RMCOEH Director’s Message

This year sees the Rocky Mountain Center celebrate 40 years of education, research, and outreach. Over the past 4 decades the Center has grown, meeting the needs of industry, students, and local and national government in an environment infused with rapidly changing technology and demographics. Some of our past successes include creation of the Industrial Hygiene program in 1984; establishing a strong and active advisory board with members from the Utah legislature and industry leaders; the passage of Utah Senate Bill 159, which allows companies to donate up to 0.1% of workers’ compensation premium taxes to the Center; instituting new degrees like the Master of Occupational Health and the MS in Occupational Health in 2008; the annual National Occupational Research Agenda (NORA) Young/New Investigators Symposium launched in 2002; leading the Utah Health Dept. Medical Surge Plan in 2004; national and international recognition for Dr. Moser’s Effective Management of Occupational and Environmental Health and Safety Program text book; development of academic programs that permit students to benefit from additional OEHS courses not provided in typical public health degree programs; and so much more.

A few of our present successes include contributions to the development of American College of Occupational and Environmental Medicine (ACOEM) Chronic Pain Guidelines (1,201 pg. with 1,519 references; see pg. 3); creating the Targeted Research Training program for developing highly-trained, independent researchers in exposure science, trucker safety, and biomechanics; extending the audience of the Center’s research to include the general public; utilizing technologies to address changing student demographics with the development and implementation of online courses; and working on legislation that ensures licensed providers of opioid are educated in spotting substance abuse and referring patients to treatment when necessary (pg. 4).

Future challenges include identifying the complex interplay of co-morbidities in occupational disease; developing techniques and equipment that measure multiple worker exposures in real-time; improving worker OEHS even as technology hastens the obesity and sedentary lifestyle epidemic; and furthering networks and coalitions that address issues affecting industry, workers, and health professionals. With the support of our Advisory Board, business partners, donors, and other advocates, the faculty and staff of the RMCOEH are well positioned to build on past successes and address these future challenges.

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

Dr. Merryweather and fellow researchers (Jeffrey Rosenbluth, Spinal Cord Injury Acute Rehabilitation Medical Director; Ross Imburgia, Physical Medicine & Rehabilitation Research Engineer; and Roger Altizer, GApp Lab Director) recently unveiled their Tetra Universal Controller, which expands upon the “sip-and-puff” wheelchair control system used by many with tetraplegia/quadriplegia. The Tetra control system combines the pressure and intensity of the sip-and-puff system with pattern recognition, widely expanding the number of input commands. The new system allows users to control multiple devices simultaneously for the completion of complex actions in addition to offering the ability to control pretty much any object that can be manipulated electronically.

But perhaps most exciting for the researchers and those who rely upon wheelchairs is what the Tetra Universal Controller can do outdoors. When incorporated into skis, kayaks, and sailboats, the controller gives individuals with tetraplegia/quadriplegia the power to be mobile in natural environments. The technology works even for those without upper body mobility and has been tested successfully with people that have C2 spinal-cord injuries (i.e., very high level in the neck). To see the chair in action visit: http://www.tvc.utah.edu/ces/tetra-media.php

Of course, opening up such possibilities for those with extreme injuries has garnered the team a bit of attention. In January, the Tetra Universal Controller was 1 of 4 University of Utah technologies featured at the 50th Annual Consumer Electronics show (CES) in Las Vegas, NV. CES is the largest technology trade show in the world and is where technological innovations meet the marketplace. The Tetra Universal Controller’s presence at CES was noted by the Deseret News (December 28, 2016), KSL (January 8, 2017), and the University of Utah in the @TheU Newsletter (January 2017). As a ski technology, the controller was featured on the April cover of PN Magazine and in the March issue of Sports n’ Spokes, magazines dedicated to the issues and lifestyle of wheelchair living. Notably, the Tetra Universal Controller also featured in the January 31st episode of The Ellen Show. The episode features Drew Brees, quarterback for the New Orleans Saints, and Brian McKenna, a man to whom Brees donated a wheelchair and ventilator. With these donated items and Dr. Merryweather’s controller, Brian is able to enjoy the outdoors including downhill skiing. The Ellen show featuring the controller can be viewed online at: http://www.ellentv.com/episodes/jamie-dornan-drew-brees-big-sean/

Below (Left): The Tetra Ski Team with Drew Brees and Brian McKenna.
Right: April cover of PN Magazine featuring the Tetra Controller used in a snow ski

Below: The Tetra Controller used in a kayak
A recent study from RMCOEH and University of Wisconsin-Milwaukee researchers entitled “Association between Cardiovascular Disease Risk Factors and Rotator Cuff Tendinopathy” has been receiving national and international attention. And with the World Health Organization citing cardiovascular disease (CVD) as the #1 cause of death globally, it’s no wonder the study has been so widely read. According to the publisher’s altmetrics, the article is in the top 5% of all research outputs and in the 99th percentile for High Attention Score in comparison to articles published in the same time frame. The article has been translated into Portuguese, Vietnamese, Urdu, and Indonesian in addition to appearing on English language websites and papers afar afield as Nigeria, China, Nepal, and numerous regions in India. But an interesting topic isn’t enough to warrant such attention.

Indeed, this study was unique for its size (1,226 participants) and its scope (participants were from 17 different production facilities, baseline data included ergonomic measures of video-recorded tasks, a detailed questionnaire, and two physical exams). Also ensuring the article’s success was that the data revealed a strong association between cardiovascular risk factors and both glenohumeral joint pain (P=0.003) and rotator cuff tendinopathy (P=0.02). Underlying mechanisms for this relationship have long been theorized to either be age-related degenerative processes or reduced vascular supply and atherosclerotic-related disease processes. This study, with its large dataset (n=1,226) and strong association, provides further support for the importance of blood supply. Additionally, the data suggest potentially modifiable disease mechanisms and alert occupational safety and health professionals to the potential need for CVD-risk screening in patients with shoulder or rotator cuff pain. A big global congratulations to the researchers, KA Applegate, MS Thiese, AS Merryweather, JK Kapellusch, DL Drury, E Wood, R Kendall, J Foster, A Garg, and KT Hegmann.

The complete study is available in the February issue of Journal of Occupational & Environmental Medicine (Vol. 59, Issue 2).
The Rocky Mountain Center faculty and staff would like to congratulate Dr. Leon Pahler on his April 2017 promotion to Associate Professor-Lecturer Track. Dr. Pahler puts a tremendous amount of effort into working with our graduate students on applied research and this new position will help in meeting the demands of our Industrial Hygiene program.

Awards and Accolades

The faculty and staff would like to congratulate Dr. Sleeth for being co-awarded the David L. Swift Memorial Award from the American Industrial Hygiene Association (AIHA). The award honors Dr. Swift, a Johns Hopkins University professor, for his significant contributions to aerosol and industrial hygiene research, and is sponsored by the AIHA Aerosol Technology Committee. The award is given each year to authors of an outstanding paper published in the Journal of Occupational and Environmental Hygiene (JOEH). The full citation for Dr. Sleeth’s award winning article is: Anthony TR, Sleeth DK, Volckens J. (2016). Sampling efficiency of modified 37-mm sampling cassettes using computational fluid dynamics. JOEH, 13(2), 148-158.

A big congratulations to Melynda Schreiber, a Mechanical Engineering Ergonomics & Safety (E&S) PhD student, for her recent grant. Melissa was awarded a Get Seeded grant from the Lassonde Entrepreneur Institute for her project examining increasing the speed of 3D printing without sacrificing quality. Get Seeded grant applicants must compete for the award by submitting a concise 3-minute pitch that is judged by a selection panel. Winners of this competition aren’t done yet, as they must then present at a Get Seeded event where the audience votes on who receives funding and who does not. Congratulations to Melynda on her innovative idea, excellent presentation skills, and becoming one of this year’s Get Seeded awardees.
Alumnus Spotlight: Valoree Stanfield (Vernon)

In the spring of 2008, I graduated from the RMCOEH with my MPH and started at the Utah Department of Health later that year. I worked as the Vaccine Preventable Disease Epidemiologist for about 5 years, working on disease surveillance and various outbreaks. Some of the major outbreaks I was involved with included 2009 H1N1 Influenza, the measles outbreak of 2010 in the Salt Lake area, pertussis in 2012 and hepatitis A in Costco frozen berries in 2013. I moved to Intermountain Healthcare in June of 2013 to work in the Primary Care Clinical Program as a Senior Statistical Analyst. During my time there I worked on many projects including outpatient antibiotic stewardship.

I recently changed roles within Intermountain and now am working as the Antibiotic Stewardship Senior Statistical Analyst and have added emergency department and inpatient data and love it.

My time at RMCOEH was invaluable to me as I met so many great people who introduced me to a lot of different opportunities that led me to where I am today. Even though I don’t work directly in the occupational health and safety field, the work that I am involved with does make people’s lives better and serves the public health community in working to extend the life of our limited antibiotic arsenal.

I live in Bountiful with my husband and son. We are an all seasons’ sports and outdoor recreation family. We love winter snowshoeing and skijoring (cross-country skiing with the dogs pulling us) with our 2 huskies. We also love camping, jeeping, and rock climbing. I love to swim, bike, and run and have competed in several different distance triathlons, and look forward to doing many more.

Teamwork

The Rocky Mountain Center’s team of research assistants (RA) continues to grow their list of accomplishments. This year the team made significant contributions (e.g., 1,201 pages and over 1,519 references) to the ACOEM Chronic Pain Guideline. Under the direction of Dr. Ott, the team also finished a traumatic brain injury guideline for ACOEM that consisted of 982 pages and 1,289 references. These guidelines are designed to improve the care of injured workers.

Good job, team!

Further successes of the RA team include numerous presentations. Skyler Walker will be presenting a poster on a RMCOEH lower-back pain cohort study at Understanding Small Enterprises in Denver this October. At this year’s NORA conference 4 RAs (Skyler Walker, Harkomal Kaur, Jenna K. Lindsey, and Michael L. Northrup) will present on a variety of issues including the relationship between time spent exercising and light duty; heart problems and tennis elbow; and diagnosing carpal tunnel syndrome in a working population.

Here’s to a great year for our RAs!
Scholarship Awards

Congratulations to students of the Rocky Mountain Center for being awarded the following scholarships:

Jeffrey S. Lee Memorial Scholarship

Aaron Cox (IH student)

The Lee scholarship was established by the friends, family, and peers of Dr. Lee and is awarded by AIHA. Only one student a year is awarded the Lee scholarship nationally. Established in 2006, the scholarship honors the memory of Dr. Lee, University of Utah graduate and former Industrial Hygiene Director at RMCOEH.

Dr. Royce Moser, Jr. and Lois H. Moser Endowed Scholarship in Occupational Health

Ben Borsch (IH student)

The Dr. Moser Scholarship is awarded each year based on merit, need, and outstanding achievements. The RMCOEH Scholarship Selection Committee selects award recipients through evaluation of their applications and a review of their academic progress.

Dr. Paul S. Richards Safe Workplace Scholarship

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The Workers Compensation Fund generously awards this scholarship each year to students of the Rocky Mountain Center. Students may use the scholarship to offset the cost of books and tuition, or to partially fund research or supplemental courses through Continuing Education.

Dr. Richard E. Johns Endowed Scholarship

Alexandra Cox (IH student)
Danielle Mecate (IH student)
Charlotte Robison-Hanchett (IH student)

The Dr. Johns Scholarship has been awarded for 5 years. The Dr. Johns family established the scholarship to honor his memory and legacy of education. Awardees are able to use scholarship funds for school, research projects, or other academic expenses.

The Rocky Mountain Center faculty and staff would like to thank the above scholarship funders for supporting education, research, and academic excellence.
100 Years of Occupational Safety & Health

From Past...
The Industrial Hygiene program is graduating 8 students this semester and we asked some of them for a parting thought. Here’s what they had to say:

I’ve enjoyed my time here at the Center, and I’m feeling well prepared for the next chapter of my life!
~Sarah Van Orman

This program was a fantastic opportunity to increase my understanding of industrial hygiene. I feel confident and well prepared to enter the workforce.
~Russell Fabian

The professors and staff truly care about the success of the students and do their best to prepare us for what we will encounter in industry.
~Scott Clingenpeel

I have enjoyed my time at RMCOEH and I am grateful for the opportunities this program has provided for me.
~Marie Thorsen

Having worked in the field for 3 years already, I feel that the program has further strengthened the skill set that will be very valuable in advancing my career.
~Josh Manning
40 Years of Continuing Education: Connie Crandall on CE, Workers, and Rescue Animals

Know who else is celebrating 40 years; it’s the Rocky Mountain Center’s very own Connie Crandall! Connie is the Continuing Education (CE) Program Director and has been with the University of Utah for 40 years, 32 of those as the RMCOEH Continuing Education Director. In 1985, Connie was working for the University of Utah English Department when Katherine Kline, the CE Director at the time, asked Connie to apply for the position she was about to vacate. The two had originally met while Connie was working for the Utah Biomedical Test Laboratory from 1976 - 1983, helping the RMCOEH offer an Industrial Hygiene Chemistry course at the lab. Connie left the University for about 8 months to work for the State Science Advisor, then returned to the University to work in the English Department. When Katherine decided to leave as CE Director of the RMCOEH, she contacted Connie, inquiring as to her interest in the position. Connie was immediately offered the position, but was a little confused when a Human Resources letter arrived a few days later announcing she had not been offered the position and thanking her for her interest. Lucky for the Center that letter was an HR mistake and Connie has been CE Director for over 30 years.

With that many years of service, Connie’s commitment is undeniable, and she deserves major accolades for moving the program forward throughout her tenure. “When I came to the Rocky Mountain Center we had about 8 continuing education courses on offer,” said Connie. “Partly this was due to limitations in technology, but partly this was due to the program not utilizing and maximizing the technology that was available.” After coming on board, Connie automated systems for increased efficiencies, invested in software, and began to offer more courses. In the early 1980s, the Center worked with the Environmental Protection Agency (EPA) to offer asbestos and lead training. Later, hazardous waste training was offered with the support of both the National Institute for Occupational Safety and Health (NISOH) and the National Institute of Environmental Health Sciences (NIEHS). In 2002, the Rocky Mountain Center’s Continuing Education program also developed an Occupational Safety and Health Administration Education Center, which expanded the course offerings and the reach of CE. “I am always looking for ways to advance CE,” said Connie. “In fact, we began going outside of Region 8 to work with Region 6 to procure hazardous waste training funding with NIEHS. Matt Hughes, MD successfully helped secure a grant from NIEHS in partnership with the University of Texas (Houston) to offer hazardous waste training from Utah to Texas, an entire swath of area that was totally underserved.”

Connie is known for speaking her mind, being fiercely protective of her program and staff, and for running one of the nation’s most respected CE programs. “I am really proud of the direction the program has...
taken over the years. I have always credited Katherine Cline with building a solid foundation for growth. That growth has not been without its challenges with so many different personalities, regulations, and different programs, but it also has enormous rewards,” Connie said. “Everything I have accomplished has been because of my staff. We work as a team and are always trying to improve quality and efficiency of operations while training over 10,000 participants over the course of a 5-year grant period.

Connie cites contract-trainers as a growing element in CE courses, which provides students with knowledgeable and skilled instructors with up-to-date expertise. “Our students are folks that need to keep their certification current, but do not have the time, money or need to invest in a week-long class,” she says. “Plumbers, electricians, construction workers--our classes help these people in maintaining their professional certifications. But they can also use CE courses as a way to obtain new skills, move toward certification, and/or stay informed as to current abatement methods for regulated materials and aware of changes in regulation.”

When asked what she has loved most about her job, Connie says it has been the opportunity to travel across the country and make lasting friendships. “If I retire, when I retire that is, it is the friendships I will miss the most,” said Connie. After 40 years, Connie has established an impressive social network that extends from ERC to ERC and from OSHA to NIOSH. She also carries with her a lot of institutional knowledge. When not dreaming up ways to make things more efficient and timely, Connie enjoys international travel, movies, and working with Community Animal Welfare Society (CAWS), an animal rescue group. Connie states that retirement might include fostering senior citizen cats, a trip to Poland and Switzerland are also on the list, but before that, there is Puerto Rico, incorporating technology into existing courses/conferences with enough energy and passion to take the Center’s Continuing Education program even further for as long as she’s here.

### Events and Happenings

- **2017 National Safety Stand-Down**: May 8-12, [osha.gov/StopFallsStandDown/](http://osha.gov/StopFallsStandDown/)
- **School of Medicine Graduation**: May 19, Kingsbury Hall
- **RMCOEH 40th Anniversary and WCF Dr. Paul. S. Richards Scholarship Luncheon**: May 4, University Park Marriott
- **Utah Safety Week**: June 26-30, WCF & elsewhere
- **34th Annual Conference on Safety and Student Union**: October 12-13, University of Utah Student Union
May Courses
• OSHA 3115: Fall Protection (May 1-3)
• OSHA 2045: Machinery and Machine Guarding Standards (May 1-4)
• Lead Safety for Renovation, Repair & Painting (LRRP) Training Course (May 2)
• 40-Hour HAZWOPER Training (May 8-12)
• OSHA 502: Occupational Safety and Health Standards for the Construction Industry (May 10-12)
• OSHA 510: Occupational Safety and Health Standards for the Construction Industry (May 16-19)
• OSHA 500: Occupational Safety and Health Standards for the Construction Industry (May 22-25)

June Courses
• OSHA 503: Occupational Safety and Health Standards for General Industry (May 31-June 2)
• OSHA 511: Occupational Safety and Health Standards for General Industry (June 12-15)
• Asbestos Inspector Training (June 19-21)
• OSHA 501: Occupational Safety and Health Standards for General Industry (June 20-23)
• DOT Hazardous Material Transportation Training and Refresher (June 23)

July Courses
• OSHA 7500: Introduction to Safety and Health Management (July 7)
• OSHA 510: Occupational Safety and Health Standards for the Construction Industry (July 10-13)
• OSHA 500: Occupational Safety and Health Standards for the Construction Industry (July 18-21)
• Asbestos Project Designer Refresher (July 26)
• Asbestos Contractor/Supervisor Refresher (July 27)
• Asbestos Inspector/Management Planner Refresher (July 28)

August Courses
• 40-Hour HAZWOPER Training (July 31-August 4)
• Comprehensive Review of Industrial Hygiene (August 7-11)
• OSHA 503: Occupational Safety and Health Standards for General Industry (August 9-11)
• OSHA 511: Occupational Safety and Health Standards for General Industry (August 14-17)
• 8-Hour HAZWOPER Refresher (August 18)
• OSHA 501: Occupational Safety and Health Standards for General Industry (August 21-24)
• Pulmonary Function Testing (August 28-29)
• CAOHC – Approved Occupational Hearing Conservation & Refresher (August 30-September 1)

September Courses
• OSHA 502: Occupational Safety and Health Standards for the Construction Industry (September 6-8)
• OSHA 510: Occupational Safety and Health Standards for the Construction Industry (September 12-15)
• OSHA 500: Occupational Safety and Health Standards for the Construction Industry (September 19-22)
• Asbestos Contractor/Supervisor Refresher (September 21)
• Asbestos Inspector/Management Planner Refresher (September 22)

October Courses
• OSHA 503: Occupational Safety and Health Standards for General Industry (October 2-4)
• 34th Annual Utah Conference on Safety and Industrial Hygiene (October 11-13)
• Asbestos Contractor/Supervisor Training (October 16-20)
• OSHA 511: Occupational Safety and Health Standards for General Industry (October 17-20)
• OSHA 501: Occupational Safety and Health Standards for General Industry (October 24-27)
November Courses
• OSHA 502: Occupational Safety and Health Standards for the Construction Industry (November 1-3)
• OSHA 510: Occupational Safety and Health Standards for the Construction Industry (November 6-9)
• OSHA 500: Occupational Safety and Health Standards for the Construction Industry (November 13-16)
• Lead Safety for Renovation, Repair & Painting (LRRP) Training Course (November 29)
• Asbestos Contractor/Supervisor Refresher (November 30)

December Courses
• Asbestos Inspector/Management Planner Refresher (December 1)
• OSHA 503: Occupational Safety and Health Standards for General Industry (November 29-December 1)
• OSHA 511: Occupational Safety and Health Standards for General Industry (December 4-7)
• OSHA 501: Occupational Safety and Health Standards for the Construction Industry (December 11-14)
• Asbestos Inspector/Management Training (December 11-15)

Visit: http://medicine.utah.edu/rmcoeh/continuing-education/ for more information on Continuing Education classes, including distance learning courses.

The RMCOEH Welcomes Sheri Carp

The RMCOEH faculty and staff would like to welcome Sheri L. Carp as the new Associate Director of Finance. Before joining the RMCOEH family, Sheri worked at UCLA where she was the Continuing Education Program Director for the Department of Psychiatry. Originally from Pennsylvania, Sheri lived in New York for 7 years, but eventually found her way to the University of Utah’s Department of Pediatrics.

Sheri has two children; her son is in 8th grade and her daughter is enjoying her first year of college in Santa Barbara, California. Her three dogs share her love of hiking and outdoor adventures. During the winter, Sheri loves to ski, and it was her love of mountains, great snow, and the University of Utah that brought her back to Utah.

With an extensive work history in healthcare, Sheri is a welcome addition to the Rocky Mountain Center.

Right: Sheri Carp, the newest staff member of the Rocky Mountain Center
On Thursday, May 4th, the Rocky Mountain Center for Occupational and Environmental Health will celebrate 40 years of serving industry and protecting workers in conjunction with WCF Insurance Dr. Paul S. Richards Safe Workplace Scholarship, which is celebrating 20 years of supporting students. The scholarship was established in 1997 and awards monies to students of the Rocky Mountain Center pursuing graduate degrees in the areas of industrial hygiene, occupational medicine, ergonomics and safety, and occupational injury prevention. Over the past 20 years, WCF has awarded 160 scholarships. WCF’s support of the Center’s students ensures the future careers of those committed to protecting workers, increasing workplace safety, and helping industry. RMCOEH values this unique partnership and looks forward to many more years of working with WCF.