Panel Member, National Institute of Environmental Health Sciences EMF Science Review Symposium on Clinical and In Vivo Laboratory Findings, Phoenix, AZ.
- 1993-5 Citizen's Advisory Board Member, Rocky Flats Nuclear Weapons Production Facility (CERCLA Hazardous Waste Site), Colorado Department of Health, U.S. Environmental Protection Agency, and the U.S. Department of Energy.
- 1995 DEED Scholarship, American Public Power Association, Washington, DC.
- 1992 Project Excellence Award, Woodward-Clyde Consultants, Denver, CO.
- 1988 Letter of Commendation, U.S. Army Engineer Division, Europe, Stuttgart Area Office, Woodward-Clyde Consultants, Frankfurt, Germany.
- 1984 Rho Chi Pharmaceutical Honor Society, University of Colorado, Boulder, CO.
- 1984 Graduate School Advisory Council, University of Colorado, Boulder, CO.
- 1983 Graduate Student Dean's Award, School of Pharmacy, U. of Colorado, Boulder, CO.

## PUBLICATIONS

### Peer-Reviewed Manuscripts <sup>1</sup>*Current / Former Direct Student Advisee*, <sup>2</sup>*Direct Professional Mentee*

1. Alexander M<sup>1</sup>, Ray MA, Hébert JR, Youngstedt SD, Zhang H, Steck SE, Bogan RK, **Burch JB**. Determinants of New Sleep Disorders among United States Veterans. (Submitted, In Review).
2. Alexander M<sup>1</sup>, Ray MA, Hébert JR, Youngstedt SD, Zhang H, Steck SE, Bogan RK, **Burch JB**. The National Veteran Sleep Disorder Study: Descriptive Epidemiology and Secular Trends, 2000-2010. (Submitted, In Review).

**Peer-Reviewed Manuscripts** <sup>1</sup>*Current / Former Direct Student Advisee*, <sup>2</sup>*Direct Professional Mentee*

3. Alexander M<sup>1</sup>, **Burch JB**, Steck SE, Chen C-F, Hurley TG, Cavicchia P, Shivappa N, Guess J, Zhang H, Youngstedt SD, Creek KE, Lloyd S, Jones K, Hébert JR. Case-control study of candidate gene methylation and adenomatous polyp formation. (Submitted, In Revision).
4. Robb SW<sup>1</sup>, Wirth MD<sup>1</sup>, **Burch JB**, Hébert JR. Perceived stress, meditation, and sleep: results from a group of long-term MBSR meditators. (Submitted, In Revision).
5. Davis HT, Liu J, Aelion CM, **Burch JB**, Cai B, Lawson AB, McDermott S. Associations between arsenic and lead soil concentrations and early and late preterm births in mothers from South Carolina. (Submitted, In Review).
6. Davis HT, Aelion CM, Liu J, **Burch JB**, Cai B, Lawson AB, McDermott S. Arsenic and lead in soils: investigating potential sources and racial disparities among pregnant women. *Sci Total Environ*. 2016. (In Press).
7. **Burch JB**, Everson TM,<sup>2</sup> Seth RK, Wirth MD, Chatterjee S. Trihalomethane exposure and biomonitoring for the liver injury indicator, alanine aminotransferase, in the United States population (NHANES 1999-2006). *Sci Total Environ*. 521-2: 226-234. 2015.
8. Hébert JR, Braun KL, Kaholokula JK, Armstead CA, **Burch JB**, Thompson B. Considering the role of stress in populations of high-risk, underserved Community Networks Program centers. *Progress in Community Health Partnerships*. 9 Suppl:71-82. 2015.
9. Alexander M<sup>1</sup>, **Burch JB**, Steck SE, Chen C-F, Hurley TG, Cavicchia P, Ray M, Shivappa N, Guess J, Zhang H, Youngstedt SD, Creek KE, Lloyd S, Yang X, Hébert JR. Case-control study of the *PERIOD3* clock gene length polymorphism and colorectal adenoma formation. *Oncology Reports*. 33: 935-41. 2015.
10. Tabung FK, Steck SE, **Burch JB**, Chen C-F, Zhang H, Hurley TG, Cavicchia P, Alexander M, Shivappa N, Creek KE, Lloyd SC, Hébert JR. A healthy lifestyle index is associated with reduced risk of colorectal adenomatous polyps among non-users of NSAIDs. *Journal of Primary Prevention*. 35(5). DOI: 10.1007/s10935-014-0372-1. Published online Oct. 21, 2014.
11. **Burch JB**, Wagner SE<sup>1</sup>, Puett R, Cai B, Wilkerson R, Karmaus W, Vena JE, Svendsen E. Mercury in fish and adverse reproductive outcomes: results from South Carolina. *Int J Health Geographics*. 13(1):30. doi: 10.1186/1476-072X-13-30. 2014. PMID: 25127892
12. Ray M,<sup>2</sup> Youngstedt SD, Zhang H, Wagner SE, Harmon, BE, Jean-Louis G, Cai B, Hurley TG, Hébert JR, Bogan RK, **Burch JB**. Examination of wrist and hip actigraphy using a novel sleep estimation procedure. *Sleep Sci*. 7: 74-81. 2014.
13. Wirth MD<sup>1</sup>, **Burch JB**, Hébert JR, Kowtal P, Kapoor A, Steck SE, Hurley TG, Gupta PC, Pednekar MS, Youngstedt SD, Zhang H, Sarin R. Case-Control study of breast cancer in India: role of *PERIOD3* clock gene length polymorphism and chronotype. *Cancer Investigation*. 32(7):321-9. 2014. PMID: 24903750. PMCID: PMC4100474.

**Peer-Reviewed Manuscripts** <sup>1</sup>*Current / Former Direct Student Advisee*, <sup>2</sup>*Direct Professional Mentee*

14. Wirth MD<sup>1</sup>, **Burch JB**, Shivappa N, Violanti J, Burchfiel C, Fekedulegn D, Andrew M, Hartley TA, Miller DB, Mnatsakanova A, Charles LE, Steck SE, Hurley TG, Vena JE, Hébert JR. Association of a dietary inflammatory index with inflammatory indices and the metabolic syndrome among police officers. *J Occup Environ Med.* 56(9):986-9. 2014. PMID: 25046320.
15. Xirasagar S, Li Y-J, **Burch JB**, Daguise V, Hurley TG, Hebert JR. Reducing colorectal cancer incidence and disparities: Performance and outcomes of a screening colonoscopy program in South Carolina. *Advances in Public Health.* 2014. doi:10.1155/2014/787282.
16. Hanjongsit K, Dimitrov P, Zhang H, Batuman V, **Burch JB**, Tzolova S, Karmaus W. Incidence and predictive factors of Balkan Endemic Nephropathy (BEN): a longitudinal study. *Saudi J Kidney Diseases and Transplantation.* 25(2):343-52. 2014. PMID: 24626002.
17. Wirth MD<sup>1</sup>, **Burch JB**, Shivappa N, Steck SE, Hurley TG, Vena JE, Hébert JR. Dietary inflammatory index scores differ by shiftwork status: NHANES 2005-2010. *J Occup Environ Med.* 56(2):145-8. 2014. PMID: 24451608.
18. Bauer SE, Wagner SE<sup>1</sup>, **Burch JB**, Bayakly R, Vena JE. A case-referent study: light at night and breast cancer risk in Georgia. *International Journal of Health Geographics.* 12:23. doi: 10.1186/1476-072X-12-23. 2013. PMID: 23594790.
19. Wirth MD<sup>1</sup>, **Burch JB**, Violanti J, Burchfiel C, Fekedulegn D, Andrew M, Zhang H, Miller DB, Hébert JR, Vena JE. Association of the PERIOD3 clock gene length polymorphism with salivary cortisol secretion among police officers. *Neuroendocrinol Lett.* 34: 27-37. 2013. PMID: 23524621, PMCID: PMC3655703.
20. Kline CE, Crowley EP, Ewing GB, **Burch JB**, Blair SN, Durstine JL, Davis JM, Youngstedt SD. Blunted heart rate recovery is improved following exercise training in overweight adults with obstructive sleep apnea. *International Journal of Cardiology.* 167:1610-5. 2013.
21. Rao GA, Mann JR, Bottai M, Uemura H, **Burch JB**, Bennett CL, Haddock KS, Hébert JR. Angiotensin receptor blockers and risk of prostate cancer among United States Veterans. *Journal of Clinical Pharmacology.* 53:773-8. 2013. PMID: 23686462
22. Youmans E<sup>1</sup>, **Burch JB**, Moran R, Smith L, Duffus WA. Disease progression and characteristics of HIV-infected women with and without a history of criminal justice involvement. *AIDS and Behavior.* 17(8): 2644-53. 2013.
23. Youmans E<sup>1</sup>, **Burch JB**, Moran R, Smith L, Duffus WA. Epidemiological characteristics of HIV-infected women with and without a history of incarceration in South Carolina. *J Correct. Health Care.* 19:15-26. 2012.
24. Kline CE, Crowley EP, Ewing GB, **Burch JB**, Blair SN, Durstine JL, Davis JM, Youngstedt SD. Exercise training improves selected aspects of daytime functioning in adults with obstructive sleep apnea. *Journal of Clinical Sleep Medicine.* J Clin Sleep Med. 8: 357-65. 2012.
25. Reynolds SJ, Clark ML, Koehncke N, Von Essen S, Prinz L, Keefe T, Mehaffy J, Bradford M, Cranmer, Davidson ME, Yang IV, **Burch JB**. Pulmonary function reductions among potentially susceptible subgroups of agricultural workers in Colorado and Nebraska. *J Occup Environ Med.* 54: 632-41. 2012.

**Peer-Reviewed Manuscripts** <sup>1</sup>*Current / Former Direct Student Advisee,* <sup>2</sup>*Direct Professional Mentee*

26. Hanjongsit K, Karmaus W, Dimitrov P, Zhang H, **Burch JB**, Tzolova S, Batuman V. The role of a parental history of Balkan endemic nephropathy in the occurrence of BEN: a prospective study. *International Journal of Nephrology & Renovascular Disease*. 5:61-8. 2012.
27. Wagner SE<sup>1</sup>, **Burch JB**, Bottai M, Puett R, Porter D, Bolick-Aldrich S, Temples T, Mosely C, Wilkerson RC, Vena JE, Hébert JR. Groundwater uranium and cancer incidence in South Carolina. *Cancer Causes & Control*. 22:41-50. 2011. *Poster Award, James E. Clyburn Health Disparities Series, Institute for Partnerships to Eliminate Health Disparities, University of South Carolina*
28. Wirth M<sup>1</sup>, **Burch JB**, Violanti J, Burchfiel C, Fekedulegn D, Andrew M, Zhang H, Miller DB, Hébert JR, Vena JE. Shift work duration and the awakening cortisol response among police officers. *Chronobiology International*. 28:446-57. 2011. *Honorable Mention, Alice Hamilton Award for Excellence in Occupational Safety & Health, Epidemiology & Surveillance, NIOSH.*
29. Xirasagar S, Hurley TG, **Burch JB**, Mansaray A, Hebert JR. Colonoscopy screening among patients of colonoscopy-trained African-American primary care physicians. *Cancer*. 117:5151-60. 2011.
30. Kline CE, Crowley EP, Ewing GB, **Burch JB**, Blair SN, Durstine JL, Davis JM, Youngstedt SD. The effect of exercise training on obstructive sleep apnea and sleep quality: a randomized controlled trial. *Sleep*. 34(12):1631-1640. doi: 10.5665. 2011.
31. Wagner SE<sup>1</sup>, **Burch JB**, Bottai M, Pinney SM, Puett R, Porter D, Vena JE, Hébert JR. Hypertension and hematologic parameters in a community near a uranium processing facility. *Environmental Research*. 110: 786-97. 2010. PMID: 20889151.
32. Clark ML<sup>1</sup>, Reynolds SJ, **Burch JB**, Conway S, Bachand AM, Peel JL. Indoor air pollution, cookstove quality, and housing characteristics in two Honduran communities. *Environmental Research*. 110: 12-18. 2010. PMID: 19922911.
33. **Burch JB**, Svendsen E, Siegel P, Wagner S<sup>1</sup>, Keefe T, Mehaffy J, Serrano Martinez A, Bradford M, Baker L, Cranmer B, Saito R, Tessari J, Koehncke N, Prinz L, Von Essen S, Reynolds SJ. Endotoxin exposure and inflammation markers among agricultural workers in Colorado and Nebraska. *J Toxicol & Environ Health Part A*. 73:5-22. 2010. PMID: 19953416.
34. Du-Quiton J, Wood PA, **Burch JB**, Grutsch JF, Gupta D, Tyer K, Lis CG, Levin RD, Quiton D, Reynolds JL, Hrushesky WJM. Actigraphic assessment of daily sleep-activity pattern abnormalities reflect self-assessed depression and anxiety in outpatients with advanced non-small cell lung cancer. *Psycho-Oncology*. 19:180-9. 2010. PMID: 19199317.
35. Guess J<sup>1</sup>, **Burch JB**, Ogoussan K<sup>2</sup>, Armstead CA, Zhang H, Wagner S<sup>1</sup>, Hébert J, Wood P, Youngstedt SD, Hofseth LJ, Singh U, Xie D, Hrushesky WJE. Circadian disruption, Per3, and human cytokine secretion. *Integrative Cancer Therapies*. 8(4):329-36. 2009. PMID: 19926609.
36. **Burch JB**, Tom J<sup>1</sup>, Zhai Y<sup>2</sup>, Criswell L<sup>1</sup>, Leo E<sup>1</sup>, Ogoussan K<sup>2</sup>. Shiftwork impacts and adaptation among health care workers. *Occupational Medicine (London)*. 59:159-166. 2009. PMID: 19270043.

**Peer-Reviewed Manuscripts** <sup>1</sup>*Current / Former Direct Student Advisee*, <sup>2</sup>*Direct Professional Mentee*

37. **Wagner SE**<sup>1</sup>, **Burch JB**, Hussey J, Temples T, Bolick-Aldrich S, Mosely C, Liu Y, Hebert JR. Soil zinc content, groundwater usage and prostate cancer incidence in South Carolina. *Cancer Causes & Control*. 20(3):345-53. 2009. PMID: 18949566.
38. **Clark ML**<sup>1</sup>, Peel JL, **Burch JB**, Nelson TL, Robinson MM, Conway S, Bachand AM, Reynolds SJ. Impact of improved cookstoves on indoor air pollution and adverse health effects among Honduran women. *International Journal of Environmental Health Research*. 19:357-68. 2009. PMID: 19626518.
39. Hébert JR, Daguise V, Hurley DM, Campbell R, Mosley CM, Adams SA, Puett R, **Burch JB**, Steck SE, Bolick-Aldrich SW. Mapping cancer mortality-to-incidence ratios to illustrate racial and gender disparities in a high-risk population. *Cancer*. 115:2539-52. 2009. PMCID: PMC2688832.
40. **Burch JB**, Reif JS, Yost MG. Geomagnetic activity and human melatonin metabolite excretion. *Neuroscience Letters*. 438:76-79. 2008. PMID: 18472329.
41. **Clark M**<sup>1</sup>, **Burch JB**, Yost MG, **Zhai Y**<sup>2</sup>, Bachand A, Fitzpatrick CTE, Ramaprasad J, **Cragin L**<sup>2</sup>, Reif JS. Biomonitoring of estrogen and melatonin metabolites among women residing near radio and television broadcasting transmitters. *Journal of Occupational & Environmental Medicine*. 49:1149-56. 2007. PMID: 18000420.
42. **Burch JB**, **Walling M**<sup>1</sup>, **Rush A**<sup>2</sup>, **Hennesey M**<sup>2</sup>, Craven W, Finlayson C, Anderson BO, Cosma G, Wells R. Melatonin and estrogen in breast cyst fluids. *Breast Cancer Research and Treatment*. 103:331-41. 2007.
43. Daguise VG, **Burch JB**, Horner M-J, Mosley CM, Hofseth LJ, Wargovich MJ, Lloyd SC, Hebert JR. Colorectal cancer disparities in South Carolina: descriptive epidemiology, screening, special programs, and future direction. *The Journal of the South Carolina Medical Association*. 102:212-20. 2006.
44. Adams SA, Hebert JR, Bolick-Aldrich S, Daguise VG, Mosley CM, Modayil MV, Berger SH, Teas J, Mitas M, Cunningham JE, Steck SE, **Burch JB**, Butler WM, Horner M-J, Brandt HM. Breast cancer disparities in South Carolina: early detection, special programs, and descriptive epidemiology. *The Journal of the South Carolina Medical Association*. 102:231-9. 2006.
45. **Burch JB**, **Clark M**<sup>1</sup>, Yost G, Fitzpatrick CTE, Ramaprasad J, Bachand A, Reif JS. Radio frequency non-ionizing radiation in a community exposed to radio and television broadcasting. *Environ Health Perspect*. 114:248-53. 2006. PMCID: PMC1367839.
46. **Burch JB**, Yost MG, **Johnson W**<sup>1</sup>, Allen E. Melatonin, sleep and shift work adaptation. *Journal of Occupational & Environmental Medicine*. 47:893-901. 2005.
47. **Ichinose TA**<sup>1</sup>, **Burch JB**, **Noonan CW**<sup>2</sup>, Yost MG, Keefe TJ, Bachand A, Mandeville R, Reif JS. Immune markers and ornithine decarboxylase activity among electric utility workers. *Journal of Occupational & Environmental Medicine*. 46:104-12. 2004.
48. Reif JS, **Burch JB**, Nuckols JR, Metzger L, Ellington D, Anger WK. Neurobehavioral effects of exposure to trichloroethylene through a municipal water supply. *Environ Res*. 93:248-58. 2003.
49. **Burch JB**, Reif JS, **Noonan CW**<sup>2</sup>, **Ichinose T**<sup>1</sup>, Bachand A, **Koleber TI**<sup>2</sup>, Yost MG. Melatonin metabolite excretion among cellular telephone users. *Int J Radiation Biology*. 78 (11): 1029-36. 2002.

**Peer-Reviewed Manuscripts** <sup>1</sup>*Current / Former Direct Student Advisee*, <sup>2</sup>*Direct Professional Mentee*

50. Noonan CW<sup>2</sup>, Reif JS, **Burch JB**, Ichinose TA<sup>1</sup>, Yost MG, Magnusson K. Relationship between amyloid beta protein and melatonin metabolite in a study of electric utility workers. *Journal of Occupational & Environmental Medicine*. 44(8):769-775. 2002.
51. Mitsutake G, Otsuka K, Cornelissen G, Herold M, Gunther R, Dawes C, **Burch JB**, Watson D, Halberg F. Circadian and infradian rhythms in mood. *Biomedicine and Pharmacotherapy*. 55:94s-100s. 2001.
52. **Burch JB**, Reif JS, Noonan CW<sup>2</sup>, Yost MG. Melatonin metabolite levels in workers exposed to 60 Hz magnetic fields: work in substations and with 3-phase conductors. *Journal of Occupational and Environmental Medicine*. 42:136-42. 2000. *Merit in Authorship Award: American College of Occupational and Environmental Medicine*.
53. **Burch JB**, Reif JS, Yost MG, Keefe TJ, Pitrat CA<sup>2</sup>. Reduced excretion of a melatonin metabolite in workers exposed to 60 Hz magnetic fields. *American Journal of Epidemiology*. 150:27-36. 1999.
54. **Burch JB**, Reif JS, Yost MG. Geomagnetic disturbances are associated with reduced nocturnal excretion of a melatonin metabolite in humans. *Neuroscience Letters*. 266:209-212. 1999.
55. **Burch JB**, Reif JS, Yost MG, Keefe TJ, Pitrat CA<sup>2</sup>. Nocturnal excretion of a urinary melatonin metabolite in electric utility workers. *Scandinavian J Work, Environment & Health*. 24:183-9. 1998.
56. **Burch JB**, DeFiebre CM, Marks MJ, Collins AC. Chronic ethanol or nicotine treatment results in partial cross-tolerance between these agents. 95:452-458. *Psychopharmacology*. 1988.
57. Collins AC, **Burch JB**, DeFiebre CM, Marks MJ. Tolerance to and cross-tolerance between ethanol and nicotine. *Pharmacology, Biochemistry and Behavior*. 29:365-374. 1988.
58. Marks MJ, Miner L, Cole-Harding S, **Burch JB**, and Collins AC. A genetic analysis of nicotine effects on open field activity. *Pharmacology, Biochemistry and Behavior*. 24:743-9. 1986.
59. Howerton TC, **Burch JB**, O'Connor MF, Miner LL, and Collins AC. A genetic analysis of ethanol, pentobarbital and methyprylon sleep-time response. *Alcoholism: Clin & Exper Res*. 8:546-50. 1984.
60. Marks MJ, Miner L, **Burch JB**, Fulker DW, and Collins AC. A diallel analysis of nicotine-induced hypothermia. *Pharmacol Biochem Behav*. 21:953-9. 1984.
61. Marks MJ, O'Connor MF, Artman LD, **Burch JB**, and Collins AC. Chronic scopolamine treatment and brain cholinergic function. *Pharmacol Biochem Behav*. 20:771-7. 1984.
62. Marks MJ, **Burch JB**, and Collins AC. Effects of chronic nicotine infusion on tolerance development and nicotinic receptors. *J Pharmacology and Experimental Therapeutics*. 226(3):817-25. 1983.
63. Marks MJ, **Burch JB**, and Collins AC. Genetics of nicotine response in four inbred strains of mice. *Journal of Pharmacology and Experimental Therapeutics*. 226(1):291-302. 1983.
64. Marks MJ, Patinkin DM, Artman LD, **Burch JB**, and Collins AC. Genetic influences on cholinergic drug response. *Pharmacology, Biochemistry and Behavior*. 15:271-9. 1981.



## **Invited Commentary, Reviews, Book Chapters, Editorials, Technical Reports, Proceedings:**

<sup>1</sup>*Current / Former Direct Student Advisee*, <sup>2</sup>*Direct Professional Mentee*

1. Hébert JR, Ochonma C, **Burch JB**, Hurley TG, Bennett CL, Strayer SM. Commentary on: "Optimal Colorectal Cancer Screening in States' Low-Income, Uninsured Populations - The case of South Carolina". (Commentary, Submitted, In Revision).
2. Wirth M<sup>1</sup>, Vena JE, **Burch JB**. Risk of cancer incidence and cancer mortality among police officers. In: Violanti JM (Ed), Dying for the Job: Police Work Exposure and Health. Charles C. Thomas Publisher. Springfield, IL. 2014. (Book Chapter).
3. Wirth M<sup>1</sup>, Vena JE, Smith EK, Bauer SE, Violanti J, **Burch JB**. The epidemiology of cancer among police officers. American Journal of Industrial Medicine. 56:439-53. 2013. (Review). PMID: 23255299.
4. **Burch JB**, Wirth M<sup>1</sup>, Yang X. Disruption of circadian rhythms and sleep: role in carcinogenesis. In Kushida CA (Ed), The Encyclopedia of Sleep, Vol. 3, pp. 150-155. Academic Press. Waltham, MA. 2013. (Book Chapter).
5. Xirasagar S, Hurley TG, Hebert JR, **Burch JB**, Li Y-J. 2010-2011 South Carolina Cancer Alliance, Cancer Control Plan Implementation Evaluation of Screening Colonoscopies on People Everywhere in South Carolina (SCOPE SC) Year 1. Final Report. Prepared for SC Dept. of Health and Environmental Control, Columbia, SC. Contract No. CY-11-032. August 31, 2011. (Technical Report).
6. Yost MG, **Burch JB**. A recurring question. Are there health effects of power-frequency magnetic fields? Arch Pediatr Adolesc Med. 165:959-61. 2011. (Editorial).
7. **Burch JB** and Hrushesky WJM. The protective role of melatonin in breast cancer. Breast Diseases: A Year Book Quarterly. 20:240-5. 2009. (Invited Commentary).
8. Reynolds SJ, **Burch JB**, Wagner SE<sup>1</sup>, Svendsen E, Siegel PD, von Essen S, Prinz L, Keefe T, Mehaffy J, Bradford M, Cranmer B, Saito R, Koehncke N. Endotoxin exposure, inflammation markers, and pulmonary function among agricultural works in Colorado and Nebraska. U.S.A. AIOH 27th Conference Canberra 2009, New and Emerging Issues, pp.7-19, December 6-9, 2009. (Proceedings).
9. Youngstedt SD, **Burch JB**. Pathophysiology, associations, and consequences of circadian rhythm sleep disorders. In Kushida CA (Ed), Handbook of Sleep Disorders. Informa Healthcare. New York. pp. 123-133. 2009. (Book Chapter).
10. Reynolds SJ, Keefe T, **Burch JB**, Mehaffy J, Serrano Martinez A, Bradford M, Baker L, Cranmer B, Saito R, Tessari J, Koehncke N, Prinz L, Svendsen E, Von Essen S. Endotoxin exposure and genetic factors in organic dust lung disease. Final Report (Grant No: 5 U50 OH008085). National Institute for Occupational Safety & Health. December, 2007. (Technical Report).
11. **Burch JB**, Yost MG, Johnson W<sup>1</sup>, Allen E. RF exposure and melatonin levels in heat sealer operators. Final Report. (Grant No: 5 R01 OH03885-02, PI: Yost). National Institute for Occupational Safety and Health. June, 2006. (Technical Report).
12. Reif JS, **Burch JB**, Yost MG, Bachand A. Human responses to residential RF exposure. Final Report. (Grant No: 2 RO1 ES0008117-04, PI: Reif). National Institute of Environmental Health Sciences, Research Triangle Park, NC. August, 2005. (Technical Report).

## **Invited Commentary, Reviews, Book Chapters, Editorials, Technical Reports, Proceedings**

(Continued): <sup>1</sup>*Current / Former Direct Student Advisee*, <sup>2</sup>*Direct Professional Mentee*

13. **Burch JB**, Walling M<sup>1</sup>, Rush A<sup>2</sup>, Hennesey M<sup>2</sup>, Wells R. Role of melatonin in the prevention of breast cancer in patients with gross cystic breast disease. Final Report. (Grant No: DAMD17-99-1-9143). Dept. of Defense Breast Cancer Research Program, U.S. Army Medical Research and Materiel Command. Fort Detrick, MD. 2005. (Technical Report).
14. **Burch JB**, Clark M<sup>1</sup>, Bachand A, Yost MG, Reif JS. Biological monitoring in a community exposed to radio frequency radiation. Revista ABHO (Brazilian Occupational Hygienists Association). Dec., 2004. (Proceedings).
15. **Burch JB**, Reif JS, Noonan CW<sup>2</sup>, Ichinose TA<sup>1</sup>, van Wijngaarden, E<sup>2</sup>, Yost, MG. Factors influencing human biological responses to occupational and residential magnetic field exposures. Final Report. Prepared for Platte River Power Authority. Fort Collins, CO. April, 2002. (Technical Report).
16. Reif JS, Nuckols JR, **Burch JB**, Ellington D. Evaluation of priority health conditions in a community with historical contamination by trichloroethylene. Final Report. Agency for Toxic Substances and Disease Registry. Final Report. Atlanta, GA, July 23, 2000. (Technical Report).
17. **Burch JB**, Reif JS, Noonan CW<sup>2</sup>, Ichinose TA<sup>1</sup>, van Wijngaarden E<sup>2</sup>, Yost, MG. Human biological responses to occupational and residential magnetic field exposures. Final Report. Prepared for Platte River Power Authority. Fort Collins, CO. January, 2000. (Technical Report).
18. **Burch JB**, Metzger L, Reif JS. Prevalence of symptoms and disease in communities surrounding the Rocky Mountain Arsenal. In: Reproductive, neurobehavioral and other disorders in communities surrounding the rocky mountain arsenal. Final Report. Agency for Toxic Substances and Disease Registry, U.S. Dept. Health and Human Services. Atlanta, GA. 1995. (Technical Report).
19. Ekambaram VV, **Burch JB**. High performance liquid chromatography as a viable field screening method. Proc. 1st International Symposium on Field Screening Methods for Hazardous Waste Site Investigations. U.S. Environmental Protection Agency. pp.361-365. Oct., 1988. (Proceedings).

## **Abstracts** <sup>1</sup>*Current / Former Direct Student Advisee*, <sup>2</sup>*Direct Professional Mentee*

1. **Burch JB**, Alexander M<sup>1</sup>, Steck SE, Chen C-F, Hurley TG, Cavicchia P, Ray M, Shivappa N, Guess J, Zhang H, Youngstedt SD, Creek KE, Lloyd S, Yang X, Hébert JR. Case-control study of the *PERIOD3* clock gene length polymorphism and colorectal adenoma formation. Sleep Sci. 6(S1):41. 2013.
2. **Burch JB**, Wirth MD<sup>1</sup>, Steck SE, Hurley TG, Sarin R, Gupta PC, Pednekar MS, Kapoor A, Hébert JR. Circadian disruption indicators and breast cancer risk among women in India. Epidemiology. 23 (5S): S-203. 2012. doi: 10.1097/01.ede.0000416803.93189.25.
3. Dhotre H<sup>1</sup>, **Burch JB**, Michels J, Bottai M, Brenner E. Use of poison center data for syndromic surveillance. Epidemiology. 23 (5S): S-539. 2012. doi: 10.1097/01.ede.0000417136.86442.66.

**Abstracts** (Continued): <sup>1</sup>Current / Former Direct Student Advisee, <sup>2</sup>Direct Professional Mentee

4. Wagner SE<sup>1</sup>, Rathbun S, **Burch JB**, Bayakly R, Vena J. Spatial modeling of environmental radionuclides and cancer risk in Georgia. *Epidemiology*. 23(5S): S-542. 2012.  
doi:10.1097/01.ede.0000417139.71194.65.
5. **Burch JB**, Wagner SE<sup>1</sup>, Puett R, Cai B, Karmaus W, Vena JE, Besley J, Svendsen E. Methylmercury in sport fish and adverse reproductive outcomes in South Carolina. 23rd Annual Conference of the International Society of Environmental Epidemiology (ISEE). Sept. 13-16, 2011. Barcelona, Spain. *Environ Health Perspect*. doi:10.1289/ehp.isee2011.
6. Svendsen E, Lewis RC, Besley J, Schumacher A, Glover J, **Burch JB**. Sport-caught fish consumption patterns of South Carolina women in regions at-risk for methyl mercury contamination. Council of State and Territorial Epidemiologists Annual Conference. Pittsburgh, PA. June 12-16, 2011.
7. Wagner SE<sup>1</sup>, Rathbun SL, **Burch JB**, Bayakly R, Vena JE. Environmental radon exposure and cancer incidence in Georgia. 23rd Annual Conference of the International Society of Environmental Epidemiology (ISEE). Sept. 13-16, 2011. Barcelona, Spain. *Environ Health Perspect*. doi:10.1289/ehp.isee2011.
8. Clark ML<sup>1</sup>, **Burch JB**, Von Essen S, Prinz L, Keefe T, Mehaffy J, Bradford M, Cranmer B, Davidson ME, Yang I, Reynolds SJ. Endotoxin exposure, TLR4 mutations, smoking, and work-related behaviors: pulmonary function deficits among potentially susceptible subgroups of agricultural workers in Colorado and Nebraska. 23rd Annual Conference of the International Society of Environmental Epidemiology (ISEE). Sept. 13-16, 2011. Barcelona, Spain. *Environ Health Perspect*. doi:10.1289/ehp.isee2011.
9. Kline CE, Crowley EP, Ewing GB, Rowell EA, Giles KL, Blair SN, Durstine JL, Davis JM, **Burch JB**, Youngstedt SD. Exercise training improves heart rate recovery in adults with obstructive sleep apnea. *Med Sci Sports Exerc* 42 (5S). 2011.
10. Kline CE, Milton DN, Kane CJ, Crowley EP, Ewing GB, Blair SN, Durstine JL, Davis JM, **Burch JB**, Youngstedt SD. Exercise training significantly reduces obstructive sleep apnea severity and improves sleep quality in untreated adults: a randomized controlled trial. *Sleep* 33 (Suppl). 2011.
11. Kline CE, Porter MM, Rose ED, Cornelius SK, Ewing GB, Blair SN, Durstine JL, Davis JM, **Burch JB**, Youngstedt SD. Changes in daytime functioning following exercise training in adults with untreated obstructive sleep apnea: a randomized controlled trial. *Sleep* 33 (Suppl). 2011.
12. Wagner SE<sup>1</sup>, **Burch JB**, Bottai M, Puett R, Porter D, Wilkerson RC, Bolick-Aldrich S, Temples T, Hebert JR. Groundwater uranium and chronic health outcomes. *Epidemiol*. 20(6) Suppl:S85. 2009.
13. Guess J<sup>1</sup> **Burch JB**, Ogoussan K<sup>2</sup>, Zhang H, Wagner SE<sup>1</sup>, Hébert J, Wood P, Hofseth L, Singh U, Hrushesky WJE. Circadian disruption and circulating inflammatory cytokines. *Circadian Disruption and Cancer*. New York Academy of Sciences, New York, NY. June 19, 2009.
14. **Burch JB**, Wirth M<sup>1</sup>, Violanti J, Burchfiel C, Fekedulegn D, Andrew M, Zhang H, Miller DB, Vena JE. Shift work duration and patterns of salivary cortisol among police officers. *Circadian Disruption and Cancer*. New York Academy of Sciences, New York, NY. June 19, 2009.

**Abstracts** (Continued): <sup>1</sup>Current / Former Direct Student Advisee, <sup>2</sup>Direct Professional Mentee

15. Vena JE, **Burch JB**, Violanti J. Stress and shift work: a deadly combination for cancer among police officers. *Circadian Disruption and Cancer*. New York Academy of Sciences, New York, NY. June 19, 2009.
16. Clark ML<sup>1</sup>, Peel JL, **Burch JB**, Nelson TL, Robinson MM, Conway S, Bachand A, Reynolds SJ. Impact of improved cookstoves on indoor air pollution and adverse health effects among Honduran women. *Epidemiol.* 19(6) Suppl:S190. 2008.
17. Wagner SE<sup>1</sup>, **Burch JB**, Hussey J, Temples T, Bolick-Aldrich S, Mosely C, Liu Y, Hebert JR. Characterizing spatial and environmental determinants of prostate cancer using a geographic information system. *Epidemiol.* 18(5) Suppl:S155-6. 2007.
18. Reynolds SJ, Keefe T, Mehaffy J, Serrano Martinez A, Bradford M, Baker L, Cranmer B, Saito R, Tessari J, **Burch JB**, Koehncke N, Prinz L, Von Essen S. Endotoxin exposure and respiratory outcomes among agricultural workers in Colorado and Nebraska. American Industrial Hygiene Conference and Exposition (AIHCE). Philadelphia, PA. June, 2007.
19. Clark ML<sup>1</sup>, **Burch JB**, Yost MG, Cragin LA<sup>2</sup>, Fitzpatrick CTE, Bachand AM, Ramaprasad J, Reif JS. Residential radiofrequency exposure and estrogen production among pre- and postmenopausal women. *Am J Epidemiol.* 163(11): S119. 2006.
20. Walling M<sup>1</sup>, **Burch JB**, Rush A<sup>2</sup>, Hennesey M<sup>2</sup>, Craven W, Finlayson C, Anderson BO, Cosma G, Wells R. Associations between gross breast cyst composition and cancer risk factors. *Am J Epidemiol.* 163(11): S101. 2006.
21. Clark ML<sup>1</sup>, Peel JL, Conway S, **Burch JB**, Reynolds SJ. Indoor air pollution and respiratory health among Honduran women. *Am J Epidemiol.* 163(11): S33. 2006.
22. Reynolds SJ, Cranmer B, Keefe T, Mehaffy J, Serrano Martinez A, Saito R, Tessari J, **Burch JB**, Koehncke N, Burch L, Wood E, Siegel P. Endotoxin exposure and respiratory outcomes among dairy, feedlot, and grain elevator workers in Colorado. American Industrial Hygiene Conference and Exposition (AIHCE). Chicago, IL. May, 2006.
23. **Burch JB**, Yost MG, Clark M<sup>1</sup>, Fitzpatrick CTE, Ramaprasad J, Bachand A, Reif JS. Radio frequency non-ionizing radiation in a community exposed to radio and TV broadcasting. *Epidemiology.* 16(5): S108-S109. 2005.
24. **Burch JB**, Reif JS, Noonan CW<sup>2</sup>, Ichinose T<sup>1</sup>, Bachand A, Koleber TL<sup>2</sup>, Yost MG. Melatonin metabolite excretion among cellular telephone users (Abstract). Annual Meeting of the Bioelectromagnetics Society. Maui, HI, June, 2003.
25. **Burch JB**, Bigelow P, Bakjaji K<sup>2</sup>. Biomonitoring of pulmonary inflammation and oxidative DNA damage among diesel exposed workers. *Epidemiology.* 13(4): S163. 2002.

**Abstracts** (Continued): <sup>1</sup>Current / Former Direct Student Advisee, <sup>2</sup>Direct Professional Mentee

26. **Burch JB**, Wells RL, Hennesey M, Finlayson C, Craven W, Anderson B, Cosma GN. Role of melatonin in the prevention of breast cancer in patients with gross cystic breast disease (Abstract). Era of Hope U.S. Dept. of Defense Breast Cancer Research Program Meeting, Orlando, FL. Sept., 2002.
27. **Burch JB**, Ichinose T<sup>1</sup>, Reif JS, Noonan CW<sup>2</sup>, Yost MG. Modulation of natural killer cells and ornithine decarboxylase activity in electric utility workers (Abstract). Annual Meeting of the Bioelectromagnetics Society. St. Paul, MN, June, 2001.
28. Ramsdell HS, **Burch JB**. Determination of N<sup>1</sup>-acetyl-5-methoxykynuramine in human urine. *Toxicological Sciences*. 60(1S):415. 2001.
29. **Burch JB**, Bigelow P, Bakjaji K<sup>2</sup>. Biomonitoring for the inflammation mediator, leukotriene E4, in diesel exposed workers (Abstract). American Industrial Hygiene Conference and Exposition (AIHCE), New Orleans, LA, June, 2001.
30. Noonan CW<sup>2</sup>, Reif J, **Burch J**, Magnusson K. Magnetic fields, melatonin, and amyloid beta protein in electric utility workers. *Epidemiology*. 11:S136. 2000.
31. Mitsutake G, Cornelissen G, Otsuka K, Herold M, Dawes C, **Burch J**, Rawson MJ, Halberg F, Ferguson I. Relations between positive and negative affect and blood pressure in a clinically healthy man. Proceedings, 1<sup>st</sup> Annual International Symposium, Workshop on Chronoastrobiology and Chronotherapy. (Satellite Symposium, 7<sup>th</sup> Annual Meeting, Japanese Society for Chronobiology). Kudan, Chiyodaku, Tokyo, Japan, November 11, 2000. pp. 34-36.
32. **Burch JB**, Reif JS, Noonan CW<sup>2</sup>, Yost MG. Reduced melatonin metabolite levels in electric utility workers. (Abstract). 21<sup>st</sup> Annual Meeting of the Bioelectromagnetics Society. Long Beach, CA, June, 1999.
33. **Burch JB**, Reif JS, Yost MG. Geomagnetic fields are associated with reduced excretion of a urinary melatonin metabolite (Abstract). 20<sup>th</sup> Annual Meeting of the Bioelectromagnetics Society. St. Petersburg, FL, June, 1998.
34. **Burch JB**, Reif JR, Pitrat CA<sup>2</sup>, Keefe TJ, Yost MG. Cellular telephone use and excretion of a urinary melatonin metabolite (Abstract). Annual Review of Research on the Biological Effects of Electric and Magnetic Fields from the Generation, Delivery and Use of Electricity. U.S. Dept. of Energy. San Diego, CA. November, 1997.
35. Leeper EA, **Burch JB**. Toward external assessment of transient exposure for epidemiology (Abstract). Annual Review of Research on the Biological Effects of Electric and Magnetic Fields from the Generation, Delivery and Use of Electricity. U.S. Dept. of Energy. San Diego, CA. November, 1997.
36. Reif JS, **Burch JB**. Effects of exposure to magnetic fields on melatonin in humans (Abstract). 2nd World Congress for Electricity and Magnetism in Biology and Medicine. Bologna, June, 1997.

**Abstracts** (Continued): <sup>1</sup>Current / Former Direct Student Advisee, <sup>2</sup>Direct Professional Mentee

37. **Burch JB**, Reif JR, Pitrat CA<sup>2</sup>, Keefe TJ, Yost MG. Melatonin in electric utility workers (Abstract). Annual Review of Research on the Biological Effects of Electric and Magnetic Fields from the Generation, Delivery and Use of Electricity. U.S. DOE. San Antonio, TX. Nov., 1996.
38. **Burch JB**, Reif JS, Pitrat CA<sup>2</sup>, Keefe TJ, Yost MG. Melatonin in electric utility workers (Abstract). 18th Annual Meeting of the Bioelectromagnetics Society. Victoria, BC, Canada. June, 1996.
39. Reif JS, **Burch JB**, Pitrat CA<sup>2</sup>, Keefe TJ, Yost MG. Melatonin in electric utility workers (Abstract). Annual Review of Research on the Biological Effects of Electric and Magnetic Fields from the Generation, Delivery and Use of Electricity. U.S. Dept. of Energy. Palm Springs, CA. Nov. 1995.
40. **Burch JB**, Marks MJ, and Collins AC. Ethanol-nicotine tolerance and cross-tolerance: role of cholinergic receptors. Alcoholism: Clinical and Experimental Research. 7(106). 1983.

## TEACHING

<u>Course Instruction:</u>	<u>Semester, Year</u>	<u>Role</u>
<u>Class</u>		
Principles of Epidemiology (EPID 410), Undergraduate	Fall, 2009, 2010, 2011; Spring, 2012, Summer, 2014, 2015	Course Instructor
Biological Basis of Public Health (EPID 725, USC), Graduate	Spring, 2007, 2008, 2009, 2013, 2015	Course Instructor
Environmental Factors & Human Health (EPID 747, USC), Graduate	Fall, 2006, 2007; Spring, 2011, 2014	Course Instructor
Seminar in Epidemiology (EPID 745, USC), Graduate	Fall, 2008, 2013	Course Coordinator
Principles of Epidemiology (EH332, CSU), Undergraduate	Spring, 2003, 2004	Course Instructor
Environmental & Occupational Epidemiology (EH658, CSU), Graduate	Spring, 2001, 2003	Course Instructor
Environmental Health Seminar (EH692/792, CSU), Graduate	Fall, 2000	Course Coordinator
Epidemiology Research Seminar, (EH693A, CSU), Graduate	Spring & Fall, 2000; Fall, 2004	Course Coordinator
Environmental Sanitation I, (EH312, CSU), Undergraduate	Fall, 1994	Graduate Teaching Assistant

**Class Lectures:**

<u>Class</u>	<u>Title</u>	<u>Semester, Year</u>
The Psychology of Sleep (PSYC 589, USC)	Shift Work, Circadian Processes & Cancer	Spring, 2015
Geographic Information Systems & Public Health Applications (EPID 794, USC)	GIS & Environmental Epidemiology	Spring, 2015
Endocrinology of Exercise & Health (EXSC 777, USC)	Circadian Physiology & Stress: Role of Shift Work in Disease	Fall, 2013, 2014
Advanced Epidemiology Methods (EPID 801, USC)	Writing Research Grants	Spring, 2010, 2011
Environmental Pollution & Health (ENHS 221, USC)	Environmental Epidemiology	Spring, 2010
Endocrinology of Exercise & Health (EXSC 777, USC)	Circadian Rhythm Disruption & Cancer	Fall, 2010, 2011, 2012
Cancer Epidemiology (EPID 746, USC)	Circadian Disruption & Cancer	Fall, 2010
Introduction to Epidemiology (EPID 700, USC)	Epidemiologic Surveillance	Fall, 2009, 2010
Advanced Epidemiology Methods (EPID 801, USC)	Use of Biomarkers in Research	Spring, 2009
Social Epidemiology (EPID 794, USC)	Biology of Stress & its Relation to Disease	Fall, 2008, 2010
Cancer Epidemiology (EPID 746, USC)	Environmental & Occupational Cancer Epidemiology	Fall, 2008, 2010 Spring, 2013
Seminar in Epidemiology (EPID 845, USC)	Shift Work & Cancer	Spring, 2008
Research Seminar in Exercise Physiology (EXCI 783, USC)	Shift Work, Circadian Rhythm Disruption & Cancer	Spring, 2008
Seminar in Epidemiology (EPID 745, USC)	Shift Work, Circadian Rhythm Disruption & Cancer	Fall, 2007
Investigative Epidemiology: Infectious Diseases (EPID 749, USC)	Global Warming & Emerging Infectious Diseases	Fall, 2007
Hallmarks of Cancer (BIOL 610, USC)	Circadian Disruption & Cancer	Spring, 2007
Cancer Epidemiology (EPID 746, USC)	Temporal Factors & Causality	Fall, 2006, 2008
Epidemiologic Concepts in Selected Disease or Health Conditions (EPID 742, USC)	Air Pollution Epidemiology	Fall, 2005

**Class Lectures:**

<u>Class</u>	<u>Title</u>	<u>Semester, Year</u>
Radiation Public Health (R561, CSU)	Epidemiology of Ionizing Radiation	Fall, 2003
Occupational Illness & Injury (PY680, CSU)	Shift Work & Breast Cancer	Spring, 2002
Epidemiology Seminar (EH693A, CSU)	Use of GIS Modeling to Study the Neurotoxic Effects of Drinking Water Contamination	Spring, 2000
Human Disease & the Environment (EH430, CSU)	Health Effects of Non-Ionizing Radiation	Spring, 2000
Epidemiology Seminar (EH693A, CSU)	Occupational EMF Exposure & Melatonin Suppression	Fall, 1999
Epidemiology Seminar (EH693A, CSU)	Diesel Exposure, Lung Inflammation & Oxidative DNA Damage	Fall, 1999
Advanced Occupational Health (EH536, CSU)	Shift Work, Circadian Rhythms & Health	Spring, 1998-2005
Advanced Environmental Health (EH520, CSU)	Epidemiologic Investigations of Electromagnetic Field Exposures	Fall, 1996, 1997
Toxicology of Environmental Agents (EH501, CSU)	Melatonin's Physiological Properties & the Consequences of its Disrupted Secretion	Fall, 1997
Biomarkers in Environmental & Human Studies (EH696, CSU)	Melatonin as a Biomarker of Oxidative Stress in Humans	Spring, 1996
Environmental & Occupational Epidemiology (EH658, CSU)	Environmental & Occupational Epidemiology of Electromagnetic Field Exposure	Spring, 1995-1998
Industrial Hygiene (EH527, CSU)	Health & Safety Regulations for Hazardous Waste Sites	Fall, 1994
Epidemiologic Methods (EH532, CSU)	Human Health Risk Assessment Methods	Spring, 1994
Principles of Epidemiology (EH332, CSU)	Epidemiology of EMF Exposure	Spring, 1994

**Professional Workshops & Training Courses:**

<u>Course</u>	<u>Date/Location</u>	<u>Role</u>
OSHA Health & Safety Training for Hazardous Waste Sites	1988-1992 Woodward-Clyde Consultants, Denver, CO and Frankfurt, Germany	Instructor
AHERA Asbestos Operations & Maintenance Training	May, 1990 Woodward-Clyde Consultants, Frankfurt, Germany	Instructor



**Graduate Student Advisees:**

<u>Student Name</u>	<u>Degree</u>	<u>Role</u>	<u>Project Title</u>	<u>Dates</u>
Daria McMahon, MD, MSPH	PhD	Dissertation Advisor	Relationships between Chronotype, Social Jetlag, Mood, Perceived Stress, Obesity & Blood Pressure in the Energy Balance Study	2014-Present
Nancy Gallant, MSPH	PhD	Dissertation Advisor	Undeclared	2015-Present
Capt. Torrance Nevels, MS	PhD	Academic Advisor	Undeclared	2015-Present
Jameson Sofge, MS	PhD	Dissertation Advisor	Undeclared	2014-Present
Elizabeth Thames, MS	MSPH	Academic Advisor	Undeclared	2014-Present
Andres Gavira, MPH	PhD	Academic & Epidemiology Practicum Advisor	Undeclared ( <i>EPID/ENHS Dual PhD Degree Program</i> )	2013-Present
Dan Kilpatrick	PhD	Committee Member	Climate Change Projections on the Health and Economic Consequences of Benzo[a]pyrene Exposure	2015-Present
Melannie Alexander, MSPH ( <i>Behavioral Biomedical Interface Program Fellowship</i> )	PhD	Dissertation & Academic Advisor	Epigenetics of Adenomatous Polyp Formation, and Epidemiology of Sleep Disorders among Veterans	2009-Present
Michael Wirth, MSPH ( <i>Delta Omega Public Health Scholar &amp; Behavioral Biomedical Interface Program Fellowship</i> )	PhD	Dissertation & Academic Advisor	Circadian Disruption & Cancer	2009-2012 (Completed)
Katie Carpenter	MSPH	Thesis Advisor	Survey of Risk Factors for Early Menses in NHANES	2010-Present
Harley Davis, MSPH	PhD	Committee Member	Exposure to Arsenic and Lead in Soils and Associations with Preterm Birth	2012-2015 (Completed)
Himal Dhotre	PhD	Dissertation & Academic Advisor	Syndromic Surveillance using Poison Control Center Data	2007-2011 (Completed)
Alexandria Delage	MSPH	Thesis Advisor	Sleep Disruption & Cancer Incidence in a Southeastern Veteran Population	2009-2015 (Completed)

**Graduate Student Advisees:**

<u>Student Name</u>	<u>Degree</u>	<u>Role</u>	<u>Project Title</u>	<u>Dates</u>
Todd Everson, MSPH	PhD	Academic Advisor	Epigenetics of Asthma	2011-2013 (Completed)
Stephanie Clugstone	MSPH	Academic Advisor	Obesity and Chronic Disease Risk	2012-2013 (Completed)
Gowtham Rao, MD	PhD	Committee Member	Angiotensin Receptor Blockers & Cancer: Causal Analysis from Retrospective Data	2010-2012 (Completed)
Kesine Hanjansit	PhD	Committee Member	Incidence & Predictive Factors of Balkan Endemic Nephropathy	2010-2011 (Completed)
Pallavi Balte, MD	MPH	Practicum Supervisor	Shift Work & Heart Rate Variability among Nurses	2010-2011 (Completed)
Eren Youmans	PhD	Dissertation & Academic Advisor	Epidemiology of HIV-Infected Women in South Carolina: Implications of Previous Incarceration	2007-2010 (Completed)
Michael Wirth <i>(Delta Omega Public Health Scholar)</i>	MSPH	Thesis Advisor	Circadian Disruption among Police Officers	2007-2009 (Completed)
Sara Wagner, MSPH <i>(Outstanding Graduate Student Research Award, USC Dept. of Epidemiology &amp; Biostatistics)</i>	PhD	Dissertation Advisor	Groundwater Uranium & Chronic Disease Outcomes	2006-2009 (Completed)
Chris Kline <i>(Outstanding Graduate Student Research Award, Arnold School of Public Health, USC)</i>	PhD	Committee Member	Changes in HPA Axis Functioning with Exercise Training in the Treatment of Insomnia	2008-2010 (Completed)
Shyam Chirravoori	MSPH	Committee Member	Balkan Endemic Nephropathy Clinical Features	2009-2010 (Completed)
Ali Mansaray	PhD	Committee Member	Impact of Colonoscopies Performed by Primary Care Physicians	2007-2008
Margie Walling	PhD	Dissertation Advisor (2003-5), Committee Member (2006-2012)	Breast Cyst Fluid Composition	2003-2012

**Graduate Student Advisees:**

<u>Student Name</u>	<u>Degree</u>	<u>Role</u>	<u>Project Title</u>	<u>Dates</u>
Tanisha Nellom	MSPH	Academic Advisor	HIV Surveillance	2008-2010 (Completed)
Wright Culpeper	MSPH	Academic Advisor	Cardiovascular Disease Epidemiology	2008-2009 (Completed)
Jaclyn Guess	MSPH	Thesis Advisor	Circadian Disruption & Polyp Formation	2007-2008 (Completed)
Lariessa Stumm	MSPH	Academic Advisor	Leptin & Prostate Cancer	2006-2008 (Completed)
Yusheng Zhai, MS	MSPH	Committee Member	Impact of Auxiliary Information for Parameter Estimation in Logistic Regression with Missing Outcome Data	2006-2007 (Completed)
Yeong Oh	MD, PhD	Committee Member	Seasonal and Monthly Cycles of Breast Cancer Susceptibility and Survival	2006-2008 (Completed)
Hao Zhu	MSPH	Academic Advisor	HIV & AIDS Surveillance	2005-2007 (Completed)
Sara Wagner ( <i>School &amp; Dept. Travel Awards, 2007; Pubic Health Traineeship, 2005-2007</i> )	MSPH	Thesis Advisor	Geographic Determinants Contributing to the Racial Prostate Cancer Disparity in South Carolina	2005-2006 (Completed)
Maggie Clark, MS	PhD	Committee Member	Indoor Air Pollution & Respiratory Health among Honduran Women	2005-2008 (Completed)
John Wolownik	MSPH	Academic Advisor	Cardiovascular Disease Epidemiology	2005
Kishig Jamiyansharav	PhD	Committee Member	Mongolian Air Quality Monitoring	2003-2005
Kerri Bain-Phillips	MA	Committee Member	Health Education at Poudre Valley Hospital	2004-2005 (Completed)
Maggie Clark ( <i>Outstanding Graduate Student Award</i> )	MS	Thesis Advisor	Estrogen, Melatonin & Residential RF Exposure	2001-2005 (Completed)

**Graduate Student Advisees:**

<u>Student Name</u>	<u>Degree</u>	<u>Role</u>	<u>Project Title</u>	<u>Dates</u>
Travers Ichinose ( <i>Outstanding Graduate Student &amp; John R. Bagby Awards, Dept. of ERHS, CSU</i> )	MS	Thesis Advisor	Modulation of the Immune System by Magnetic Fields in a Group of Electric Utility Workers	1999-2001 (Completed)
Edward Leo	PhD	Dissertation Advisor	The Role of Shift Work Adaptation on Stress and Performance	2000-2002

**Undergraduate Student Advisees:**

<u>Student Name</u>	<u>Role</u>	<u>Project Title</u>	<u>Dates</u>
Eric Reyes-Bastida (Mechanical Engineering)	Faculty Mentor	Site Assessment and Conceptual Design for Water Development Project in Cedros, Ecuador, USC Magellan Scholar Program	2015
Faris Nayfeh (Statistics)	Honors Internship & Work Study Supervisor	Chronic Sleep Disruption & Inflammation in the SEASONS Study	2013-2014
Jacob LeGrone (Public Health)	Honors Thesis Director	Engineers Without Borders Public Health Needs Assessment	2014
Trent Weaver (Mechanical Engineering), Zane McGhee (Civil & Environmental Engineering), Olivia Haley (Biological Sciences)	Faculty Mentor	Assessing Public Health Needs & Developing a Sustainable Water Irrigation System for Organic Coffee Crops in La Victoria, Ecuador, USC Magellan Scholar Program	2014-2015
Brendan Croom (Mechanical Engineering)	Honors Thesis Advisor	Engineers Without Borders Case Study	2013-2014
Vashti Bandy (Biology)	Independent Study Supervisor	Pilot Study of Novel Adenoma Risk Factors	2013-2014
Brendan Croom (Mechanical Engineering); Andrea Eggleston (Biomedical Engineering); Corey King (Civil & Environmental Engineering); Ronald Geylin (Environmental Science)	Faculty Mentor	Developing a Water Irrigation System for Organic Coffee Crops in La Victoria, Ecuador, USC Magellan Scholar Program	2012-2013
Jackie Vivar	Research Supervisor	Survey of Circadian and Psychosocial Factors among Colonoscopy Patients	2008-2009

**Undergraduate Student Advisees:**

<u>Student Name</u>	<u>Role</u>	<u>Project Title</u>	<u>Dates</u>
Laquissa Boyd	Internship Supervisor	Physical Activity Monitoring & Evaluation	Summer, 2007
Jasmine Tom (Winner: John R. Bagby Award, Dept. of ERHS, CSU)	Honors Thesis Advisor	Shift Work & Stress among Nurses, RF Exposure Assessment in Workers	2002-2005
Shannon Oliver	Internship Supervisor	Indoor Air Pollution & Respiratory Health among Honduran Women	2004-2005
Victoria Stark	Internship Supervisor	Workplace Monitoring of RF Heat Sealer Operators	2001-2002
Amanda Wood	Independent Study Supervisor	Factors Influencing Human Biological Responses to Magnetic Field Exposures	Spring, 2001
Travers Ichinose	Independent Study Supervisor	Human Biological Responses to Occupational & Residential EMFs	Fall, 1998

**Professional Research Activities Supervised:**

<u>Name</u>	<u>Job Title</u>	<u>Project Title</u>	<u>Dates</u>
Kolby Redd, PhD	Recruitment Coordinator	HRV Biofeedback in Pain Patients: Pilot Intervention for Pain, Fatigue & Sleep	2015
Deborah Salzberg, MS, MAT	Conference Planning Director	International Society for Environmental Epidemiology, Host Institution for 2012 Annual Conference	2011-2013
Meredith Ray, MSPH	Research Assistant	Sleep Disorders & Cancer Incidence among Veterans	2011-2012
Debjani Chanda	Research Assistant	Endotoxin Exposure and Genetic Factors in Organic Dust Lung Disease	2007
Yusheng Zhai, MSPH	Research Assistant	Human Responses to RF Exposure, Circadian Rest/Activity Rhythms	2005-2007
Kisito Ogoussan, MSPH, MD	Research Associate	Role of Circadian Disruption in Polyp Formation and Recurrence	2005-2007
Kari Everett	Student Hourly	RF Exposure and Melatonin Levels in Heat Sealer Operators	2004

**Professional Research Activities Supervised:**

<u>Name</u>	<u>Job Title</u>	<u>Project Title</u>	<u>Dates</u>
Adam Rush	Research Associate	Role of Melatonin in the Prevention of Breast Cancer in Patients with Gross Cystic Breast Disease	2003
Clover Stout	Student Hourly	Role of Melatonin in the Prevention of Breast Cancer in Patients with Gross Cystic Breast Disease	2003
Angela Coss	Research Associate	Human Responses to Residential RF Exposure	2002-2003
Maxine Hennessy, MS	Research Associate	Role of Melatonin in the Prevention of Breast Cancer in Patients with Gross Cystic Breast Disease	2000-2002
Kathryn Gallagher	Student Hourly	Role of Melatonin in the Prevention of Breast Cancer in Patients with Gross Cystic Breast Disease	2001-2002
Sarah Carroll	Student Hourly	Role of Melatonin in the Prevention of Breast Cancer in Patients with Gross Cystic Breast Disease	2000-2001
Edwin van Wijngaarden	Internship Supervisor	Human Biological Responses to Occupational & Residential Magnetic Field Exposures	1996-98
Curtis Noonan	Graduate Research Assistant	Neurodegenerative Disease & Occupational Magnetic Fields Exposure	1997-2000
Kinda Bakjaji	Graduate Research Assistant	Occupational Exposure to Diesel Exhaust and Leukotriene E4 Excretion	1998-2000
Terri Koleber	Graduate Research Assistant	EMF Exposure, Depression and 5-HIAA Excretion in Utility Workers	1998-1999
Robyn Anderson	Student Hourly	Melatonin & Occupational Magnetic Field Exposure	1998
Jeanette Haddock	Student Hourly	Melatonin & Occupational Magnetic Field Exposure	1996-1997
Kristina Reyner	Student Hourly	Human Biological Responses to Occupational & Residential Magnetic Fields	1996-1997
Lee Ann Kempton	Student Hourly	Human Biological Responses to Occupational and Residential Magnetic Fields	1996-1997

## PRESENTATIONS

### Invited Presentations:

<u>Title</u>	<u>Organization</u>	<u>Location/Date</u>
Stress Management - Getting to the Heart of the Matter	Junior League of Columbia Lunch-and-Learn, Columbia, SC	Jan, 2016
Is There a Role for 'Sunshine and Sleep' in Cancer Prevention?	Massey University College of Public Health	Wellington, New Zealand, Sept, 2015
Role of Circadian Rhythm & Sleep Disruption in Cancer	Atrium Society Lunch-and-Learn, Palmetto Health Foundation	Columbia, SC May, 2015
Are You Sleeping Well? Research on the Effects of Sleep Disruption on Veterans & Nurses	VA Focus on Research Series, Dorn VA Medical Center	Columbia, SC May, 2015
Role of Circadian Rhythm & Sleep Disruption in Cancer	Atrium Society Lunch-and-Learn Palmetto Health Foundation	Columbia, SC May, 2015
Use of Biological Markers to Study Disease Mechanisms among Shiftworkers	21st International Symposium on Shiftwork and Working Time	Bahia, Brazil Nov. 2013
Sleep Disorders & Cancer	Dorn Department of Veteran's Affairs Medical Center, VA Research Day	Columbia, SC, May, 2011
Mercury in Fish & Adverse Reproductive Outcomes in SC	Dept. of Environmental Health Sciences, University of South Carolina	Columbia, SC Oct., 2010
Shift Work, Circadian Rhythm Disruption & Cancer	Dept. of Epidemiology & Biostatistics, University of Georgia	Athens, GA March, 2010
Mercury in Fish and Adverse Reproductive Outcomes	Environmental Health Sciences (NIEHS) Center, University of Texas Medical Branch	Galveston, TX Nov., 2009
Biological Effects of RF in Communities Exposed to Radio and TV Broadcasting Transmitters	EMR Policy Institute Scientific Conference, Electromagnetic Radiation Impacts on Human Health	Golden, CO Nov., 2009
Colorectal Cancer Research at the South Carolina Cancer Prevention & Control Program	Hollings Cancer Center Spring Research Symposium, Medical University of South Carolina	Charleston, SC March, 2009
SCOPE SC, South Carolina's Statewide Colorectal Cancer Screening Program	SC Primary Health Care Association Clinical Network	Columbia, SC, July, 2008
Circadian Rhythm Disruption & Cancer	Department of Veteran's Affairs VISN-7 Research Meeting	Charleston, SC October, 2007
Circadian Disruption & Cancer	Dorn Department of Veteran's Affairs Medical Center, VA Research Day	Columbia, SC, May, 2007

### **Invited Presentations:**

<u>Title</u>	<u>Organization</u>	<u>Location/Date</u>
Biological Monitoring in a Community Exposed to Radio Frequency Radiation	Brazilian Occupational Hygienists Association	Sao Paulo, Brazil (Teleconference) Aug., 2004
Neurobehavioral Effects of Exposure to Trichloroethylene Through a Municipal Water Supply	U.S. Environmental Protection Agency (USEPA), Office for Environmental Assessment	Wash., DC Feb., 2003
Biomonitoring for the Inflammation Mediator, Leukotriene E4, in Diesel Exposed Workers	Div. of Environmental & Occupational Health Sciences, National Jewish Medical & Research Center	Denver, CO April, 2001
Evaluation of Priority Health Conditions in a Community with Historical Contamination by Trichloroethylene	Rocky Mt. Arsenal Residential Advisory Board & the US Agency for Toxic Substances & Disease Registry	Denver, CO April, 2001
Evaluation of Priority Health Conditions in a Community with Historical Contamination by Trichloroethylene	Lowry AFB Residential Advisory Board & the US Agency for Toxic Substances & Disease Registry	Feb, 2001 Denver, CO
Melatonin in Electric Utility Workers	Dept. of Environmental Health, University of Washington	Seattle, WA May 8, 1997
Melatonin in Electric Utility Workers	U.S. Department of Energy Melatonin Summit Conference	Portland, OR May, 1995
Melatonin as a Potential Biomarker of Exposure to Magnetic Fields	Colorado Health Effects Communicators Conference	Lakewood, CO Feb., 1995
Risk Communication for Risk Assessment	Dept. of Environmental Health, Colorado State University	Ft. Collins, CO Apr, 1992

### **Conference Presentations (as Presenting Author):**

<u>Type</u>	<u>Title</u>	<u>Organization</u>	<u>Location/Date</u>
Poster	Sleep Disorders among Veterans: Implications for Cancer Risk	American Society of Preventive Oncology 39th Annual Meeting, University of Alabama at Birmingham	Birmingham, AB March, 2015
Poster	<i>PER3</i> Polymorphism & Colorectal Adenoma Formation	21st Int'l Symposium on Shiftwork & Working Time	Bahia, Brazil Nov. 2013
Poster	Methylmercury in Fish & Adverse Reproductive Outcomes in SC	International Society for Environmental Epidemiology	Barcelona, Spain Sept., 2011
Poster	Circadian Disruption and Circulating Inflammatory Cytokines	New York Academy of Sciences	New York, NY June, 2009



**Conference Presentations (as Presenting Author):**

<u>Type</u>	<u>Title</u>	<u>Organization</u>	<u>Location/Date</u>
Poster	Shift Work Duration and Patterns of Salivary Cortisol among Police Officers	New York Academy of Sciences	New York, NY June, 2009
Platform	Radio Frequency Non-Ionizing Radiation in a Community Exposed to Radio and TV Broadcasting	International Society for Environmental Epidemiology	Johannesburg, South Africa Sept, 2005
Platform	Melatonin Metabolite Excretion among Cellular Telephone Users	Annual Meeting of the Bioelectromagnetics Society	Maui, HI, June, 2003
Poster	Breast Cancer Risk in Women with Gross Cystic Breast Disease: Role of Endocrine, Genetic, and Environmental Markers	Avon Breast Cancer Retreat, U. of Colo. Health Sci. Center, Fitzsimmons Campus	Denver, CO March, 2002
Poster	Biomonitoring of Pulmonary Inflammation and Oxidative DNA Damage among Diesel Exposed Workers	International Society for Environmental Epidemiology	Vancouver, BC August, 2002
Poster	Role of Melatonin in the Prevention of Breast Cancer in Patients with Gross Cystic Breast Disease	Era of Hope US Dept. of Defense Breast Cancer Research Program Meeting	Orlando, FL Sept., 2002
Poster	Modulation of Natural Killer Cells & Ornithine Decarboxylase Activity in Electric Utility Workers	Annual Meeting of the Bioelectromagnetics Society	St. Paul, MN June, 2001
Platform	Reduced Melatonin Metabolite Levels in Electric Utility Workers: Replication Study	Annual Meeting of the Bioelectromagnetics Society	Long Beach, CA, June, 1999
Poster	Geomagnetic fields are Associated with Reduced Excretion of a Urinary Melatonin Metabolite	Annual Meeting of the Bioelectromagnetics Society	St. Petersburg, FL June, 1998
Poster	Cellular Telephone Use & Excretion of a Urinary Melatonin Metabolite	Annual Review of Research on the Biological Effects of Electric & Magnetic Fields from the Generation, Delivery & Use of Electricity, USDOE	San Diego, CA Nov, 1997
Platform	Melatonin Levels in Electric Utility Workers	Annual Review of Research on the Biological Effects of Electric & Magnetic Fields from the Generation, Delivery & Use of Electricity, USDOE	San Antonio, TX Nov, 1996
Platform	Melatonin Levels in Electric Utility Workers	Annual Epidemiology Exchange	Denver, CO Nov 10, 1995

## SERVICE - Academic:

<u>Activity</u>	<u>Organization</u>	<u>Dates</u>
Search Committee Member Asst./Assoc. Professor	Department of Environmental Health Sciences, Arnold School of Public Health, University of South Carolina	2016-Present
Admissions and Advisory Committee, MPH in General Public Health	Arnold School of Public Health University of South Carolina	2014-Present
Judge, Graduate Student Day	University of South Carolina Graduate School	2014-15
Search Committee Member, Open Rank Search, (3 Faculty Positions)	Department of Epidemiology & Biostatistics, University of South Carolina	2013-2014
Judge, Discovery Day	University of South Carolina Office of Undergraduate Research	2013
Search Committee Chair (2014), Co-Chair (2012-3), Asst./Assoc. Professor of Epigenetic/Genetic Epidemiology	Department of Epidemiology & Biostatistics, University of South Carolina	2012-2016
Tenure & Promotion Committee	Arnold School of Public Health, University of South Carolina	2011-Present
Search Committee, Endowed Chair in Cancer-Related Health Disparities	Arnold School of Public Health University of South Carolina	2011-2012
Cancer Prevention & Control	Strategic Task Force, Arnold School of Public Health University of South Carolina	2010
Graduate Admissions Committee	Department of Epidemiology & Biostatistics, University of South Carolina	2008-Present
Search Committee, Asst./Assoc. Professor of Epidemiology	Department of Epidemiology & Biostatistics, University of South Carolina	2009-2010
Institutional Review Board	Office of Regulatory Compliance, University of South Carolina	2008-2012
CEPH Accreditation Student Committee	Arnold School of Public Health, University of South Carolina	2008-2009
Judge, Undergraduate Research in Public Health	South Carolina Academy of Science, Annual Meeting, Midlands Technical College, Columbia, SC	2007
Curriculum Committee	Department of Epidemiology & Biostatistics, University of South Carolina	2005-2012
Curriculum Committee	Arnold School of Public Health, University of South Carolina	2006
Grant Proposal Review Committee	South Carolina Cancer Disparities Community Network, National Cancer Institute R03 Pilot Projects, University of South Carolina	2006

## SERVICE - Academic:

<u>Activity</u>	<u>Organization</u>	<u>Dates</u>
Grant Proposal Review Committee	Office of Research & Arnold School of Public Health, SEED Grant Program, University of South Carolina	2005
Search Committee, Post-Doctoral Fellow, Environmental Health	Dept. of Environmental & Radiological Health Sciences, Advanced Systems Laboratory, Colorado State University	2003
Conflict of Commitment/ Conflict of Interest Review Committee	College of Veterinary Medicine and Biomedical Sciences, Colorado State University	2002-2005
Search Committee, Ergonomics/Human Factors Faculty Position	Dept. of Environmental Health, Colorado State University	2002
Graduate Admissions Committee	Dept. of Environmental & Radiological Health Sciences, Colorado State University	2000-2005

## SERVICE - Professional & Community:

<u>Activity</u>	<u>Organization</u>	<u>Dates</u>
Member, Advisory Committee	South Carolina Behavioral Risk Factor Surveillance System, SC Dept. of Health & Environmental Control	2015-Present
Research and Development Committee	Dorn Veteran's Affairs Medical Center, Just-in-Time Merit Award Review Subcommittee, Columbia, SC	2015-Present
Manuscript review, interview, & quote for Environmental Health Perspectives	Appears in 'Science Selections' (Konkel L. What's NORMal for Fracking? Estimating Total Radioactivity of Produced Fluids. Environ Health Perspect. 123: A186. 2015)	2015
Peer Review Study Section	National Institute for Occupational Safety & Health (NIOSH), State Occupational Health & Safety Surveillance Program	2014
Peer Review Study Section	National Institute of Environmental Health Sciences (NIEHS), Special Emphasis Panel for Conference Grants (R13)	2014
Peer Reviewer	Louisiana Board of Regents Support Fund, Research and Development (R&D) Program, Research Competitiveness Subprogram	2014-2015
Scientific Program Committee Member	Joint ISIAQ, ISES and ISEE Environment Health Conference, Basel, Switzerland	2013
Judge	Chapin Elementary School Science Fair, Chapin SC	2013
Executive Planning Committee Chairman (2011-2012), Committee Member (2008-11)	International Society for Environmental Epidemiology 24 <sup>th</sup> Annual Conference, hosted in 2012 by the University of South Carolina; <i>875 Abstracts; 34 Symposia; 39 Oral &amp; 9 Poster Sessions; 6 Workshops; 755 Attendees from 36 Countries; Scholarships awarded: 104 (~\$60,000); Sponsorship: ~\$100,000; Total Budget: ~\$700,000</i>	2008-2012

## SERVICE - Professional & Community:

<u>Activity</u>	<u>Organization</u>	<u>Dates</u>
Chairperson, Peer Review Study Section	National Institute of Environmental Health Sciences (NIEHS), Special Emphasis Panel, NIH Support for Conferences & Scientific Meetings	2012
Faculty Mentor, Health and Safety Officer	Engineers Without Borders, University of South Carolina Chapter, La Victoria Water Supply Containment and Distribution, Ecuador	2012-Present
Peer Review Study Section	National Institute of Environmental Health Sciences (NIEHS), Review of T32 Training and R25 Educational Applications	2012
Chairperson, Peer Review Study Section	National Institute of Environmental Health Sciences (NIEHS), Career Training in Environmental Health	2011
Peer Review Study Section	National Institute of Environmental Health Sciences (NIEHS), Review of T32 Training Grants, R25 Educational Applications, and K99/R00 Career/Research Transition Awards	2011
Science Advisory Board (SAB) Member	US Environmental Protection Agency, Office of Air and Radiation, Review of EPA Technical Support Document: "National-scale mercury risk assessment supporting the appropriate and necessary finding for coal and oil-fired electric generating units, March 2011" (EPA-SAB-11-017). Wash. DC.	2011
Peer Reviewer	Netherlands Organization for Health Research & Development - ZonMw, Electromagnetic Fields and Health	2010
Peer Review Study Section	National Institute of Environmental Health Sciences (NIEHS), Children's Environmental Health and Disease Prevention Research Centers	2009
Peer Reviewer	Research & Scholarship Awards Grant Program, National Research Foundation, United Arab Emirates	2009
Consultant	South Carolina Cancer Control Advisory Committee, State Dept. of Health and Environmental Control	2009-2010
Peer Review Study Section	National Institute of Environmental Health Sciences (NIEHS), Superfund Basic Research & Training Program	2008
Consultant	Environmental Public Health Tracking Network, South Carolina Dept. of Health and Environmental Control	2008
Institutional Review Board	Dorn Veteran's Affairs Medical Center, Columbia, SC	2010-Present
Research Review Committee	Dorn Veteran's Affairs Medical Center, Columbia, SC	2008-2010
Research and Development Committee	Dorn Veteran's Affairs Medical Center, Columbia, SC	2010-2011
Institutional Review Board	Eau Claire Cooperative Health Care Centers, Columbia, SC	2008-2011
Research and Development Committee	Dorn Veteran's Affairs Medical Center, Columbia, SC	2007-2008

## **SERVICE - Professional & Community:**

<u>Activity</u>	<u>Organization</u>	<u>Dates</u>
Peer Review Study Section	National Institutes of Health (NIH), Center for Scientific Review, Program for Basic/Biomedical Sciences, International and Cooperative Projects & Global Research Initiative	2007
Chairman, Screening Subcommittee	Colorectal Cancer Work Group, South Carolina Cancer Alliance	2007-2009
Colorectal Cancer Work Group	South Carolina Cancer Alliance	2006-Present
Research Task Force	South Carolina Cancer Alliance	2005-Present
Peer Review Study Section	National Cancer Institute (NCI), Small Grants Program for Cancer Epidemiology & Cancer Prevention	2006
Peer Review Study Section	National Institute for Occupational Safety & Health (NIOSH), National Occupational Research Agenda, Intramural Program Proposal Review	2004
Peer Review Study Section	National Institute for Occupational Safety & Health (NIOSH), National Occupational Research Agenda, Intramural Program & Project Pre-Proposal Review	2004
Co-Chair, Environmental & Occupational Health Committee, Colorado State Asthma Plan	Colorado Dept. of Public Health & Environment, Colorado Asthma Coalition	2003-2004
Scientific Program Committee, Annual Epidemiological Research Exchange	U. of Colo. School of Medicine, Colo. Dept. of Public Health & Environment, CSU Dept. of Environmental Health, Colorado Public Health Association	2001-2005
Expert Panel Member	National Institute of Environmental Health Sciences (NIEHS) EMF Science Review, Clinical and <i>In Vivo</i> Laboratory Findings	1998

### **Ad Hoc Manuscript Peer Review:**

American Journal of Epidemiology  
Annals of Epidemiology  
Annals of Occupational Hygiene  
Applied Ergonomics  
Breast Cancer Research & Treatment  
Bioelectromagnetics  
Cancer Epidemiology, Biomarkers & Prevention  
Cancer Investigation  
Chemosphere  
Chronobiology International  
Environmental Health Perspectives  
Global Advances in Health and Medicine

**Ad Hoc Manuscript Peer Review** (Continued):

Journal of Clinical Epidemiology  
Industrial Health  
International Journal of Biometeorology  
International Journal of Health Geographics  
International Journal of Radiation Biology  
Medical Hypotheses  
Natural Hazards  
Neuroscience Letters  
Proceedings of the Royal Society B (Biological Sciences)  
Psychoneuroendocrinology  
U.S. Geological Survey, Water Resources Division  
U.S. National Institute for Occupational Safety and Health (NIOSH)

**Professional Associations:**

Working Time Society (2013-Present)  
International Society of Environmental Epidemiology (2002-Present)  
American Association for Cancer Research (2007-2009)  
Bioelectromagnetics Society (1993-2004)  
Society for Epidemiologic Research (1993-4)  
Society of Environmental Toxicology and Chemistry (1987-9)  
National Environmental Health Association (1986-7)  
Air Pollution Control Association (1986-7)  
Behavior Genetics Association (1984)

**SELECTED PROFESSIONAL EXPERIENCE** (1986-1993):

- Risk Assessment Coordinator for a U.S. Air Force base with 13 separate hazardous waste source areas. Received Woodward-Clyde Project Excellence Award (1992).
- Project Coordinator for a human health risk assessment at the Rocky Flats nuclear weapons production facility (903 Pad-Operable Unit 2), Golden, CO. Prepared human health and ecological risk assessments for numerous other hazardous waste sites including: a pesticide formulating plant, several military installations, a battery reprocessing facility, several hazardous waste incinerators, a municipal landfill, mining facilities, and a wood treatment plant. These projects included the identification or development of health-based chemical specific clean-up concentrations.
- Project Manager for 12 asbestos-related projects that included: the inspection of more than 800 buildings for asbestos containing materials, the collection and analysis of bulk material, dust, and air samples for asbestos quantification, preparation of inspection reports and asbestos management plans, inspection of asbestos abatement projects, and consultation concerning U.S. and German regulations pertaining to asbestos management, abatement, and disposal. Letter of commendation received from U.S. Army Engineer Division, Europe (1988).
- As Health & Safety Officer, developed and implemented site-specific health and safety plans for hazardous waste site investigations, monitored projects for regulatory compliance, supervised training, medical monitoring, and respiratory protection programs, performed air quality and biological monitoring for exposure to pesticides, polycyclic aromatic and chlorinated hydrocarbons, volatile aromatic compounds, and heavy metals.

## CERTIFICATIONS AND PROFESSIONAL DEVELOPMENT

- Costa Rica Global Health Initiative, International Perspectives on Higher Education Professional Development Program, University of South Carolina Study Abroad Office, 2016
- Institutional Review Board (IRB) 250, Dorn VA Medical Center & Dorn Research Institute, Jan., 2010
- Genetic Epidemiology Travel Scholarship, Eastern Tennessee State University, Summer Epidemiology Institute, Johnson City, TN, May, 2008.
- Genomic Epidemiology, International Society of Environmental Epidemiology. Mexico City, Mexico. September, 2007.
- Approaches to Complex Pathways in Molecular Epidemiology, American Association for Cancer Research. Albuquerque, NM. May, 2007.
- Genetic Epidemiology, Epidemiology Congress, Second North American Congress of Epidemiology. Seattle, WA. June, 2006
- Population Health Risk Assessment for Epidemiologists, International Society of Environmental Epidemiology. Johannesburg, South Africa, Sept, 2005.
- Pulmonary Function Testing, Dept. of Environmental & Radiological Health Sciences, Colorado State University, May, 2004.
- WebCT Bootcamp Workshop, Colo. State U. Office of Instructional Services, Sept., 2002.
- Protection of Human Subjects, Colo. State U. Office of Regulatory Compliance, August, 2000.
- Advanced Risk Assessment, USEPA Region VIII, 1991.
- Data Collection for Risk Assessment, USEPA Region VIII, 1991.
- OSHA Hazardous Waste Health & Safety Training (included Level B certification), 1986-1990.
- USEPA AHERA Asbestos Abatement Contractor/Supervisor certification, 1990.
- USEPA AHERA Asbestos Management Planner certification, 1988.
- USEPA AHERA Asbestos Building Inspector certification, 1988.
- Environmental Epidemiology, Colo. Dept. of Health/Colo. Environmental Health Assoc., 1985.
- Hazardous Waste Management, Dept. Environmental Health & Safety, U. of Colorado, 1984.
- Radiation Safety, Dept. Environmental Health & Safety, U. of Colorado, 1981.
- Emergency Medical Technician, Colorado Dept. of Health certification, 1981-1984.
- Standard First Aid and Cardiopulmonary Resuscitation, American Red Cross certification, 1978-1989.