STATE OF THE SCIENCE MEETING

OCTOBER 25-26 • ST. PETERSBURG, FLORIDA

Southeastern Coastal Center for Agricultural Health and Safety

ABOUT

Southeastern Coastal Center for Agricultural Health and Safety

The Southeastern Coastal Center for Agricultural Health and Safety (SCCAHS) is part of a Centers for Disease Control and Prevention (CDC) / National Institute for Occupational Safety and Health (NIOSH) Agricultural Health and Safety Initiative. SCCAHS explores and addresses the occupational safety and health needs of people working in agriculture, fishing, and forestry in Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, the U.S. Virgin Islands, and Puerto Rico.

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AGENDA

Thursday, October 25

Poster Session: Arcade outside conference room; Open to presenters, attendees, their students and postdocs; Cocktails and heavy appetizers served. Dinner on your own.

Friday, October 26

8:00-8:30 – Breakfast
8:30 – 9:00 – Introductions
9:00 – 9:30 – Thomas Bernard, University of South Florida, Sunshine ERC
9:30 – 10:00– Linda McCauley, Emory University, SCCAHS
10:00 – 10:15 – Break
10:15 – 10:45 – Vasubandhu Misra, Florida State University, Center for Ocean Atmospheric Prediction Studies
10:45 – 11:15 – Joseph Grzywacz, Florida State University, SCCAHS
11:15 – 11:45 – Mike Sawka, Georgia Institute of Technology
11:45 – 12:15 – Lunch
12:15 – 12:45 – Rebecca Lopez, University of South Florida
12:45 –1:15 – Candi Ashley, University of South Florida
1:15 – 1:45 – Eric Coris, University of South Florida
1:45 – 2:00 – Break
2:00 – 3:00 – Moderated panel discussion
3:00 – 3:15 – Science communication input session
3:15 – 3:30 – Conclusions and next steps
4:00 – Conclude

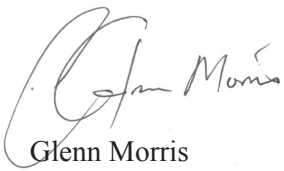
LETTER FROM THE DIRECTOR

The Southeastern Coastal Center for Agricultural Health and Safety (SCCAHS) is a NIOSH-funded Center focusing on the occupational safety and health needs of workers in agriculture, fishing, and forestry. One of 11 such Centers in the United States, SCCAHS has focused its activities in the U.S. Southeastern states and territories, including Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Puerto Rico, and the U.S. Virgin Islands. The Center brings together investigators from six partnering institutions: the University of Florida, University of South Florida, Florida State University, Florida A&M University, Emory University, and the University of the Virgin Islands.

Given our southern location, the work of SCCAHS has included a major focus on heat-related illness. Populations most adversely affected include the elderly, the poor, and individuals who spend much of their time working outdoors, including (of particular interest to our Center) farmworkers, fishermen, and forestry workers – as well as a range of other groups, including construction workers, military personnel, firefighters, and athletes. The consequences of heat related illness on these populations are well recognized across disciplines.

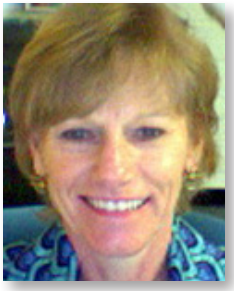
For this inaugural State of the Science meeting, we have assembled a slate of outstanding presenters on the topic of heat related illness, showcasing research at the intersections of heat related illness, public health, and climate change. Our goal is to provide a forum for researchers from a variety of backgrounds to discuss current findings, paving the way for development of interdisciplinary research collaborations on this important topic.

We thank the National Institute of Occupational Safety and Health and the Centers for Disease Control and Prevention for providing the resources for us to learn from the industries we serve and to work with our partners to determine how best to fill the gaps and address needs in the areas of agricultural health and safety in the coastal Southeast. In addition, we thank our community and stakeholder partners and hope that through our work, we can assist these industries by enhancing their understanding of and capacity to respond to current and future health and safety issues. It is our hope that this work continues to be responsive to unique needs in our region and provide support to the workers in our agriculture, fishing, and forestry industries.

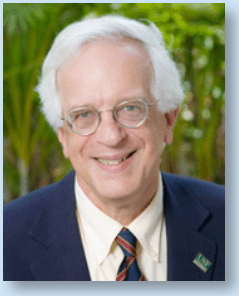


Glenn Morris

GUEST SPEAKERS



Candi Ashley
Professor, Exercise Science, University of South Florida



Thomas Bernard
Professor, Environmental and Occupational Health, Sunshine Education and Research Center (ERC) , University of South Florida

Eric Coris
Director, Primary Care Sports Medicine, University of South Florida

Joseph Grzywacz
Chair, College of Human Sciences, Florida State University

GUEST SPEAKERS

Rebecca Lopez
Program Director, Athletic Training Professional Program, University of South Florida

Linda McCauley
Dean, School of Nursing, Emory University

Vasubandhu Misra
Professor, Earth, Ocean and Atmospheric Sciences, Florida State University

Mike Sawka
Professor, Biological Sciences, Georgia Tech University

GUEST SPEAKERS

Candi Ashley, PhD is a professor in the Exercise Science program. In addition, she holds a joint appointment in the Department of Environmental and Occupational Health in the College of Public Health at USF. She received her Ph.D. in Exercise Science from the University of Alabama in 1995, and was an Assistant Professor in Exercise Science at Arkansas State University before coming to USF in 1996. Teaching responsibilities include teaching in the graduate and undergraduate Exercise Science Program. Ashley's primary research interest focuses on heat stress, particularly the effects of protective clothing. She has received corporate funding and federal grant funding for her research. She has presented her work at national conferences such as the annual meetings of the American College of Sports Medicine and the American Industrial Hygiene Association and has authored a number of papers in national peer reviewed journals.

Thomas Bernard, PhD is a professor at the University of South Florida College of Public Health. His teaches in the area of occupational health and safety, and is director of the NIOSH-supported Sunshine Education and Research Center. Tom's research interests cover a broad range of occupational heat stress exposure issues; and he is revisiting surveillance methods for musculoskeletal disorders. For professional service, he sits on the ACGIH Physical Agents Committee and an ISO Working Group on Thermal Environment.

GUEST SPEAKERS

Eric Coris, PhD is board certified in Family Medicine and Primary Care Sports Medicine. He currently serves as Professor for The University of South Florida Morsani College of Medicine. Dr. Coris also serves as Head Medical Team Physician for The University of South Florida Department of Athletics. He obtained his undergraduate degree from The University of Florida in Microbiology and Cell Science in 1991. He obtained his Medical Doctorate from The University of South Florida in 1996. He completed a residency in Family Medicine with St. Vincent's Family Medicine Residency Program in Jacksonville. He completed a Primary Care Sports Medicine Fellowship at The Ohio State University and then accepted a position as Team Physician and Assistant Clinical Professor with Ohio State. In December 2001, Dr. Coris accepted a position with The University of South Florida as Assistant Professor, USF College of Medicine and Team Physician with USF Athletics. Dr. Coris has also completed a Faculty Development Fellowship with The University of North Carolina, Chapel Hill; and a Grant Writing Fellowship with The University of Missouri-Columbia. His research interests have been primarily focused on Heat Illness Prevention in Athletes.

Joe Grzywacz, PhD is a department chair and norejane hendrickson professor at Florida State University. His research project will develop, implement, evaluate and deploy culturally appropriate curriculum target two fundamental threats to the health and well-being of farmworkers; the vast majority of whom are immigrants from Mexico. Grzywacz has successfully led several projects targeting Latino individuals and families, including basic research as well as worker education initiatives using a promotora-based model. He has participated in the design and implementation of several other promotora-based interventions, including a previously funded CDC Demonstration project testing the efficacy of La Familia Sana, a promotora-based intervention to reduce pesticide exposure among immigrant Latino farmworker families. Consequently, he is well versed in the intricate details of sampling, recruiting and maintaining Latino samples, as well as the challenges and complexities of collecting data from this highly mobile, frequently low-literacy population, and in using a promotora-based approach to public health education in this vulnerable community.

GUEST SPEAKERS

Rebecca M. Lopez, PhD is an Associate Professor in the Department of Orthopaedics & Sports Medicine and the Director of the Post-Professional Graduate Athletic Training Program at the University of South Florida. She is currently serving as a member of the Medical & Science Advisory Board for the Korey Stringer Institute. Her research interests include exertional heat stroke and other heat illnesses, hydration, youth sports injury, and preventing sudden death in sports.

Linda A. McCauley, PhD, RN, FAAN, FAAOHN, is the sixth dean of Emory University's Nell Hodgson Woodruff School of Nursing. Under her leadership, the School of Nursing has grown its reputation as a nationally-recognized center of academic and scientific excellence, innovation, and achievement. The school's ranking in U.S. News & World Report's "Best Graduate Schools" guide has steadily risen from its No. 26 ranking in 2011 to its current position as the No. 3 ranking nursing school. During her tenure, the school's research program has grown into a nearly $15 million enterprise and top five program among nursing schools for the National Institutes for Health (NIH) research funding for the past three years.

McCauley is an elected member of the National Academy of Medicine (formerly the Institute of Medicine), where she was recently appointed as a member of the Membership Committee. She also is a fellow of the American Academy of Nursing and the American Academy of Occupational Health Nurses. She serves on numerous national advisory groups and subcommittees that review and/or evaluate current environmental and occupational health issues. She is widely published in the fields of nursing and environmental health and has provided expert testimony on the health risks of environmental exposures and on policy implications for scientific research. Her work has been published in hundreds of peer review journals and featured in national publications and broadcasts including Time, Business Week, the Atlanta Journal-Constitution, National Public Radio, and the Weather Channel.

GUEST SPEAKERS

Vasubandhu Misra, PhD studies climate variability and predictability. He and his colleagues at the Center for Ocean-Atmospheric Prediction Studies developed a new metric called Track Integrated Kinetic Energy (TIKE) to measure seasonal Atlantic tropical cyclone activity. The metric focuses on the size of storms in addition to the duration and intensity, a measure that may prove important when considering a hurricane's potential for death and destruction.

Michael N. Sawka, PhD, FAPS, FACSM is Chief Scientific Officer of Environmental Physiology and Hydration Associates, and Adjunct Professor of Biological Sciences at Georgia Institute of Technology. Previously, he was Chief, Thermal and Mountain Medicine at the Research Institute of Environmental Medicine (1996-2013), Natick, MA and held numerous other scientific and faculty positions. He is an expert in environmental (heat, cold, high-altitude) physiology, thermoregulation, blood volume control, fluid / electrolyte balance (dehydration and rehydration), hydration assessment, exertional heat illness, exercise physiology, and rehabilitation medicine. Dr. Sawka published >400 full-length manuscripts and book chapters (>22,800 literature citations); edited graduate textbooks on environmental physiology and exercise physiology. He presented >100 invited Symposia and Keynote Lectures at national / international scientific meetings. He serves on many editorial boards, scientific advisory boards / councils / panels including those for the Institute of Medicine, National Academy of Sciences; National Institutes of Health; National Space Biomedical Research Institute; Partnership for Clean Competition; US Anti-Doping Agency; World Anti-Doping Agency; Department of Defense; and North Atlantic Treaty Organization. He has extensive experience in biotechnology-advanced development and as an expert witness. Dr. Sawka was a Department of Army Science and Technology appointee from 2006 thru 2012; and received the American College of Sports Medicine's Visiting Scholars Award (1982), Military Medical Merit Medallion (2005), American College of Sports Medicine's Citation Award (2010), Meritorious Civilian Service Award (2012) and American Physiological Society's Honor Award (2016).

RESEARCH PROJECTS

EXTENT OF AGRICULTURAL PESTICIDE APPLICATIONS IN FLORIDA USING BEST PRACTICES

Gregory Glass
Principal Investigator

The amount, timing and geographic extents of various herbicide/pesticide applications within Florida are unknown making it difficult to establish a baseline of worker exposures even when the treatments are appropriately applied. We propose to use high and moderate resolution remotely sensed imagery to identify the geographic extent of various crops, their growth rates and amounts of pesticide usage expected.

OCCUPATIONAL HEALTH AND SAFETY SURVEILLANCE OF GULF SEAFOOD WORKERS

Andrew Kane
Principal Investigator

This project addresses critical gaps in our understanding of occupational and hazards and risk factors for Gulf seafood workers. Academic, extension and community partnership efforts will yield critical data to discern risks factors and adverse outcomes for different fishery subsectors and geographic regions provide direct feedback to seafood workers, raise personal safety awareness, and extend networking capacity.

PISCA: PESTICIDE & HEAT STRESS EDUCATION FOR LATINO FARMWORKERS THAT IS CULTURALLY APPROPRIATE

Joseph Grzywacz
Principal Investigator

This project develops and tests if safety education materials targeting pesticide exposure and heat-related illness produce changes in safety behaviors among Latino farmworkers. Pesticide exposure and heat illness are major sources of poor occupational health in this vulnerable worker group. Effective safety education programs are necessary to protect farmworker occupational health.

HEAT STRESS AND BIOMARKERS OF RENAL DISEASE

Linda McCauley
Principal Investigator

Rising global temperatures have resulted in increases in health hazards for populations who work in hot environments, such as agricultural farmworkers. Chronic Kidney Disease is an epidemic in the Mesoamerican region and is thought to be related to excessive heat exposure, high work intensity, and recurrent dehydration. This study will provide important information on the existence of kidney injury biomarkers to aid in the prevention of kidney injury in the U.S. farmworker population.

USING SOCIAL MARKETING TO PREVENT HRI AND IMPROVE PRODUCTIVITY AMONG FARMWORKERS

Paul Monaghan
Principal Investigator

This research will have long-term significance in our approach to safety training because it builds on previous relationships with the stakeholder groups (workers, employers and crew leaders), and it incorporates the perspective of these target audiences using the latest in behavior change theory (social marketing) and communications technology. Further, it ties productivity to the adoption of recommended behaviors (personal hydration).

PILOT PROJECTS

Kim Dunleavy: Chronic Low Back Pain in Seafood Workers: A Pilot Intervention Study to Identify Modifiable Work and Movement Solutions

Lynn Grattan: Pilot Study of the Acute Psychological and Health impacts of Hurricane IRMA in UF/IFAS Extension Workers

John Luque: Pilot Study of Mobile App Monitoring to Prevent Heat-Related Symptoms Among Hispanic Farmworkers

Gulcan Onel: Uncovering patterns of mental, physical, and occupational health issues among migrant farmworkers with different socio-cultural networks: A pilot study among Haitian and Mexican farm workers in Immokalee, Florida

Heidi Radunovich: Understanding the scope of the opioid epidemic for agricultural industries

Gregg Stanwood: A novel approach (sweat patches) to monitoring pesticide exposure in farmworkers

Antonio Tovar: A novel approach (sweat patches) to monitoring pesticide exposure in farmworkers

Christopher D. Vulpe: Heat & Pesticide Stress in the Kidney

ABOUT OUR PARTNER

Education and Research Centers are funded by the National Institute for Occupational Safety and Health (NIOSH). The purpose of the Sunshine Education and Research Center is to promote graduate training and research related to occupational health and safety. Occupational Health and Safety Professionals are a necessary part of programs designed to protect the health and well-being of working men and women, a fundamental purpose of the Occupational Safety and Health Act. Training is provided in Occupational Medicine, Occupational Health Nursing, Industrial Hygiene, Occupational Safety, Occupational Health Psychology, Continuing Education and Hazardous Substances. In addition, Continuing Education Programs are provided for practicing professionals.

The Sunshine Education and Research Center is dedicated to training professionals on how to treat and prevent occupational illnesses, why illness occur in the workplace, and how to make the workplace a safer environment. An Interdisciplinary approach is taken when training these graduate students. Occupational health core courses are taken by Occupational Medicine, Occupational Health Nursing, Occupational Safety, and Industrial Hygiene students.

This event is made possible through partnership with Sunshine Education and Research Center.

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