OUR VISION: BE THE LEADING INTERNATIONAL CENTER IN MEETING CURRENT AND FUTURE OCCUPATIONAL AND ENVIRONMENTAL HEALTH AND SAFETY CHALLENGES.

OUR MISSION: PROTECT WORKERS AND THE ENVIRONMENT THROUGH INTERDISCIPLINARY EDUCATION, RESEARCH, AND SERVICE.

FOLLOW US

$8.43 Million Training Grant Award

RMCOEH ARE WARRIORS IN THE OPIOID EPIDEMIC (PG. 5)
All the signs of our transition from fall to winter are in full display – the first snow on the mountains, bare trees and biting winds, our farewell to another Thanksgiving and preparations for a new year. As always, another year is coming to a close, offering us the chance to reflect on our past successes and time to prepare and implement our plans for the future. This was an especially busy year for the Rocky Mountain Center with the renewal of our National Institute of Occupational Safety and Health (NIOSH) grant (over 1,000 pages!), beginning the extensive process of a Graduate School Review, and recruiting more faculty. Our hard work and dedication continue to yield high-level results, and I am proud that our Education Research Center (ERC) received the highest score of the competing ERCs this cycle. Faculty also received several awards including Dr. Hughes, who received the Jean Spencer Felton Award for Scientific Writing (pg. 3) and Drs. Merryweather and Thiese also received the International Ergonomics Association (IEA)/Liberty Mutual Medal (pg. 3), which recognizes work that moves the “theory, understanding, and development of occupational safety research” forward.

A glimpse at our plans for 2019 indicate another busy and productive year as we move forward with development of our online distance-based MOH program, a new BS minor in Occupational Safety and Health, and growing our Continuing Education offerings. These new degrees and courses will expand the educational reach of the Rocky Mountain Center by providing students and working adults with more options, as well as better serving industry, government, and academia with the chance to employ a wider array of occupational safety and health professionals.

I hope you enjoy reading this issue of our bi-annual Newsletter and as you learn about our varied and important activities in the fields of Ergonomics, Safety, Industrial Hygiene, and Occupational Medicine, please consider making a tax-free year-end gift. Although you are always welcome to make a gift for specific program or effort, we are currently asking for your financial support of our research programs. As one example, the RMCOEH faculty are national leaders in turning the tide of this tsunami of the opioid epidemic (pgs. 5-6), but we need your financial support to take our existing and future research even further. Please contact Sheri Carp at sheri.carp@hsc.utah.edu to make your gift in support of stopping opioid abuse and other research programs.

Kurt T. Hegmann, MD, MPH  
RMCOEH Director  
Dr. Paul S. Richards Endowed Chair in Occupational Safety & Health

The Rocky Mountain Center was proud to host the Third Annual Disaster and Emergency Preparedness Symposium (July 17 - 18). This year’s keynote speakers were Captain Jack Owen with the Las Vegas Police and one of the team members to respond to the October 1 shooter, and Mike Melton, SW Utah Fire Management Officer with the Division of Forestry, Fire, and State Lands and one of the responder to Utah’s Brian Head wildfire. In addition to workshops on disaster response and emergency preparedness, other speakers covered topics like responding to chemical and biological threats (Utah Department of Health); mitigating drone threats (Nancy Ford, Security 101); National Guard Civil Support (Lt. Col. Christopher Caldwell, Utah National Guard); Resilience and response and technology (Michael Hermus, Revolution Four Group); and others. The symposium was a success and provided information for first responders, occupational safety and health professionals, and pretty much anyone interested in managing, responding to, and preparing for disasters and emergencies. See pg. 7-9 for an interview with Cap. Owen and images from the symposium.
**RMCOEH Alumnus Spotlight: Zandra Walton**

I graduated from the RMCOEH in 1994, and once it was made clear that students can’t get tenure, I reluctantly started job hunting. I say reluctantly because I loved everything about my time at the Center – the variety of learning opportunities, my peers, the instructors, assisting with the Continuing Education classes, and the broad expanse of topics covered as part of the Industrial Hygiene curriculum; there was a seemingly endless array of topics to research and learn.

Happily, I found a position in Portland, OR that provided much of the same challenges and rewards, but in an unexpected industry: Insurance! I began my career at Liberty Mutual Insurance as an Industrial Hygienist in 1995. As a writer of commercial insurance policies, we provide on-site consulting services for our clients as a means to help them identify and mitigate risks in an effort to reduce claims and losses for both parties. When I began my career, we were primarily a writer of Workers’ Compensation Insurance, which included a significant amount of occupational hygiene exposure assessment work. The best part of my job was that one never knew what type of industry might be requesting help, schools, heavy manufacturing, offices or technology. The variety was and still is endless, requiring the same level of continuous learning and application of new skills that the RMCOEH demanded of us.

After 23 years, I’ve moved on from doing the consultations myself to leading a team of about 60 safety and health professionals who work with policyholders around the West. And we are now involved with consulting for clients with all types of risks, not just those related to employee safety, including general liability, auto and property protection.

I would encourage anyone to consider a career in insurance – it is far more interesting than I would have expected, and a wonderful way to make a positive impact on worker and public health and safety across a variety of industries.

Above: Zandra Walton
**Faculty Awards**

This year’s Jean Spencer Felton Award for Scientific Writing was awarded to Dr. Matthew Hughes. Each year the Western Occupational and Environmental Medical Association (WOEMA) recognizes one of its members for making significant contributions to scientific knowledge and the field of occupational and environmental medicine.

Dr. Andrew Merryweather’s team boasts the 2018 Undergraduate Design Project Competition in Rehabilitation and Assistive Device, which was awarded at the World Congress of Biomechanics in Dublin, Ireland. Members of the team included Mikaela Hayward, Hyrum, Peterson Kort Cross, Quincy Stevens, and Irsya Badri. The congress is held once every 4 years and is the most prestigious gathering in the biomechanics field, thus, winning an award is no easy task!

Four of our faculty were co-awarded the 2018 NIOSH Bullard-Sherwood Award for Research to Practice Honorable Mention Intervention Category: Drs. Kurt T. Hegmann, Don Bloswick, Andrew Merryweather, and Matthew S. Thiese. NIOSH Scientific Awards acknowledge those making meaningful accomplishments in research, translating research to practice, career achievements, service, and partnerships. This partnership included faculty from other universities.

Dr. Kurt T. Hegmann won the 2018 Utah Department of Public Safety’s Public Safety Partnership Award for his service in public safety and health with the Utah State Driver’s Licensing Medical Advisory Board, including commercial drivers.

Dr. Matthew Hughes was elected to the Board of Directors of the Western Occupational and Environmental Medical Association. As a board member, Dr. Hughes will help WOEMA meet its mission of promoting and protecting the health of workers through prevention, clinical care, research, and evaluation. He will serve in this important role until 2021.

The University of Utah’s College of Engineering Top Teaching Performance award went to Dr. Andrew Merryweather.

Drs. Andrew Merryweather, Matthew Thiese, and Kurt Hegmann were awarded the Liberty Mutual Medal at the 20th Congress of the International Ergonomics Association in Florence, Italy. The award, which acknowledges significant advancement of theory and understanding, innovative and development of new approach, was made for the work entitled, “Relationships between job organizational factors, biomechanical and psychosocial exposures.” The work was also published in the journal Ergonomics, Vol. 59.
Student Scholarships

Derek Sandberg (Industrial Hygiene)
BCSP Foundation 2018 QAP/GSP Student Scholarship

Grants

Title: Developing Biomechanical Models from Initiated Fall Actions and Reactions in Frail Elderly Patients
Role: Merryweather, Co-Principle Investigator
Dates: July 1, 2018 - June 30, 2019
Funder: AHRQ

Title: Reconfiguring the Patient Room as a Fall Protection Strategy to Increase Patient Stability September 1, 2018 - August 31, 2023
Role: Merryweather, Co-Principle Investigator
Funder: AHRQ

Title: Efficacy of a Tool Modeling Guidelines in the Management of Acute Low Back Pain
Role: Andrew Phillips, Principal investigator
Dates: July 2018 – July 2019
Funder: University of Utah Pilot Projects Research Training

Title: Hotel Room Cleaner Work Conditions and Musculoskeletal Health: Comparison between California and Utah
Role: Sarang Yoon, Principle Investigator
Dates: July 2018-July 2019
Funder: University of Utah Pilot Projects Research Training

Title: Potential Total Petroleum Hydrocarbon Exposures in Native American Communities along the Missouri River
Role: Rod Handy, Principle investigator, Tommy Rock and Darrah Sleeth, Co-Principle Investigators
Dates: December 1, 2018 - November 1, 2019
Funder: High Plains Intermountain Center for Agricultural Health & Safety

Conferences

Faculty made 10 conference presentations. Students attended 8 conferences and made 6 poster presentations. Continuing Education's Safety and Industrial Hygiene Conference had 223 attendees and 30 different exhibitors.
RMCOEH are leaders in responding to the opioid epidemic

Since 2008 RMCOEH faculty have been leading activities aimed at educating key stakeholders about the greatest epidemic of our lifetimes, or the abuse and misuse of opioids. One important activity is Dr. Hegmann’s work with Drs. Thiese, Biggs, and Hughes in developing, writing, and publishing national medical practice guidelines for patients with pain resulting from workplace injury and/or illness (publications in 2008, 2011, 2014, and 2018). “It is always critical to manage pain for those whose injuries result in chronic pain without over prescribing or relying solely on opioids,” says Dr. Hegmann. “Dr. Cheng’s data show that 57% of opioid-related deaths have a worker’s compensation injury, which indicates occupational injuries may be a common entry point into opioid addiction. She has also identified risk factors such as social isolation like divorce, unemployment, and disengaging from social organizations like church in addition to using tobacco and alcohol, seeing multiple healthcare providers, and quickly increasing dosage in the first month after an injury. RMCOEH is seeking funding to conduct additional future studies in this area because the sooner we identify better treatment, the sooner we can use those data to develop early preventive measures as opposed to dealing with addiction.” Dr. Hegmann also points out that the costs of opioids are astronomical; for example, exceeding evidence-based guidelines in the prescribing of opioids results in increased costs of $422 and 1.9 days more of disability for carpal tunnel syndrome surgical release, which costs the US approximately $71 million annually. Drs. Thiese, Hegmann, and Phillips are currently working with Occupational Medicine Resident J. Devin Owens to conduct a similar study to see if opioid prescription increases the cost and duration of low-back pain in worker’s compensation patients.

Social factors such as divorce, unemployment, and disengaging from social institutions like church are risk factors for opioid abuse.

What is most shocking is that there is little scientific-based evidence for prescribing opioids for chronic pain, even in the face of what is a growing public health crisis. “Not too long ago, some of our team [Drs. Hughes, Biggs, Thiese, and Graziano] published a systematic review of opioid prescriptions for the treatment of non-malignant pain. They used the AGREE II instrument to identify state, federal, or professional society evidence-based practices, but troublingly the team found that most treatment recommendations are based on expert consensus and not on high quality evidence,” says Dr. Hegmann. “None of our research shows a functional benefit from opioid prescriptions to limit.” Research from RMCOEH resulted in the first national guideline to limit the daily dosage of opioids to 50mg and disproved previous assumptions that there is a difference in risk of death for chronic use vs. acute use. Drs. Hegmann, Thiese, and other RMCOEH faculty are not only (inter)national leaders in understanding what has led to the opioid epidemic, but they are also leaders in research and programs that will prevent this crisis from claiming more lives. Says Hegmann, “We have used over 960 references to develop guidelines, evidence-based guidelines, for the prescribing of opioids [i.e., acute, subacute, chronic, and post-operative] and conducted 2,700 systematic reviews for a pioneering synthesis of alternate treatment strategies for both acute and chronic MSDs (musculoskeletal diseases), including the main health issues for which we see opioids routinely prescribed like low-back pain, osteoarthritis, fibromyalgia, neck and rotator cuff disorders, and so on.” The team’s systematic reviews of epidemiological studies found that opioid use increased the risk of motor vehicle crashes. Perhaps unsurprisingly, this particular study also found there was no safe dosage for licit users; stopping use reversed the crash risk; both high- and low potency opioids were associated with increased risk; that crash risk is a likely surrogate for other jobs where safety is a part of the job and thus opioids are presumptively not appropriate for those in safety critical positions; and that there is currently no method for determining safety in a clinical setting, as workers on opioids may appear fine,
but the data says they crash anyways.

Programs aimed at addressing the opioids epidemic include Dr. Phillips’ collaboration with Workers Compensation Fund (WCF) Insurance, the largest provider of worker’s compensation insurance in Utah. “This WCF program is a protocol for filling opioid prescriptions requiring a review. The prescription will only be filled when the injury, diagnosis, and clinical presentation meet the ACOEM [American College of Occupational and Environmental Medicine] criteria. Already this protocol has led to a significant decrease in the number of first opioid prescriptions that get filled,” says Dr. Phillips. “Those injuries that meet the criteria for opioid prescriptions might see a reduction in the amount, duration, or dosage according to the guidelines.” All are important factors in preventing use from metamorphosing into addiction. Another important program is Dr. Cheng’s Screening, Brief Intervention, and Referral to Treatment (SBIRT) training, which, under a 3-year Substance Abuse and Mental Health Agency (SAMHSA) grant, supports the teaching of University of Utah healthcare students how to use SBIRT in the clinic. Dr. Cheng notes we have been able to teach medical, dental, nursing, pharmacy, physician assistants, and occupational therapy students and occupational medicine and family medicine residents. This training will help future healthcare professionals spot, address, and refer potential substance abusers to treatment early, before addiction. In addition to SBIRT, Dr. Cheng has worked with Rep. Steve Elliason on HB 175 during the 2017 Utah Legislative session, which mandates SBIRT training for anyone licensed to prescribe opioids. She is also the Utah SBIRT Training Program Director, which has created an online SBIRT learning platform that is accessible to all healthcare professionals.

“Our research team is very active in this area,” states Dr. Hegmann. “We aren't just conducting research, we are also developing programs like SBIRT and assisting the WCF in its opioid-first fill review program to stem the tide of this epidemic. So, we aren't just publishing research and guidelines and developing programs, we are sharing our expertise with affected groups, organizations, and in our own clinics.” These platforms reach orthopedic surgeons, internists, emergency physicians, workers’ compensation providers, employers, and employees, vastly increasing the reach of the RMCOEH opioid-research team. In addition, Dr. Hegmann has served as an expert panelist on the recent updating of the Canadian Opioids Guidelines. Dr. Cheng also serves on a 50-member panel for the Utah Coalition on Opioid Overdose Prevention (UCO-OP), whose purpose is to reduce opioid use by identifying alternate pain treatments, communication strategies for providers, and coverage in health plans. All of the Center's Occupational Medicine (OM) faculty (n=8) have developed and implemented evidence-based guidelines, which has led to a sharp reduction in injured workers being prescribed opioids past the acute phase of care. This knowledge of how to provide quality, evidence-based care that minimizes use of opioids while optimizing speedy functional outcomes is taught to all residents in OM and other programs, and the wider community of prescribers in numerous settings.

In addition to the ACOEM guidelines, here are other key articles from RMCOEH faculty on opioids:


Q: What are the top 3 things first responders need to do in order to neutralize or respond to an active shooter?

Owen: 1. Stop the killing by stopping the threat; 2. Contain the incident; and 3. Stop the dying by rendering aide and saving lives.

Q: What advice would you give to a member of the public finding him/herself in an active shooter situation?

Owen: Many local jurisdictions provide some type of awareness training for civilians and citizens should contact their local jurisdiction for more information. This can help prepare them on what to expect in this situation from law enforcement. The Department of Homeland Security also provides online training that can be found on YouTube reference “Run, Hide, Fight.” This basically instructs citizens to run from the incident if possible, hide if that is not possible, and fight using any means possible including improvised weapons if the suspects finds them.

Q: Are active shooters preventable? If no, why? If yes, how?

Owen: The best defense is a good offense. Remember the national campaign of “See something, Say something” and recognizing the seven signs of terrorism:
1. Surveillance
2. Information Gathering
3. Tests of Security
4. Acquiring Supplies
5. Suspicious Persons/Items
6. Dry Run/Trial Run
7. Deploying Assets

The bottom line is, if something doesn’t look right, report it!

Q: Las Vegas has developed several different kinds of teams to respond to an active shooting situation (e.g., Multi-Assault Counter-Terrorism Actional Capabilities (MACTAC), Rescue Task Force (RTF), etc.). Which of these units was most successful on October 1 and which one is doing some revamping/restructuring post-October 1?

Owen: The MACTAC program is a regional program that was formed in 2009 in response to the attacks that occurred in Mumbai, India. The program was put in place to provide a regional, coordinated response to prevent over-convergence. Within the MACTAC umbrella, there are several types of teams such as strike teams and RTF teams. All have their specific functions. For instance, strike teams that make entry to neutralize the suspect have that as their specific job. The RTF team has a specific job to find and triage patients within a warm zone. A team sent to provide force protection to a facility has the job to provide security for critical infrastructure. Each of these teams was successful in its own right.

After any critical incident or exercise, we learn something new and assess how we can improve. Currently the Southern Nevada Fire Departments and Law Enforcement are looking at ways to improve on the Rescue Task Force Concept.

Q: In your presentation, you talked about using social media to give directions or calls to action to the public on
a regular basis rather than waiting for an emergency. Can you give us an example or two of what kinds of non-emergency calls to action you put out on your social media?

Owen: During the early phases of a critical incident, it is important to be proactive with communication and to ensure that the agency is providing an accurate picture of what is occurring. On 1 October our Public Information Office (PIO) focused on providing vital emergency information in a very concise manner. For example, the PIO posted information on places to stay away from, places where people could reunite with family, and information on Family Assistance Center.

Once the incident has stabilized the agency can begin releasing other information that is less critical to the incident. During the recovery phase of the incident, the PIO began posting positive community events related to 1 October. For example, the Budweiser horses visiting Head Quarters (HQ) and inviting community to attend. This and other positive events provided a chance for the community to come together over something positive.

Q: What drew you to law enforcement and what makes you stay?

Owen: My father was a firefighter for 25 years in Las Vegas and I looked up to him with a great sense of pride. I also looked up to those serving in the military and seriously considered that as a career after college. Ultimately, I was innately drawn to policing even though I had no background or frame of reference when I entered the career 26 years ago. I knew that I wanted to make a difference in my community and do something that could impact someone else's life. Now, I stay because I am able to be a positive influence in my community but also on the men and women that I work with every day. I am blessed to be in a position where I have been able to fulfill my desire to help people in many different ways.

Q: What else would you like to share with the faculty, staff, and supporters of the Rocky Mountain Center?

Owen: Thank you for all you do to help first responders and the communities we serve.
Clockwise from top: Slide from the Nat. Guard presentation on Civil Support teams; Lt. Col. Christopher Caldwell from Nat. Guard; slide from drone threat presentation; Cap. Jack Owen shows the hallway cordoned off by the Oct 1 shooter; Mike Melton presenting on response to wildfires; Cap. Jack Owen; slide of images from Brian Head fire.
Darlene Meservy-Jensen February 25, 1932 - August 17, 2018

The Rocky Mountain Center family was saddened this summer to learn of Darlene Meservy-Jensen’s passing on August 17. Darlene was the original Occupational Health Nursing Director at the Rocky Mountain Center; she retired in 1999. Her former colleagues have wonderful memories of their time working with Darlene. RMCOEH Advisory Board member and LDS Church Chief Safety, Health and Environmental Officer, Mike Taylor says, “I have fond memories of her. I particularly remember her enthusiasm.” Don Marano, RMCOEH Advisory Board member and retired Terracon President also has “fond memories of Darlene and the ‘good old days.’”

Darlene was a trailblazer, pursing higher education and acting as a leader at a time when women were not actively encouraged to undertake such endeavors. She obtained her PhD in Public Health, was the first female president of the Bountiful Lion’s Club, and was a nurse in the Army Reserve, eventually retiring as a Lt. Colonel after serving in Desert Storm. Her later years saw her take up service again when she served an LDS mission in London, England.

Family and education were her twin passions, and she relished a varied career that spanned nursing, public health and education. Darlene is survived by her sons Chris and Lon (Julie), 8 grandchildren, and 21 great-grandchildren. Darlene will be missed, but the memories, friends, and relationships she made are a testament to her vibrancy and dedication to education and service.

Promotions

The RMCOEH faculty and staff would like to congratulate Dr. Andrew Merryweather (below, left) on his promotion to Associate Professor (tenured). Congratulations are also extended to Dr. Andrew Phillips (below, right) for his promotion to Assistant Professor.

Royce Moser, Flight Surgeon, RMCOEH Director, Retiree, and Author

With a life as full and colorful as Dr. Moser’s, it was only a matter of time until he put pen to paper and recorded his remarkable career. Dr. Moser is a talented writer and his autobiography, released this year, is more than a good read with one amazon.com reviewer claiming, “This well-written autobiography could almost be a story by Horatio Alger” and another calling Dr. Moser a “likable narrator” with “humor and management insights.” This highly readable book is entitled “Winds beneath My Wings: Lessons from a Life of Accidental Careers, Unexpected Consequences, and Otherwise Great Good Fortune” and is available for purchase on amazon.com.
CONTINUING EDUCATION COURSES

OSHA 503: Update for General Industry Outreach Trainers
Asbestos Inspector Training
OSHA 2255: Principles of Ergonomics Applies to Work-Related Musculoskeletal Disorders & Nerve Disorders
Asbestos Management Planner Training
8-Hour Hazardous Waste Refresher
OSHA 7845: Record-keeping Rule Seminar (Vernal, UT)
OSHA 511: Occupational Safety and Health Standards for General Industry
OSHA 7105: Evacuation and Emergency Preparedness
OSHA 501: Trainer Course in Occupational Safety and Health Standards for General Industry

*Continuing Education will be making changes to its courses in the new year. Check the website in 2019 for new courses and new improvements: https://medicine.utah.edu/rmcoeh/continuing-education/

Steven Packham to Advise U.S. Environmental Protection Agency

It is with pride and pleasure that we share the news of Steven Packham's appointment to the U.S. Environmental Protection Agency Clean Air Scientific Advisory Committee (CASAC) beginning October 1, 2018. During his 3-year term as a member of this advisory committee, Packham will “provide independent advice on technical issues underlying the EPA's National Ambient Air Quality Standards.” The seven member committee was established in 1977 under an amendment to the Clean Air Act (CAA). Steven is well-qualified to provide guidance on air quality standards. Steven's main research focus is on identifying biological mechanisms of causation, especially the development of a mass-per-minute dose model for particulate matter deposition and oxidative stress at the individual and population level that can be used to assess risk.

Currently, Steven is a toxicologist with the Utah Division of Air Quality, a position he's held since 1998. From 1973-1976 Steven held a faculty appointment in the Department of Neurology, and served as Convenor on the International Organization for Standardization (ISO) Technical Committee for 6 years. More recently, Steven founded and is the Chief Science Officer for MYAIR, LLC and is president of BETR Sciences, Inc. In addition, Steven has been an Adjunct Associate Professor at the University of Utah since 2009.

Join us in congratulating Steven on this very important national appointment.

New Students

Ergonomics & Safety
Sergei Sarkisian
Nicholas Gomez

Industrial Hygiene
Madison Ellis
Jarom Kuhre
Bruce Niebergall
Keller Reeves
Raquel Robello
Derek Sandberg
Logan Webb
Uchenna Ogbonnaya (PhD)

Occupational Medicine
David Oldham
Joshua Merris
Hans Schwertz
Brent Shepherd
Yudi Wibisono