In Tuesday, April 3, 2012, the Rocky Mountain Center for Occupational and Environmental Health (RMCOEH) received formal notification that our request to develop a Doctor of Philosophy (Ph.D.) in Occupational and Environmental Health degree program was approved by the Utah Board of Regents.

This new degree program will complete the Center’s complement of graduate degrees including the MSoH, MOH, MS in Mechanical Engineering, and PhD in Mechanical Engineering degrees. The PhD in OEH is the brainchild of the Center’s faculty and will have emphases available in three areas:

- **Industrial Hygiene**, which includes education in the sciences associated with anticipation and recognition of potential risks to human health; development and/or use of measurement methods to evaluate the hazards to which people are or may be exposed; providing guidance for setting acceptable exposure limits; and implementation of exposure controls (e.g., personal protection, and/or engineering or administrative controls) when needed.

- **Occupational Injury Prevention**, a more recent discipline that involves studying injuries and working to prevent them. This trans-disciplinary program at the University will include students from both engineering and health sciences backgrounds.

- **General Occupational and Environmental Health emphasis**, designed to provide students with a broad background without concentration in one area. This emphasis is particularly valuable for advanced level programmatic administration in large employers, government and academia.

The purpose of this degree program is to address needs for well-trained graduates in OEH for multiple diverse audiences that include businesses, academia, insurers and governmental agencies. To provide a high-quality educational experience, the Ph.D. in OEH program will selectively enroll students who share faculty member(s) research interests. The program is primarily designed for full-time students.

As part of this doctoral degree program, all students will have completed: 1) a Core Curriculum that is emphasis-specific, 2) Elective courses, and a 3) Doctoral Dissertation.

All Ph.D. in OEH emphases will be a minimum 40 credit hours for those with an appropriate prior master’s degree and 64 for those without a prior master’s degree. In addition, the IH emphasis is designed to meet the American Board of Engineering Technologies (ABET) Applied Science Accreditation Commission (ASAC) requirements for those programs.

A key requirement for all Ph.D. OEH students is that the candidate will incept and execute a quality, scientific research project. They must prepare, submit and defend a dissertation embodying the results of their scientific research. The dissertation will provide evidence of originality and the ability to do independent investigation, and it must contribute to knowledge. A minimum of 14 credits in dissertation research will be required.

The critical nature of the research requirement is driven by the increasing complexity of research. Thus, whether the graduate students’ career is in leading industry programs, teaching, consulting or performing research, having advanced understanding and capabilities in research is essential.

The faculty eagerly anticipate the start of this new degree program to meet the needs of industry and train our future leaders.
hether it's a minor back strain or something as severe as paralysis, injuries on the job can have a significant impact on workers' lives—and on their employers' bottom line. Working tirelessly to improve workplace safety in Utah and the surrounding region, the RMCOEH ADVISORY BOARD MEMBERS

In March, the University of Utah helped host the Utah Regional FIRST Robotics Competition at the Maverik Center. FIRST, which stands for “For Inspiration and Recognition of Science and Technology”, is a national team-based competition for high school students. RMCOEH faculty Andrew Merryweather and Stacy Bamberg both volunteered their time over the three days of competition. Dr. Merryweather was a robot inspector, and had the opportunity to interact with numerous teams to evaluate their robots and make sure the “bots were both safe and legal for competition. Dr. Bamberg was a scorekeeper, which involves keeping an eye on the automated field and scoring systems and getting to press the start button at the start of each match.

This experience provides high school students with a fantastic opportunity to work in teams and learn more about science and engineering. A key aspect of FIRST is the attitude of "Gracious Professionalism," which encourages all participants to work hard and respect each other. In the competition, individual teams compete as one of three teams on either the red or blue alliance.

FIRST Robotics is a great way to get young people interested in technical fields. The regional competition is always free and open to the public. Please visit http://www.utfrc.utah.edu/ next spring for information about attending the 2013 regional.

If you are interested in volunteering with a team or at the competition, please contact Stacy Bamberg at sjm.bamberg@utah.edu, with “FIRST volunteer” in the subject line.
Trucking causes approximately 4,500 annual deaths, ranking it amongst the most hazardous occupations affecting both truckers and the driving public. Jury judgments related to crashes frequently exceed $30M each, relegating medical malpractice to a relatively minor concern financially. Medical standards for truck drivers remained unchanged for approximately 35 years until the US Congress directed the US Department of Transportation’s Federal Motor Carrier Safety Administration to form a Medical Review Board (MRB) in 2006. Kurt T. Hegmann, MD, MPH, a Dr. Paul S. Richard's Professor of Family and Preventive Medicine, and the Director of the Rocky Mountain Center for Occupational and Environmental Health was appointed by US Secretary of Transportation Norman Mineta and then elected by the Board as the first chair of the MRB.

Comprehensive systematic literature reviews were accomplished resulting in 15 evidence reports. Literature was critiqued. Twelve Medical Expert Panels were incepted to address topical areas. The MRB met, received testimony, deliberated and decided on recommendations.

The Board has formulated 84 recommendations on these major challenges. These include shortening maximum permissible certifications below the current 2-year limit for those with certain diseases. Recommendations also include criteria for sleep apnea screening, preclusion of driving with narcolepsy, development of narrow criteria for allowing a few select drivers using insulin to drive, and preclusion of driving for those with seizure disorders.

The MRB has been concerned with the degree of hazard associated with bus crashes as well as the potential harm from crashes involving hazardous substances and flammables. Thus, more stringent requirements for both bus drivers and those drivers transporting hazardous substances are recommended.

In April's edition of the Journal of Occupational and Environmental Medicine, Dr. Hegmann provides the summary of the MRB’s work for its first 5 years. “We hope to reduce these major burdens of injuries and deaths.”

A large multicenter prospective cohort study of the distal upper extremity has been in progress for over 9 years. These are the longest running cohort studies for musculoskeletal disorders of which we are aware. The main purpose of this study is to determine what are risk factors for the disorders including carpal tunnel syndrome (CTS), which should identify what can be done to prevent them. These disorders are by far the greatest driver of workers compensation costs.

Workers were enrolled in Utah starting in 2003. They underwent completion of an extensive questionnaire (266 items), structured interview to ascertain symptoms (483 items), two standardized physical examinations, and a nerve conduction study. Each worker's job was videotaped and measured for factors including force, duration of exertion, posture, cycle time, rate of repetition, speed of work, use of vibrating tools, temperature and direct mechanical stress. Workers were then followed monthly for development of symptoms and job changes. Nerve studies were repeated every 6 months.

In the first paper published on these results from half of the cohort (Ergonomics; March 2012.), the biggest driver of the risk of for development of CTS in this cohort was the Strain Index. That index measures job demands including force and repetition. Force however, is the largest driver of the Index. This strongly suggests most job-related prevention efforts should focus on reducing force. Considering the emphasis many professionals place on repetition and posture, these results will likely necessitate considerable retraining of the OSH community.

Life is not so simple. Instead of merely finding that job factors drive the risk of CTS, there were strong risks from several other factors including: obesity, diabetes, age, having other upper extremity musculoskeletal disorders, rheumatoid arthritis, and a measure of depression.

These results suggest an effective prevention program would need to address both occupational and non-occupational factors. Further results will be
We are also in discussions with ABPM to develop a certification examination for our non-Sciences Information Technology, noted, "Our physician graduate students are eagerly awaiting this board certification.

The goal is to have the first board exam available next fall. Dr. Kurt T. Hegmann, M.D., M.P.H., Professor of Family and Preventive Medicine and Director of the Rocky Mountain Center for Environmental and Occupational Health, is involved in the certification process through his role as chair of ABPM.

The American Board of Pathology is cosponsoring the examination as a medical subspecialty, with board certification granted by the ABMS. The American Board of Preventive Medicine (ABPM) is involved in the certification process through his role as chair of ABPM. The goal is to have the first board exam available next fall. Dr. Hegmann, stated, "We are enthusiastically working to provide a high-quality examination which will allow certification beginning in 2013." The Department of Biomedical Informatics is in the process of establishing a program that will, upon accreditation, provide training for certification.

A certification examination will be available to physicians who have primary specialty certification through the ABMS. The goal is to have the first board exam available next fall. Dr. Hegmann, stated, "We are enthusiastically working to provide a high-quality examination which will allow certification beginning in 2013." The Department of Biomedical Informatics is in the process of establishing a program that will, upon accreditation, provide training for certification.

Joyce A. Mitchell, Ph.D., chair of the Department of Biomedical Informatics and Associate Vice President for Health Sciences Information Technology, noted, "Our physician graduate students are eagerly awaiting this board certification. We also are in discussions with ABPM to develop a certification examination for our non-physician graduate students."

The University of Utah's Department of Biomedical Informatics is helping to lead efforts to develop certification examinations in the newly approved subspecialty Clinical Informatics. Last September, the American Board of Medical Specialties (ABMS) approved Clinical Informatics as a medical subspecialty, with board certification granted by the American Board of Preventive Medicine (ABPM). The American Board of Pathology is cosponsoring the subspecialty with the ABPM. Kurt T. Hegmann, M.D., M.P.H., Professor of Family and Preventive Medicine and Director of the Rocky Mountain Center for Environmental and Occupational Health, is involved in the certification process through his role as chair of ABPM.

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For additional information on CE classes, including distant learning courses, please visit the continuing education section of the RMCOEH website: http://medicine.utah.edu/rmcoeh/
Hanford Scholarship Awarded

Rahila Andrews, MD, one of the Occupational Medicine Residents was awarded the first Hanford Scholarship. Jessica Hanford, MD, MPH,(OM, 2009) has requirements of a poem on safety & health with the winner drawn at random. Following is the poem by Dr. Andrews:

I will work today, thinking of tomorrow
My job and my family need me
Eyes wide open, alert and aware
“Tis better to be safe than sorry

Personal protective equipment is my best friend
Preparation and prevention are key
Only we can prevent an accident
“Tis better to be safe than sorry.

This is my pledge, to heed these words:
“Tis better to be safe than sorry.

New Occupational Medicine Faculty

Dr. Melissa Cheng joined the Rocky Mountain Center for Occupational and Environmental Health after her completion of residency in 2011. She graduated from the University of Utah School of Medicine in 2008. She also has a Master of Health Science in international health with an emphasis on complex humanitarian emergencies from Johns Hopkins Bloomberg School of Public Health in 2003 and Master of Occupational Health from the University of Utah in 2010. Dr. Cheng performs in a full spectrum occupational medicine practice and teaches residents and graduate students in occupational and environmental health. She is married with 1.5 young children, and enjoys reading, traveling, being outdoors and trying new foods.

Dr. Matthew Hughes joins us again as an Assistant Professor for the Center, and is teaching and is in the Clinics. What is Huntsman’s loss is Rocky Mountain’s gain. Welcome back Dr. Hughes!

Dr. Rod Larson has been appointed as the Director of the Graduate Programs in Occupational and Environmental Health. This includes the MSOH, MOH and PhD in OEH degree programs.

Changes at the Rocky Mountain Center

Dr. Eric Wood was approved by NIOSH in October 2011 to take the helm as Deputy Director for the Rocky Mountain Center for Occupational & Environmental Health. He continues to lead the Occupational Medicine Program

Dr. Maureen Murtaugh is leading the Center’s Pilot Project Research Training Program (PPRT). Announcement for this funding can be found on the RMCOEH web page.

RMCOEH now has over 500 graduates and we would love to know where you are. Please send a photo of yourself either alone or in front of the sign of your employment and a brief description of your job to: Toni.Chambers@hsc.utah.edu
We plan to highlight 2-3 alumni in every newsletter.
Eric G. Swedin is an associate professor in the History Department at Weber State University. His doctorate is in the history of science and technology. His publications include numerous articles, six history books, several forthcoming science fiction novels, and a historical mystery novel. Dr. Paul S. Richards (1892-1958) was one of the pioneers of worker safety and occupational medicine in Utah. He ran the Bingham Canyon Hospital for twenty-six years (1922-1948), serving the needs of that mining community. He realized that many of the chronic health problems faced by miners could be solved with preventative measures, which he helped to develop and convinced mining companies to implement. He helped promote the first occupational diseases law for Utah in 1941 and worked extensively with the Utah Medical, Labor, and Industrial Council. Dr. Swedin's research on Dr. Richards led to a book, Bingham Canyon Doctor: The Life and Legacy of Paul S. Richards (Salt Lake City: RMCOEH, University of Utah School of Medicine, 2012).

Richard Hanowski, PhD presented as the 9th Annual Paul S. Richards Visiting Lecturer with a talk titled “A Naturalistic Driving Approach to Investigate Truck Driver Health and Safety” He is also a research scientist. Dr. Hanowski has formal training in human factors engineering, systems design, safety, research methods, experimental design, statistics, training, and human-computer interaction. Dr. Hanowski earned his Ph.D. in industrial and systems engineering from Virginia Tech in 2000. Included in his research results is the now well-known risk of crash from texting (23-fold). Less well known is that there is not a risk from use of hands free or hand-held cell phones. Instead crashes occur whenever drivers take their eyes off the road for 2 seconds, regardless of the reason(s)

He currently serves as the Project Manager for an Indefinite Delivery Indefinite Quantity contract for the Federal Motor Carrier Safety Administration. He also serves as the Fatigue Subject Matter Expert for the National Surface Transportation Safety Center for Excellence.

Featured Keynote Speakers

**Eric G. Swedin, PhD**

Dr. Eric Swedin, Weber State University, Opened the 11th Annual NORA Young/New Investigators Symposium

**Richard Hanowski, PhD**

9th Annual Paul S. Richards, MD, Endowed Distinguished Visiting Lectureship in Occupational Medicine

Presentations by RMCOEH Graduates at the NORA Symposium 2012

- **Brad Husberg** - Occupational Health Nurse, 1990
  Decreasing Illness and Injuries in Agriculture, Forestry, and Fishing through NORA

- **Travis Steele** - E&S, 2012
  A Computational Study of Shoulder Muscle Forces During Pushing Tasks

- **Richard Sesek & Tianyang “Joey” Wei** - E&S, 1999
  Modular Safety Training for Student Design Competition Teams

- **Travis Steele, Jason McGowan & Henry Klein** - E&S, 2012 & IIH, 2012
  Comprehensive Analysis of Core Knock-Out Process at a Steel Foundry

  Health and Safety Program Writing for a Small Business in the Microchip Processing Industry

- **Erik Erlingsson, Sheler Sadati, Jordan Knight & Faris Ali** - E&S, 2012
  Ergonomic Analysis of a Central Processing Sink Station

- **Billy Wang, John Burton, Kevin Chamberlain, Parth Dudhiya** - IH, 2012
  Assembly line Ergonomic Analysis

- **Chris Nield, Scott Ryan & Nate Stettler** - IH, 2012
  Noise Mapping and Personal Dosimetry for a Dental Manufacturing Company

  Self-rated Depressed Mood in Commercial Truck Drivers

- **Jason Kraft** - IH, 2012
  Solid Phase Microextraction Screening to Determine the Presence of Formaldehyde in Bulk Liquid Samples with Analysis of Hair Straightening Products as an Example Application

- **John W. Burton** - IH2012
  Validation of a Direct-Reading Aerosol Instrument Compared to a Pump-Filter-Cyclone Sampling Method for Evaluation of Respirable Particulates and Respirable Silica at a Copper Mine
More RMCOEH News ~ Alumni

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hoa. Dr. Jessica Hanford is ready to slow down a bit. For two years, she has had a cherry contract with Whatcom Occupational Health here in Bellingham, WA. As of January, she continues to visit three of the local oil refineries for Whatcom Occ. This leaves lots of flexibility in her schedule. She is planning her next move. In the future, she may open a clinic called the Whatsup Occupational Health, and she would be the Whatsup Doc.

She notes that medicine can still be fun if processing of the volume of “paper” work our cases generates is done promptly and correctly the first time (You have to develop a caring and properly trained staff.) Or it can cause nightmares if patients don’t get back to work, get the treatment they need, get the time loss and disability compensation they depend on to get by.

The Residency was seriously great preparation for the occ doc’s role in all this. It was also really difficult for her. That’s why she expressed her appreciation in the form of a scholarship—-with “silly rules”. (See page 5 Hanford Scholarship Awarded)

Jessica Hanford—Middle

D

r. John Dreyzehner is commissioner of the Tennessee Department of Health. Appointed to this position by Tennessee Governor Bill Haslam in September, 2011, Dreyzehner is a physician, residency trained in occupational medicine and board certified in 1999.

Dr. Dreyzehner began medical service in 1989 as a United States Air Force flight surgeon honorably discharged as a major in 1997. He also practiced for several years in the field of addiction medicine while working on substance abuse prevention, treatment and control in his public health role. He holds appointments as adjunct faculty with East Tennessee State University’s College of Public Health, founding faculty of the Healthy Appalachia Institute and visiting assistant professor of public health at the University of Virginia. He also chairs the advisory committee for the Virginia Tech-Carilion School of Medicine’s Master of Public Health Degree Program.

Dr. Dreyzehner attended the University of Illinois at Champaign-Urbana, graduating Phi Beta Kappa and Magna Cum Laude with a Bachelor of Science in psychology. He received his Doctor of Medicine degree from the University of Illinois at Chicago. He completed his Master of Public Health degree from the University of Utah, where he also completed his residency in Occupational Medicine at the Rocky Mountain Center for Occupational and Environmental Health.