

Richard Sesek, Ph.D., MPH, CSP
Mechanical Engineering
University of Utah

EDUCATION:

B.S. General Engineering, Field of Concentration: Human Factors, University of Illinois, Urbana-Champaign, 1988
B.S. Engineering Psychology, Cognate: Physics, University of Illinois, Urbana-Champaign, 1988
M.S. General Engineering, Field of Concentration: Human Factors/Biomechanics, University of Illinois, Urbana-Champaign, 1990
M.P.H. Public Health, University of Utah, 1998
Ph.D. Mechanical Engineering, University of Utah, 1999, Dissertation: Evaluation and Refinement of Ergonomic Survey Tools to Evaluate Worker Risk of Cumulative Trauma Disorders

PROFESSIONAL REGISTRATION:

Certified Safety Professional, Engineering Practice, Board of Certified Safety Professionals

AREAS OF SPECIALIZATION:

industrial ergonomics, human factors/engineering psychology, safety engineering, biomechanics, ergonomic modeling and ergonomic survey tools, occupational safety and health standards and compliance

MEMBERSHIP IN SCIENTIFIC AND PROFESSIONAL SOCIETIES:

American Society of Safety Engineers, Human Factors and Ergonomics Society, American Society of Mechanical Engineers, American Industrial Hygiene Association

HONORS AND AWARDS:

Illinois State Scholar, Graduation with Honors (B.S. General Engineering, University of Illinois), Tau Beta Pi Honor Society, Phi Kappa Phi Honor Society, Named as Outstanding Instructor, University of Illinois 1989, National Institute of Occupational Safety and Health (NIOSH) Fellowship, 1994-1999, Workers Compensation Fund of Utah Safe Workplace Scholarship, 1997,1998, Top 15 % of College of Engineering Instructors based on University of Utah Course Evaluations, Fall 2002, Spring 2003, and Fall 2003.

MEMBERSHIP IN COMMITTEES/BOARDS, ETC.:

Continuing Education Advisory Committee for the Rocky Mountain Center for Occupational and Environmental Health, University of Utah, 1997-1999, Salt Lake City East Central Community Council Neighborhood Representative, Douglas Neighborhood, 1998-1999, College of Engineering Safety Committee (Mechanical Engineering Representative), 2000-present, Faculty Advisor of American Society of Safety Engineers (ASSE) Student Chapter, 2004 – present.

TEACHING ACTIVITIES:

Semester courses taught by Dr. Seseek:

ME EN 7105 Advanced Ergonomics: Occupational Biomechanics Laboratory (SP 00, 02, 04, 06)

ME EN 5120/6120 Human Factors Engineering (Fall 00, Fall 01, Fall 03)

ME EN 5130/6130 Design Implications for Human-Machine Systems (Fall 02, Fall 04)

FPMD 6759 Occupational Safety and Health Field Trips (SP 01, 02, 03, 04, 05, 06)

ME EN 5110/6110 Introduction to Industrial Safety (SP 02)

ME EN 7100 Advanced Ergonomics and Biomechanics (SP 02)

ME EN 6960 Emergency Response in Public Venues Preceptorship (Olympics) (SP 02)

ME EN 5960/6960 Engineering Control and Personal Protective Equipment (SP 03, SU 04, SP 05)

BIO EN 6230 / ME EN 7120 Functional Anatomy for Engineers (SP 03, SP 05)

ME EN 7960 Computer Applications in Ergonomics and Safety (SP 04, SP 06)

Dr. Seseek regularly lectures on ergonomics and safety in:

FPMD 6740/6741 Seminar in Occupational Safety and Health I & II

FPMD 6750 Occupational Safety and Health

FPMD 6754 Noise and Other Physical Agents

ME EN 5100/6100 Ergonomics

ME EN 5110/6110 Industrial Safety

Dr. Seseek has made guest lectures and presentations in:

FPMD 6303 Epidemiology of Injury and Violence

ME EN 7110 System Safety

NURS 5962 Introduction to Occupational Health and Safety

PHYSL 5100 Carpal Tunnel Syndrome

Continuing Education Courses Taught for:

Rocky Mountain Center for Occupational and Environmental Health, University of Utah;

Georgia Tech Research Institute; Occupational Safety and Health Administration (OSHA)

Training Institute, Atlanta, GA; Utah Safety Council; and as a private consultant.

PROFESSIONAL EXPERIENCE:

Research Assistant Professor, Department of Mechanical Engineering, University of Utah, 12/99 - present.

Ergonomics and Safety Consultant, 9/94-present.

Ergonomics Preceptorship, Kennecott Utah Copper Corporation, 6/95 - 9/95.

Ph.D. Student, Teaching, and Research Assistant, Department of Mechanical Engineering, University of Utah, 9/94-9/99.

Safety Engineer, Michelin Tire Corporation, 10/92 - 9/94.

Ergonomist, ErgoDynamics, 3/92 - 9/92.

Safety Engineer, Georgia Tech Research Institute, 10/90 - 3/92.

Masters Student, Teaching, and Research Assistant, General Engineering Department, University of Illinois, 8/88 - 9/90.

GRANTS, CONTRACTS, PROPOSALS:

Research Support

Don Bloswick, PI, Rich Seseck, Co-PI, "Documentation of Physical Workplace Stresses in Gas Industry Operations", KI29465, 6/1/04-6/1/06, \$69,968.

Kurt Hegmann, PI, Don Bloswick, Co-PI, "Collaborative Program for the Identification and Prevention of Work-Related Musculoskeletal Disorders", OH-03-006, 10/1/03-9/30/06, \$483,703.

Role: E&S Research Investigator

Rich Seseck, PI, "Exploring the Effectiveness of Safety Case-Cutters", T42/CCT810426-10, 7/1/03-6/30/04.

David Gilkey, PI, "Comparing OWAS Evaluation of Auto Manufacturing Job Tasks to Known Health Outcomes", T42 CCT 810426-10, 7/1/03-6/30/04.

Role: Co-Investigator

Don Bloswick, Program Director, "Ergonomics and Safety Research and Training", NIOSH Education and Research Center (ERC) Training Grant (Hegmann, PI), T42 CCT 810426-10, 7/1/03-6/30/04, \$149,260.

Role: E&S Research Investigator

Don Bloswick, Program Director, "Occupational Injury Prevention Research and Training", NIOSH Education and Research Center (ERC) Training Grant (Hegmann, PI), T42 CCT 810426-10, 7/1/03-6/30/04, \$140,600.

Role: E&S Research Investigator

Kurt Hegmann, PI, Don Bloswick, Co-PI, "Upper Limb Musculoskeletal Disorders: Quantifying Risk", K016712, 10/1/02-9/30/06, \$800,730.

Role: E&S Research Investigator

Rich Seseck, PI, "A Comparison of Aluminum-Silicate Particulate Exposure With and Without Cutting Fluids", NIOSH Pilot Project Research Training (PPRT) Grant, T42 CCT 810426-09, 7/1/02-6/30/03.

Don Bloswick, Program Director, "Ergonomics and Safety Research and Training", NIOSH Education and Research Center (ERC) Training Grant (Hegmann, PI), T42 CCT 810426-09, 7/1/02-6/30/03, \$146,348.

Role: E&S Research Investigator

Don Bloswick, Program Director, "Occupational Injury Prevention Research and Training", NIOSH Education and Research Center (ERC) Training Grant (Hegmann, PI), T42 CCT 810426-09, 7/1/02-6/30/03, \$146,700.

Role: E&S Research Investigator

Rich Seseck, PI, "ASSE Professional Development Course", University of Utah Teaching Grant, 6000 02137, 5/02.

Don Bloswick, PI, "Wrist Flexion to Identify Carpal Tunnel Syndrome", Neuroscience Research, PID 21122093, 9/30/01-8/31/02, \$10,000.
Role: Research Investigator

Rich Seseck, PI, "Development of an Ergonomic Screening Tool for Multi-Task Jobs", NIOSH Pilot Project Research Training (PPRT) Grant, T42 CCT 810426-08, 7/1/01-6/30/02.

Don Bloswick, Program Director, "Ergonomics and Safety Research and Training", NIOSH Education and Research Center (ERC) Grant (Moser, PI), T42 CCT 810426-08, 7/1/01-6/30/02, \$93,586.
Role: E&S Research Investigator

Don Bloswick, Program Director, "Occupational Injury Prevention Research and Training", NIOSH Education and Research Center (ERC) Grant (Moser, PI), T42 CCT 810426-08, 7/1/01-6/30/02, \$147,700.
Role: E&S Research Investigator

Rich Seseck, PI, "Investigation of Sensory Deficits Resulting from Finger Loading", NIOSH Pilot Project Research Training (PPRT) Grant, T42 CCT 810426-07, 7/1/00-6/30/01.

Don Bloswick, Program Director, "Ergonomics and Safety Research and Training", NIOSH Education and Research Center (ERC) Grant (Moser, PI), T42 CCT 810426-07, 7/1/00-6/30/01, \$83,468.
Role: E&S Research Investigator

Don Bloswick, PI, "Evaluation and Refinement of Ergonomic Survey Tools to Evaluate Worker Risk of Cumulative Trauma Disorders", UAW-Ford National Joint Committee on Health and Safety Grant, 6402G80207LOA MOD3, 4/00-5/01, \$59,000.
Role: Co-Investigator

Anthony Suruda, PI, "Study of Fatal Work Injuries Involving Respirators", University of Utah Department of Family and Preventive Medicine Health Studies Award, 2000 00600, 1/28/00-1/28/01.
Role: Co-Investigator

Anthony Suruda, PI, "Research on Young Worker Safety and Health Risks in Construction", CDC/NIOSH, U60 CCU817182, 9/30/99-9/29/01.
Role: Co-Investigator

Don Bloswick, Program Director, "Ergonomics and Safety Research and Training", NIOSH Education and Research Center (ERC) Grant (Moser, PI), T42 CCT 810426-06, 7/1/99-6/30/00, \$83,468.

Role: E&S Research Investigator

Rich Sese, PI, "Evaluation and Quantification of Manual Material Handling Risk Factors", NIOSH Pilot Project Research Training (PPRT) Grant, T42 CCT 810426-05, 7/1/98-6/30/99.

Don Bloswick, Program Director, "Ergonomics and Safety Research and Training", NIOSH Education and Research Center (ERC) Grant (Moser, PI), T42 CCT 810426-05, 7/1/98-6/30/99, \$89,404.

Role: E&S Research Investigator

Don Bloswick, PI, "Development of Ergonomic Analysis Survey Tool", Ford Motor Company Grant , 6402G80207LOA MOD3, 4/1/98-12/30/00, \$245,432.

Role: Co-Investigator

PUBLICATIONS:

Selected peer-reviewed publications (in chronological order)

1. Sese, R., and Bloswick, D.S., "Materials Handling", Safety and Health Management Planning, edited by James P. Kohn, Government Institutes, 635-671, 1999.
2. Bloswick, D.S., and Sese, R., "Occupational Safety", in Patty's Industrial Hygiene, Fifth Edition, edited by Robert L Harris, John Wiley & Sons, 2639-2685, 2000.
3. Bloswick, D.S., and Sese, R., "Occupational Safety Management and Engineering", in Maynard's Industrial Engineering Handbook, edited by Kjell B. Zandin, McGraw-Hill, 6.171-6.204, 2001.
4. Sese, R., Gilkey, D., Drinkaus, P., Bloswick, D., and Herron, R., "Evaluation and Quantification of Manual Handling Risk Factors. International Journal of Occupational Safety and Ergonomics. 9(3), 271-287, 2003.
5. Suruda, A., Milliken, W., Stephenson, D., and Sese, R., "Fatal Injuries in the United States Involving Respirators, 1984 - 1995", Applied Occupational and Environmental Hygiene, 18(4), 289-292, 2003.
6. Suruda, A., Whitaker, B., Bloswick, D., Philips, P., and Sese, R., "Impact of the OSHA Trench and Excavation Standard on Fatal Injury in the Construction Industry", Journal of Occupational and Environmental Medicine, 44(10), 902-905, 2002.
7. Drinkaus, P., Sese, R., Bloswick, D., Bernard, T., Walton, B., Joseph, B., Reeve, G., and Counts, J.H., "Comparison of Ergonomic Risk Assessment Outputs from Rapid Upper Limb Assessment and the Strain Index for Tasks in Automotive Assembly Plants", Work: A Journal of Prevention, Assessment & Rehabilitation, 21(2), 165-172, 2003.

8. Suruda, A., Philips, P., Lillquist, D., and Seseek, R., "Fatal Injuries to Teenage Construction Workers in the US", American Journal of Industrial Medicine, 44, 510-514, 2003.
9. Drinkaus, P., Bloswick, D., Seseek, R., Mann, C., and Bernard, T., Job Level Risk Assessment Using Task Level Strain Index Scores: A Pilot Study. International Journal of Occupational Safety and Ergonomics. 11(2), 141-152, 2005.
10. Jayal, A., Balaji, A., Seseek, R., Gaul, A., and Lillquist, D., "Environmentally Conscious Machining of a Cast Aluminum Alloy: Investigation of Cutting Fluid Effects in Drilling," Transactions of the North American Manufacturing Research Institute of SME, 32, 415-422, 2004.
11. Drinkaus, P., Seseek, R., Bloswick, D., Mann, C., and Bernard, T., "Job Level Risk Assessment Using Task Level ACGIH Hand Activity Level TLV Scores: A Pilot Study", International Journal of Occupational Safety and Ergonomics, accepted 2005.
12. Jayal, A., Balaji, A., Seseek, R., Gaul, A., and Lillquist, D., "Machining Performance and Health Effects of Cutting Fluid Application in Drilling of A390.0 Cast Aluminum Alloy," Under review by the Journal of Manufacturing Processes, Society of Manufacturing Engineers.
13. Thomas, K., Bloswick, D., Suruda, A., and Seseek, R., "Fatal Work-Related Falls in Construction and Structural Steel Erection", in process.
14. Gaul, A., Seseek, R., Jayal, A., Balaji, A., Yamamoto, D., Lillquist, D., "Health Exposures During the Drilling of A390", Submitted to Journal of Occupational and Environmental Hygiene.

Conference Proceedings/Presentations (refereed/reviewed)

1. Seseek, R., Drinkaus, P., Bloswick, D., Meservy, D., and Suruda, A., "Using Existing Ergonomics to Predict Job-Related CTD Symptoms and Injuries. Abstract/Oral Presentation", American Industrial Hygiene Conference & Exhibition, Orlando, Florida, June 2000, #262.
2. Milliken, W., Stephenson, D., Suruda, A., and Seseek, R., "Fatal Injuries in the U.S. Involving Respirators: 1984 - 1995", Abstract/Poster Presentation, APHA Annual Conference, Atlanta, GA, October 2001.
3. Suruda, A., Whitaker, B., Bloswick, D., Seseek, R., and Phillips, P., "Effectiveness of the OSHA Trench and Excavation Standard: Analysis of Trenching Fatalities Occurring Nationwide from 1994-1995", Abstract/Poster Presentation, APHA Annual Conference, Atlanta, GA, October 2001.
4. Suruda, A., Lillquist, D., Seseek, R., Phillips, P., and Reading, J., "Fatal Injuries of Teenage Construction Workers in the U.S., 1984-1998," Abstract/Oral Presentation, APHA Annual Conference, Atlanta, GA, October 2001.

5. Surda, A.J., Lillquist, D.R., and Seseek, R., "Fatal Injuries to Teenage Construction Workers", American Public Health Association Conf. Atlanta, GA, October 2001.
6. Drinkaus, P., Bloswick, D., Seseek, R., Mann, C., and Bernard, T., "The Strain Index: Using Task Level Outputs to Evaluate Job Risk", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 12, 2003.
7. Drinkaus, P., Seseek, R., Bloswick, D., Mann, C., and Bernard, T., "The Hand Activity Level: Using Task Level Outputs to Evaluate Job Risk", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 12, 2003.
8. West, G., Bloswick, D., and Seseek, R., "Biomechanical and Psychophysical Aspects of Handwheel Turning", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 12, 2003.
9. Seseek, R., Tuckett, R., Bloswick, D., and Khalighi, M., "Prolonged Provocative Wrist Flexion as an Improved Method for Carpal Tunnel Syndrome Screening", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 12, 2003.
10. Gilkey, D., Keefe, T., Bigelow, P., Herron, R., Duvall, K., Hautaluoma, J., and Seseek, R., "Occupational Low Back Pain in Residential Carpenters: OWAS Categories and Forces of Compression and Shear", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 12, 2003.
11. Reese, S., Seseek, R., Tuckett, R., and Bloswick, D., "Measuring the Effects of Ergonomic Risk Factors on Tactile Sensation", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 12, 2003.
12. Mecham, W., and Seseek, R., "The Effects of Floor Wear on Slip Resistance Measurements: A Pilot Study", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 12, 2003.
13. Yamamoto, D., Seseek, R., Lillquist, D., Balaji, A., and Jayal, A., "Respirable Silica Exposures During Dry Machining of Aluminum-Silicon Alloys", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 13, 2003.
14. Seseek, R., Drinkaus, P., Bloswick, D., and Gilkey, D., "Application of the NIOSH Revised Lifting Equation to One-handed Lifting Tasks", 1st Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, June 13, 2003.
15. Bloswick, D., Hall-Counts, J., Reeve, G., Joseph, B.S., Seseek, R., Walton, R., Drinkaus, P., and Schwartz, S., "An Ergonomic Survey Tool for Industrial Operations", 15th Triennial Congress of the International Ergonomics Association, Seoul, Korea, August 2003.

16. Ellis, E., Bloswick, D., and Seseek, R., "A Pilot Study Into the Correlation Between Grip Parameters and UECTDs in Sewing Operations", 2nd Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, April 15, 2004.
17. Seseek, R., Mooy, F., and DeVries, T., "Exploring the Effectiveness of Safety Case-Cutters", 2nd Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, April 15, 2004.
18. Gaul, A., Seseek, R., Lillquist, D., Jayal, A., Balaji, A., and Yamamoto, D., "Health Exposures During Wet and Dry Drilling of A390", 2nd Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, April 15, 2004.
19. Reese, S., Seseek, R., Tuckett, R., and Bloswick, D., "Tactile Response of Three Study Groups to Four Ergonomic Risk Factors", 2nd Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, April 15, 2004.
20. Beck, L., Bloswick, D., and Seseek, R., "Health Effects of Vibrating Equipment - A Comparative Analysis of a Caterpillar CS-4338 Vibratory Compactor", 2nd Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, April 16, 2004.
21. Seseek, R., Gilkey, D., Rosecrance, J., and Guzy, A., "The Utility of OWAS in Auto Manufacturing Assembly Job Evaluations", 2nd Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, April 16, 2004.
22. Balaji, A., Jayal, A., Seseek, R., Gaul, A., and Lillquist, D., "Environmentally Conscious Machining of Cast Aluminum Alloy: Investigation of Cutting Fluid Effects in Drilling", Proceedings/Oral Presentation, 32nd North American Manufacturing Research Conference (NAMRC 32), Charlotte, North Carolina, June 3, 2004, Paper #N-074.
23. Mecham, W. and Seseek, R., "The Effects of Travel Direction and Surface Condition on Slip Resistance", Proceedings/Oral Presentation, American Society of Safety Engineers Conference & Exhibition, Las Vegas, June 10, 2004, Session #713.
24. Seseek, R., Drinkaus, P., and Bloswick, D., "The Utah Lifting Index: An Exploration of Low Back Pain Predictive Models", 3rd Annual Regional National Occupational Research Agenda (NORA) Young/New Investigators Symposium, Salt Lake City, April 21, 2005.

PAPERS AND REPORTS:

Ergonomics and Safety Consultation/Reports for numerous companies and governmental agencies, including:

- Abbott Labs
- Aliant Tech Systems

- Black Diamond Equipment, Ltd.
- Chevron
- Church of Jesus Christ of Latter Day Saints
- Conoco
- Georgia-Pacific
- Gunnison Prison
- Ford Motor Company
- Holley Corporation
- Hospira, Incorporated
- Kennecott Utah Copper
- Kroger Foods
- Occupational Safety and Health Administration (OSHA)
- O.C. Tanner
- Phillips 66
- Salt Lake County Division of Youth Services
- Smith's Manufacturing
- Tooele Army Depot
- UAW-Ford Joint Committee for Health and Safety
- Utah Alcoholic Beverage Commission
- Utah Olympic Oval