The Rocky Mountain Center has a new laboratory to provide research and teaching related to exposure to airborne particles. The wind tunnel was purchased from the University of Michigan with the help of RMCOEH Assistant Professor Darrah Sleeth, who helped design this equipment. This wind tunnel is unique in its ability to generate a uniform atmosphere of airborne particles at wind speeds that are more typical of the indoor work environment. Integrated into the wind tunnel is also a specially designed mannequin that can breathe at different rates, heat to body temperature, and rotate a full 360 degrees.

Dr. Sleeth, of the RMCOEH Industrial Hygiene program, has recently been awarded several new research grants from the National Institute for Occupational Safety and Health (NIOSH) that will also use this lab.

The first of these is a 3-year K01 career development award. This grant aims to develop a particle sampler that better estimates what actually deposits in the human respiratory tract. Current health-based aerosol samplers (e.g., respirable cyclones) measure those particles that can penetrate to a given area in the human respiratory tract. In reality, a large portion of these particles are exhaled and do not deposit inside the human body. With the use of a low speed wind tunnel, new samplers will be designed and tested alongside a human mannequin in order to match newly published criteria on particle deposition in the respiratory tract.

Dr. Sleeth’s other new research award from NIOSH is a 4-year, $2 million multi-center R01 grant with collaborators from Colorado State University (Dr. John Volckens) and the University of Iowa (Dr. T. Renee Anthony). This project is focused on the design and testing of a cheaper, more user-friendly particle sampler that measures inhalable particulate matter. Although these exposures are not regulated by US OSHA, they are the basis for both ACGIH Threshold Limit Values as well as regulatory limits in other countries. The first part of this project involves the use of computational fluid dynamics to assess the performance of several new sampler designs. Next, the most promising samplers will be fabricated and tested under calm-air and low wind speed conditions. Finally, the optimized samplers will be field tested in a variety of occupational settings (e.g., dairy farms, beryllium machining operations and lead smelting facilities).

Dr. Sleeth received her masters and doctoral degrees from the University of Michigan, where her doctoral research was in the field of aerosol science. She teaches the Fundamentals of Industrial Hygiene and has also served as co-instructor for the Occupational Health and Safety Solutions course. In addition, she assists students on their MS and PhD committees.
In Memory of James Judd 1952-2012

RMCOEH Advisory Board Member and President of the Utah AFL-CIO, James Rulon Judd, left his mortal life on August 17, 2012. He died in Missoula, MT following a motorcycle accident while adhering to the credo "Live to Ride and Ride to Live."

Jim was 60 years old and resided in Layton, UT, with his wife of 42 years, Jill Judd. Jim was born on February 18, 1952 in Coalville, UT the fifth of six children to Glen and Lynette Judd.

Jim and Jill, high-school sweethearts, married in Las Vegas, NV on June 13, 1970 and were then sealed in the Manti Temple on July 31, 1974. He has been a loving, wonderful father and grandfather to his soon-to-be 18th grandchildren. Jim was a giant among his peers, a leader to many and passionate about helping establish workers’ rights.

He lived to serve his community, state, and nation. He served as a firefighter for over 20 years, served on the board for Wasatch Peaks Credit Union, was the former President of the Professional Firefighters of Utah, President of the Utah AFL-CIO, and vice chairman of the Utah State Democratic Party. He served as a member of the Rocky Mountain Center for Occupational and Environmental Health Advisory Board for many years. Even with all of Jim’s vast accomplishments both professionally and civically, he was first and foremost a devoted husband, father, and grandfather. He was a member of The Church of Jesus Christ of Latter-day Saints, had faith in Jesus Christ and in the promise of eternal life. He will be missed by all but never forgotten.

Jim is survived by his parents, his wife, and six children.

Thank you all for your outpouring of love and support.

In lieu of flowers, the family requested you register to vote and cast ballots on Nov. 6.

Karen Mayne serves the communities of Kearns, Taylorsville, and West Valley City. She was appointed in 2007 to fill her husband, Sen. Eddie Mayne’s term upon his passing. She was than elected in 2008 and re-elected in 2010 to a full 4-year term. Karen is the mother of two children (Paul and Jamie) and enjoys her 6 grandchildren.

The Senator serves on many committees and organizations including: IHC Home Care and Hospice Foundation Executive Board, Habitat for Humanity Executive Board, United Way Policy Committee, Salt Lake Community College Advisory Board, Workers Compensation Fund Advisory Committee, Legacy of Learning (WCF), Director of Women in Government for the State of Utah and of course, the Rocky Mountain Center since 2008.

Some of her Senate duties include: Judicial Confirmation Committee, Judicial Conduct Committee, Veterans Task Force, Privatization Committee, along with her other regular Senate Committees that include the Business and Labor Committee where she has supported legislation to help RMCOEH.

Karen has been honored and recognized many times in the Community. She has received the Distinguished Eleanor Roosevelt Award along with the Lucy Beth Rampton Award for public service. Salt Lake Community College and the city of Taylorsville honored the Senator with the Rocky Mountain Center for Occupational and Environmental Health Advisory Board Members.
the Rocky Mountain Center for Occupational and Environmental Health’s Mountain West OSHA Education Center has been renewed as an OSHA Training Institute (OTI) Education Center. It was one of only two successful centers in Region 8.

Through the OIT Education Centers Program, OSHA offers a broad selection of occupational safety and health classes that aim to provide the knowledge and tools that workers and employers need to identify and correct workplace safety and health hazards. The OIT Education Center Programs are considered to be an essential component in OSHA’s mission to prevent work-related job injuries, illnesses, and fatalities. The Agency anticipates the 28 OIT Education Centers, comprised of 43 organizations, will continue to increase the number of students trained each year.

The RMCOEH’s Mountain West OSHA Education Center now trains over 900 students per year in the sparsely populated West that also is home to industries and states with the highest occupational fatality rates.

Student Wins Award

John Burton, a MSOH Industrial Hygiene 2012 graduate student at the University of Utah (RMCOEH), was awarded two blue ribbons at the annual Graduate Student Poster Session of the June 2012 American Industrial Hygiene Conference and Exposition (AIHce) in Indianapolis, Indiana.

John’s poster summarized his MSOH research project entitled “Evaluation of a Direct Reading Aerosol Instrument Compared to a Pump-Filter-Cyclone Sampling Method for Estimating Respirable Particulates and Respirable Silica at a Metal Mine.” One blue ribbon was awarded by the AIHA Construction Committee for the “Best Student Poster Award” and the other blue ribbon was awarded by the AIHA Aerosol Technology Committee for the “Paul Baron Student Poster Award.” John is currently an officer training with the US Navy and is stationed in San Diego, CA.

(Doctor Darrah Sleeth and John Burton)
Former Alumni and Faculty Receive Awards

Co-authors Allan Fleeger and Dean Lillquist were presented with the 2011 Bestseller Award for their book—*Industrial Hygiene Reference & Study Guide 3rd Edition*. Jay Brown, Chair/AIHA Publications Committee recognized the achievement at the June 2012 American Industrial Hygiene Conference and Exposition (AIHce) in Indianapolis, Indiana.

Allan K. Fleeger is a graduate of the University of Utah Industrial Hygiene Program (Class of 1987), is the current President of the AIHA and is the manager of Global Products Stewardship and Regulatory Affairs manager for ExxonMobil Chemical Company, Houston, Texas.

Dean Lillquist is the former Industrial Hygiene Director at the University of Utah RMCOEH and is currently the Director of the Salt Lake Technical Center at OSHA/DOL.
Alumni Receives Golden Seed Award

Michael Taylor was awarded "The Golden Seed Award" on behalf of the Students and Early Career Professionals Committee at the Indianapolis, Indiana AIHce Conference on Tuesday, June 19, 2012. Mike Taylor works for The Church of Jesus Christ of Latter-Days Saints in Salt Lake City, Utah and his title is the "Global Manager, Safety, Health and Environment."

The Golden Seed Award is given to an individual who has made significant contributions to industrial hygiene in the area of student development, mentoring or early career guidance. The recipient is a national AIHA member and must have a demonstrated commitment to promoting the profession of industrial hygiene, advancing the profession among students and early career professionals.

Mike is also a RMCOEH alumnus IH class of 1982. Congratulations!

Bamberg Receives Prestigious International Outstanding Paper Award

While attending the recent International Conference of the IEEE (the Institute of Electrical and Electronics Engineers) Engineering in Medicine and Biology Society (EMBS) in San Diego California, Stacy Bamberg, Associate Professor in the Department of Mechanical Engineering at the University of Utah, received the Outstanding Paper Award for the IEEE Transactions on Information Technology in Biomedicine Journal.

EMBS is the world’s largest international society of biomedical engineers (n=9,100). Through the Outstanding Paper Award, each year the EMBS journal distinguishes one paper that had a significant impact on the research area.

Along with co-authors Ari Benbasat, Donna Moxley Scarborough, David Krebs, and Joseph Paradiso, Bamberg’s paper, “Gait Analysis Using a Shoe-Integrated Wireless Sensor System,” showed that it is possible to instrument a shoe with sensors at a fraction of the cost of a motion analysis lab, while retaining the ability to obtain quantitative results corresponding to timing of foot contact, foot orientation and position. Interest in analyzing these gait parameters away from the clinic has exploded in the last several years since this work was published.

Bamberg noted, “We were thrilled to have our work recognized with this esteemed honor at the recent Engineering in Medicine and Biology Conference. Every year, more and more researchers are exploring the advantages of instrumenting shoes and clothing with sensors to analyze how people are walking and moving in their homes and communities. It is exciting to see this field start to mature and result in devices that can truly go home with patients to make a difference in their every day lives.”

Along with Dr. Bamberg, the faculty within the U of Utah’s Department of Mechanical Engineering conduct a wide variety of innovate research. Thematic areas of research excellence include micro/nanoscale heat transfer, sustainability, environmental fluid dynamics, biomechanics, computational mechanics, composite materials, ergonomics and safety, microfluidic systems, tribology, manufacturing, and robotics. These research activities complement our educational mission, address the ever-changing needs of industry and society, and contribute to the economic and social development of Utah and the nation.

For more information on this subject and about Dr. Bamberg’s research visit her Utah BiInstrumentation website: bi.eng.utah.edu

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.
Justin Mecham, IH class of 2009, now works at Phillips 66 in Oklahoma as a Corporate Industrial Hygienist. In May of this year he took the CIH Exam. He felt compelled to let Dr. Leon Pahler know of the experience. He writes: “I took and passed the CIH exam on Friday. As I went through the exam, I frequently thought about the Advanced IH course I took from you. That class prepared me for the exam more so than any other class. You did a great job as the instructor. At the time, I didn’t fully understand why you were challenging us with complex ideal gas law questions, having us review OSHA regulations, or having us practice writing exam questions. These were all great things you tortured us with to help us learn and prepare for the certification exam. So, Thank You!”

Kathleen Sitzman, RMCOEH OHN class of 1985, is now the Associate Dean for Undergraduate Education in the College of Nursing, and Professor of Nursing at East Carolina University in Greenville, North Carolina. She continues to be a strong support for the RMCOEH Center. Kathleen has taught OHN principles to the RMCOEH students as well as educating nurses at Weber State University.

Dr. Kathleen Sitzman earned her BSN from the University of Utah, her Master’s Degree in Community and Occupational Health Nursing from the University of Utah, and her PhD in Nursing Education from the University of Northern Colorado in Greeley. Her dissertation work focused on how to convey and sustain caring in the online classroom environment. Dr. Sitzman has completed national research related to the occupational health concerns of nurses who make home visits.

She has co-authored two nursing textbooks: Understanding the Work of Nurse Theorists: A Creative Beginning, and Nursing History: Trends and Eras. She is also the author of over 125 scholarly articles that have appeared in numerous nursing journals.