

**NEW YORK/ NEW JERSEY EDUCATION AND RESEARCH CENTER FOR
OCCUPATIONAL SAFETY AND HEALTH SUMMARY ANNUAL REPORT**

July 1, 2007 – June 30, 2008

NIOSH Training Grant

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UOSHERC, the Universities Occupational Safety and Health Education and Research Center (a/k/a NY/NJ ERC), is a consortium of five educational institutions (www.nynjerc.org) offering ten programs in occupational health and safety training, covering three of the four essential core areas for ERCs, namely Occupational Medicine, Industrial Hygiene and Occupational Safety/Ergonomics. Our constituent programs are:

- Industrial Hygiene and Hazardous Substance Academic Training (HSAT) at Hunter College School of Health Sciences (New York City, NY);
- Occupational Medicine at Mount Sinai School of Medicine (New York City, NY);
- Occupational Medicine at the Universities of Medicine and Dentistry of New Jersey (UMDNJ)/Robert Wood Johnson Medical School (Piscataway, NJ);
- Occupational Safety & Health Engineering at New Jersey Institute of Technology (Newark, NJ);
- Occupational Ergonomics and Biomechanics at New York University (NYC, NY).
- Continuing Education and Outreach and Hazardous Substance Training (HST) at UMDNJ/Robert Wood Johnson Medical School (Piscataway, NJ); and the
- Pilot Project Research Program and NORA Research Training at Mount Sinai School of Medicine (New York City, NY).

Jacqueline Moline, MD, MSc is Director of this ERC. UOSHERC is administered by a core staff at Mount Sinai School of Medicine in conjunction with the ERC Management Committee, consisting of all the program directors of this ERC.

Students and Residents Trained: During the 2007-08 grant year, UOSHERC trained a total of 62 students and residents in its academic-degree programs, of whom 23 were fulltime students and 39 were part-time students. 35 (56 percent) of these students and residents were underrepresented minority trainees. Twenty-three students and residents graduated: 6 in industrial hygiene, 4 in occupational medicine, 8 in safety engineering and 5 in ergonomics. Of the 23 graduates, 14 (61 percent) received NIOSH funding. Our ERC Continuing Education program provided short-term training to 4,229 persons. Over 80 percent of these attendees (3,521) were from private industry, seven percent (310) from academic institutions, and nine percent (398) were from city, state or local government agencies.

Highlights: The highlight of this year was our third annual ERC Interdisciplinary Northeast Occupational Safety and Health Tour. During the week of June 15-20, 2008, 13 ERC students and residents and 7 faculty members traveled across the Northeastern U.S. and Canada to visit industrial sites of current or historical health and safety interest. This year we visited industries engaged in

asbestos mining, granite quarrying, PCB clean-up, commercial fishing and winemaking. In addition, UOSHERC held its 29th annual scientific conference on April 11, 2008 on “Protecting Workers from Chemical Exposures.” The annual ERC student research day was held on May 14, 2008 at NJIT. The ERC continued to offer two interdisciplinary courses: an OSH seminar in the Fall and a plant visits course in the Spring. Students and faculty from all ERC programs actively participated in all the above events. Our ERC faculty provide leadership within the World Trade Center Medical Monitoring and Treatment Program Centers of Excellence. These Centers provide training for OM residents and other ERC trainees.

Industrial Hygiene and HSAT (Hunter): The Hunter Environmental and Occupational Health Sciences (EOHS) Program has 5 faculty members. The MS-EOHS track was visited by ABET last Fall and was re-accredited for 2 years. Pending submission of an expanded outcome assessment plan the program will likely be given the full 6-year accreditation. In 2007-08, the MS-EOHS Program had 27 students, of whom 6 graduated. Sixteen of the 27 students were from underrepresented minority background. EOHS faculty published 5 peer-reviewed articles in 2007-08, and presented 14 times at conferences. City University of NY has committed itself to establish a School of Public Health at Hunter College. This past year the School added two public health doctoral tracks: Epidemiology/Biostatistics and Health Policy Management, which will allow EOHS students to take more advanced courses in these areas. The doctoral program in EOHS will begin in September 2009. This year Dr. Caravanos, ERC IH Director, again led the Historical Perspectives Summer OSH Tour with Mitchel Rosen, CE/O Director. The HSAT Program represents a concentration within the MS-EOHS industrial hygiene program. In 2007-08, six IH students were enrolled in this concentration, of whom two graduated. All graduates in the past year but one have found professional OSH employment.

Occupational Medicine (Mount Sinai and RWJ/UMDNJ): This ERC has two occupational medicine residency programs: Mount Sinai School of Medicine (MSSM) and Robert Wood Johnson Medical School (RWJ/UMDNJ). The MSSM Program had its ACGME re-accreditation site visit in March 2008, with the decision expected in October. In 2007-08, the MSSM Program had four OM residents, one of whom dropped out for family reasons, and RWJ/UMDNJ had three residents. Three of the four residents at MSSM were underrepresented minorities; none of the RWJ residents were minorities. Each program graduated two residents with MPH degrees in 2007-08. All four are professionally employed in occupational medicine. In 2007-08 RWJ/UMDNJ core faculty published 22 peer-reviewed OSH articles, and MSSM faculty published five chapters and 22 peer-reviewed publications. One resident won an award for best resident abstract at the national Occupational Medicine Conference. Research highlights this year included an air pollution study in Beijing by Dr. Kipen (UMDNJ) before, during and after the Olympics. MSSM developed a new field placement with the Memorial Sloan Kettering Employee Health Service, and is now instituting field placements in the first year of residency.

Occupational Safety and Health Engineering (NJIT): Dr. Sengupta and Dr. Olsen continue as core faculty members of the OSHE program. The educational program resides within the Department of Industrial and Manufacturing Engineering (IME) of NJIT, requiring 36 credit hours of course work for the degree, including a mandatory research-oriented thesis for NIOSH trainees. Twenty-one students studied in the program in 2007-08, of whom eight graduated. All eight of these graduates are now working in the health and safety field, from positions in consulting companies to H&S work at large firms such as Honeywell, Abbott Labs and Disney ABC-TV Network. Two are working with the NJ State PEOSH public employee program. Thirteen of the 21 students in the program this year were from underrepresented minority background. Two publications and presentations at major conferences in the field were a direct result this year from student research in the OSHE program. A major focus of this

program in the future will be improvement of its research output. Thus trainees are now being advised to begin work on their MS theses during their second semester of study.

Occupational Musculoskeletal Ergonomics and Biomechanics (NYU): A new faculty member, Dr. Krishna Menon was appointed Adjunct Professor in the NYU Ergonomics and Biomechanics Program (ERBI), and will to teach Ergonomics Issues II in fall 2008. Dr. Margareta Nordin, ERBI Program Director, has been appointed Adjunct Professor at the Department of Rehabilitation Sciences, Hong Kong Polytechnic University, Hong Kong from 2007–2009. The Program had 7 Masters students in 2007-08, of whom five graduated this year. Three of the Masters students were from underrepresented minority background. ERBI faculty wrote one book chapter and published 25 articles in peer-reviewed journals, eight of which resulted from student research or included student involvement. In the future, ERBI will continue with its five ongoing projects initiated in 2005-2006 to promote and improve ergonomics in health care, linking both patient safety and employee safety. A multidisciplinary group of interested ERBI faculty will continue to explore further ERC collaboration projects that emphasize translation of current research findings into practical applications (R2p).

Continuing Education/Outreach/HST (UMDNJ): NY/NJ ERC meets the continuing education and outreach training needs of the occupational health and safety practitioners of New York, New Jersey and Puerto Rico. The CE/O Program, under Mitchel Rosen, MS, offered a total of 274 courses for 4,229 students in 2007-08. Two new three-day courses were offered this year on fall arrest systems and construction health and safety for technicians. Over 80 percent of the attendees were from private industry, seven percent from academic institutions, and nine percent from city, state or local government. About 200 persons each were physicians, nurses and industrial hygienists; three-quarters of the trainees were safety professionals. The HST Program works extensively with public agencies in New Jersey and New York to provide hazardous materials training. From July 1, 2007 to June 30, 2008, 86 HST courses were offered to 1,561 students. Through the HST program sixteen 40-hour and forty-six 8-hr Annual Refresher scholarships were awarded to public sector employees. Through the NORA Program the UMDNJ-School of Public Health has developed podcasts on OSH issues and hosted video teleconferencing for the ERC's interdisciplinary Site Visits course. Another cornerstone of the NORA program is the one-week Historical Perspectives OSH Tour.

Pilot Project Research Training (PPRT) & NORA Research Support (Mount Sinai): Seven applications were received in the PPRT Program; five were funded for work bridging multiple sectors, including mining, transportation, service and construction. Cross sector work is addressed in an ergonomic project. Three new investigators were funded, fulfilling one of our goals of fostering collaborative research in occupational medicine by individuals in other disciplines. As always, prior awardees present their findings at our annual scientific conference, providing all ERC trainees and conference attendees with the ability to see new work that is done within occupational safety and health , and our ERC.

NORA Research Training (Mount Sinai): A variety of courses and research projects provide research training for graduate students through the NORA Program. UMDNJ residents conducted two NORA-supported studies: one on the health effects of diesel exhaust, and the other a study of the risks and benefits of high-resolution CT scans for screening for cancers among radiation-exposed participants. NYU graduate students and faculty continued their research on shoulder and scapula kinematics, including a study of 120 patients with shoulder impingement, rotator cuff tear, and shoulder arthroplasty. NJIT graduate students and faculty conducted research on muscle fatigue and musculoskeletal disorder risks due to typing using personal digital assistants, the ergonomics of die set-up operator activities for a plastics extrusion machine, and biomechanical modeling of the lower back, using the “Anybody” software. Mount Sinai researchers and recent ERC trainees conducted a

working conditions and health survey of New York City sanitation workers, and are analyzing health survey data from New York City restaurant workers and retired transit workers. Through NORA, UMDNJ developed podcasts on OSH issues and hosted video teleconferencing for the ERC's interdisciplinary Site Visits course, as noted previously.