

## **John D. Lloyd, PhD, CPE, CBIS**

Board Certified Ergonomist / Certified Brain Injury Specialist

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Director, Biomechanics and Traumatic Brain Injury Laboratories  
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### **PROFESSIONAL AND RESEARCH SPECIALIZATION**

- Biomechanics of Head and Brain Injury
- Motor Vehicle/Motorcycle Accidents
- Biomechanics of Slips, Trips, and Falls
- Brain Concussion & Helmet Protection

### **EDUCATION AND TRAINING**

**Ph.D.** Ergonomics, Loughborough University, Leicestershire, England, 2002

**B.Sc. (Honors)** Ergonomics, Loughborough University of Technology, England, 1992

**D.P.S.** Loughborough University of Technology, Leicestershire, England, 1991

### **CERTIFICATION AND REGISTRATION**

- CPE (#725) Certificant, Board of Certification in Professional Ergonomics, 1995
- M.Erg.S. Member of The Ergonomics Society Professional Register, 1996
- CBIS (#6667) Certified Brain Injury Specialist (Cognitive Rehabilitation)
- American Brain Injury Association, 2010

### **PRESENT EMPLOYMENT**

- **Director of Traumatic Brain Injury Laboratory**  
James A Haley Veterans Hospital, Tampa, FL
- **Courtesy Faculty**  
Department of Chemical and Biomedical Engineering, College of Engineering,  
University of South Florida, Tampa, FL

## PAST EMPLOYMENT

- 08/09-09/11 **Associate Director**  
Veterans Administration, Health Services Research and Development (HSR&D) / Rehabilitation Research and Development (RR&D) Research Center of Excellence, Tampa, FL
- 05/98-05/00 **Director of Information Systems**  
UTEK Corporation, Plant City, FL
- 06/96-10/99 **Director**  
Center for Product Ergonomics, University of South Florida, Tampa, FL
- 01/96-05/96 **Ergonomics Laboratory Manager / Research Ergonomist**  
Center for Product Ergonomics, University of South Florida, Tampa, FL  
Research on prevention of work-related cumulative trauma disorders through qualification and quantification of mechanical stressors
- 07/93-01/96 **Principal Ergonomist**  
The Ergonomics Institute, Hauppauge, NY  
Corporate ergonomics program development and support services, forensic ergonomics and accident reconstruction
- 07/92-07/93 **Ergonomics /Biomechanics Consultant**  
Biomechanics Corporation of America, Melville, NY  
Anthropometric study and reach analysis; workplace assessment; man-modeling simulation and CAD representation; corporate ergonomics program development; product evaluation; ergonomics support services
- 07/90-07/91 **Research Ergonomist**  
Liberty Mutual Research Center, Hopkinton, MA  
Laboratory research into the physiological effects of force and frequency on cumulative trauma disorders of the upper extremities, to determine safe operating levels for industry
- 12/88-07/90 **Human Reliability Consultant**  
R M Consultants Ltd., Warrington, Cheshire, England  
Human factors analysis for a risk management corporation, specifically human reliability, safety auditing, and human-machine interface design

## POSTGRADUATE TRAINING COURSES

- 1990 Human Factors in Occupational Health & Safety, Harvard School of Public Health
- 1992 Ergonomics and Design, Loughborough University of Technology
- 1999 Ergonomics Workshop: 3D Static Strength Prediction, University of Michigan
- 2004 Vicon BodyBuilder & Polygon training workshop, Vicon Motion Systems, Inc.
- 2009 LabView Introductory and Advanced workshops, National Instruments
- 2011 Successful Measurement of Dynamic Force, Pressure, and Acceleration, presented by PCB Piezotronics

- 2011 Using Mimics to create 3D Finite Element models from Radiographic CT and MR images, presented by Materialize
- 2011 Matlab fundamentals, presented by The Mathworks
- 2011 Cognitive Rehabilitation workshop, hosted by North American Brain Injury Society
- 2012 Brain Computer Interface workshop, hosted by Florida Hospital, Orlando
- 2013 Pediatric Pathology for Forensic Pathologists, hosted by AAFS, Washington DC

#### PROFESSIONAL MEMBERSHIPS

- American Biomechanics Society
- American Academy of Forensic Sciences
- Academy of Certified Brain Injury Specialists
- The Ergonomics Society (UK)
- Sigma Xi Research Society

#### AWARDS AND HONORS

- Article of the Year Award (1998)
- Certificate of Excellence awarded by VHA Patient Safety Research Center (2002)
- Author of Top 10 cited paper (2006-2008) in *International Journal of Nursing Studies*

#### EDITORIAL / REVIEWER APPOINTMENTS

- *Occupational Health and Safety* magazine, Stevens Publishing, Waco, TX
- *Workplace Ergonomics*, Stevens Publishing, Waco, TX
- Columnist for *Ergonomics Intelligence Report*, James Publishing, Santa Ana, CA
- Book reviewer for *Ergonomics In Design*, Human Factors and Ergonomics Society
- *Journal of Rehabilitation Research and Development*, Department of Veterans Affairs, Washington, DC
- *Applied Ergonomics*, Taylor and Francis, London
- *Ergonomics*, Taylor and Francis, London
- Department of Veterans Affairs HSR&D Scientific Merit Review Committee
- Department of Veterans Affairs RR&D Scientific Merit Review Committee

#### GRANTS AND FUNDED RESEARCH

1. 'Biomechanical assessment of dynamic postural sway in healthy elderly.' Role: Co-Investigator. Sponsored by Institute for Aging. Awarded \$7,500, 1996.
2. 'Redesigning patient handling tasks and equipment to prevent nursing back injuries.' Role: Co-Investigator. Sponsored by Department of Veterans Affairs. Awarded \$305,000, 1997.
3. 'Effect of wrist exposures on median nerve conduction: Pilot study.' Role: Co-Investigator. VA RR&D. Awarded \$50,000, 1997.
4. 'Evaluation prototype: Exam room of the future.' Role: Co-Investigator. Sponsored by BHM Medical, Inc. and Department of Veterans Affairs. Awarded \$60,000, 1998.

5. 'Patient Safety Center of Inquiry.' Role: Associate Director and Co-Investigator. Sponsored by VA HSR&D. Awarded \$1,500,000, 1999.
6. 'VISN-Wide Deployment of a Back Injury Prevention Program for Nurses: Safe Patient Handling and Movement.' Role: Co-Investigator. Sponsored by VA HSR&D. Awarded \$2.4 million, 2001.
7. Research Enhancement Award Program: 'Safe Patient Mobility.' Role: Associate Director and Co-Investigator. Sponsored by VA HSR&D. Awarded \$1.1 million, 2001.
8. 'Development and Validation of Measurement System to Quantify Spinal Compression.' Role: Co-Investigator.' Sponsored by VISN8 Patient Safety Center of Inquiry. Awarded \$5,000, 2001.
9. Research Enhancement Award Program: 'Technology to Prevent Adverse Events in Rehabilitation.' Role: Associate Director and Co-Investigator. Sponsored by VA RR&D. Awarded \$1.35 million, 2002.
10. Enhancement of RR&D Research Laboratory Capabilities at the Tampa Veterans Administration Medical Center. Role: Principal Investigator. Sponsored by VA RR&D. Awarded \$125,000, 2002.
11. 'Biomechanical assessment of wheelchair transfers toward upper extremity preservation in persons with SCI.' Role: Co-Principal Investigator. VA RR&D. Awarded \$50,000, 2002.
12. 'Patient Safety Center of Inquiry.' Role: Associate Director and Co-Investigator. Sponsored by VA HSR&D. Awarded \$2,000,000, 2003.
13. 'Development of an Instrumented Mannequin for Restraint and Control Training,' Role: Principal Investigator. Sponsored by Department of Veterans Affairs, Office of Occupational Health and Safety. Awarded \$75,000, 2003.
14. 'Validation of the Actiwatch as a Pain Treatment Outcome Measure.' Role: Co-Investigator. Sponsored by VA RR&D. Awarded \$200,325, 2005.
15. 'Folding Motorized Prone-Cart.' Role: Co-Investigator. Sponsored by VA RR&D. Awarded \$357,100, 2005.
16. 'Development of Force Gloves for Biomechanical Evaluation of Dynamic Patient Handling Tasks.' Role: Co-Investigator. Sponsored by University of South Florida Patient Safety Foundation. Awarded \$7,000, 2005.
17. 'Biomechanical Evaluation of Patient Transport Activities.' Role: Co-Investigator. Sponsored by University of South Florida Interdisciplinary Grant Program, Dane Industries, Inc. Awarded \$25,000, 2005.
18. Tampa VA Shared Equipment Evaluation Program. VHA. Awarded \$272,000, 2005.
19. 'Evaluation of Assistive Transfer Devices to Preserve UE Function in SCI.' Role: Principal-Investigator. Sponsored by VA RR&D. Awarded \$474,300, 2007.

20. Center of Excellence: 'Maximizing Rehabilitation Outcomes.' Role: Director of Research Laboratories. Sponsored by VA HSR&D / RR&D. Awarded \$4,100,000, 2009.
21. 'Development of Headwear to Prevent Fall-Related Injuries in Elderly Persons.' Role: Co-Investigator / Biomechanist Sponsored by National Institutes of Health, Small Business Innovation Research. Awarded \$1,000,000, July 2010.
22. 'Threats to Skin Integrity Associated with Ceiling Lift Sling Use in Persons with SCI.' VA CO. Awarded \$600,000, February 2011.
23. 'Biomechanical Evaluation of Techniques Associated with Prevention and Management of Disturbed Behavior – Phase 2' VA Portland. Awarded \$60,000, February 2011.
24. Equipment grant for Traumatic Brain Injury program. VA RR&D. Awarded \$239,000, April 2011
25. 'Biomechanical Evaluation of Techniques Associated with Prevention and Management of Disturbed Behavior – Phase 3' VA Portland. Awarded \$68,700, December 2011.
26. Development and Evaluation of a Sling-Less Lift System. VA RR&D. Awarded \$730,000. \*\* *best proposal score in history of JAHVA*  
Sum ~ \$17,000,000 to date

#### BOOK CHAPTERS

1. Lloyd JD and Haslam RA, "Traumatogens Associated with Carpal Tunnel Syndrome." In Harbison, R. (ed.) *Industrial Toxicology Handbook*, 5<sup>th</sup> edition. Mosby Publishers, St. Louis 1998
2. Lloyd JD, "Biodynamics of back injury: Manual lifting and loads." In Charney, C and Hudson A (eds.). *Back Injury Among Healthcare Workers: Causes, Solutions and Impacts*. CRC Press 2003
3. Lloyd JD, "Patient Handling Technologies." In Nelson, A. (ed.). *Handle with Care: A Practice Guide for Safe Patient Handling and Movement*. Springer Publishing Company 2006
4. Lloyd JD and Baptiste A, "Patient Handling Technologies." In: Charney, W (ed.). *Handbook of Modern Hospital Safety*, second edition. Taylor and Francis 2009

#### JOURNAL ARTICLES (PEER REVIEWED)

1. Nelson A, Gross C and Lloyd JD, "Preventing musculoskeletal injuries in nurses: directions for future research." *SCI Nursing* 1997 14(2): 45–51
2. Gross C, Lloyd JD, Nelson A and Haslam RA, "Carpal tunnel syndrome: A review of the literature with recommendations for further research." *Florida Journal of Public Health* 1998 9(1): 22–28

3. Lloyd JD and Kelleher, V, "Patient safety center of inquiry plans effective dissemination of its findings throughout the VA," *Veterans Health System Journal* 2000 Aug 55–56.
4. Nyland J, Quigley P, Huang C, Lloyd JD, Harrow J and Nelson A, "Preserving transfer independence among individuals with spinal cord injury," *Spinal Cord* 2000 38(11): 649–657
5. Nelson A, Tiesman T and Lloyd JD, "Get a handle on safe patient transfer and activity." *Journal of Nursing Management* 2000 31(12): 47
6. Baptiste A, Tiesman H, Nelson A and Lloyd JD, "Technology to Reduce Nurses' Back Injuries." *Rehabilitation Nursing* 2002 27(2), 43-44, 58.
7. Smith LC, Weinel D, Doloresco L and Lloyd JD, "A clinical evaluation of ceiling lifts: lifting and transfer technology for the future." *SCI Nursing* 2002 19(2): 75–7
8. Nelson A, Owen B, Lloyd JD, Fragala G, Matz M, Amato M, Bowers J, Moss-Cureton S, Ramsey G and Lentz K, "Safe Patient Handling and Movement." *American Journal of Nursing* 2003 103(3): 32–43
9. Haiduven D, Baptiste A, Luther S, Lloyd JD, Wilkinson S and Bidot P, "Development of a seated device for measuring diurnal variability in stature compression." *Journal of Musculoskeletal Research* 2003 7(1): 49–60
10. Nelson A, Lloyd JD, Gross C and Menzel N, "Preventing Nursing Back Injuries." *AAOHN Journal* 2003 51(3): 126–134
11. Powell-Cope G, Moore H, Kearns W, Baptiste A, Lloyd JD, Applegarth S and Nelson A, "The Case for Preventing Wandering and Associated Adverse Events for Veterans with Dementia." *TIPS* Nov/Dec 2005 5(6): 3
12. Lloyd JD and Baptiste A, "Biomechanical evaluation of friction reducing devices for lateral patient transfers." *American Association of Occupation Health Nursing (AAOHN)*. 2006 54(3): 113–119
13. Baptiste A, Boda SV, Nelson AL, Lloyd JD and Lee W. Friction-reducing devices for lateral patient transfers: a clinical evaluation. *American Association of Occupation Health Nursing (AAOHN)* Apr 2006 54(4): 173–80
14. Nelson A, Matz M, Chen F, Siddharthan K, Lloyd JD and Fragala G, Development and Evaluation of a Multifaceted Ergonomics Program To Prevent Injuries Associated with Patient Handling Tasks *International Journal of Nursing Studies* 2006 43: 717–733
15. Gironde RJ, Lloyd JD, Clark ME and Walker RL, "Preliminary Evaluation of the Reliability and Criterion Validity of the Actiwatch-Score." *Journal of Rehabilitation Research and Development* 2007 44 (2): 223–30
16. Bowers B, Lloyd J, Lee W, Powell-Cope G and Baptiste A, "Biomechanical evaluation of injury severity associated with patient falls from bed." *Rehabilitation Nursing* 2008 33(6): 253–9

17. Schulz BW, Lee WE and Lloyd JD. (2009). Estimation, Simulation, and Experimentation of a Fall from Bed. *Journal of Rehabilitation Research & Development* 2009 45(8): 1227 — 1236
18. Schulz BW, Lloyd JD and Lee WE, (2010). "The Effects of Everyday Concurrent Tasks on Overground Minimum Toe Clearance and Gait Parameters." *Gait and Posture* May 2010 32(1): 18–22
19. Waters TR, Short M, Lloyd, JD, Baptiste A, Butler L, Peterson C and Nelson A, "Positioning and Repositioning the Supine Patient on the OR Bed." *AORN Journal* 2011 93(4): 445–449
20. Hughes NL, Nelson A, Matz M and Lloyd J. (2011). Solutions for Prolonged Standing in Perioperative Settings. *AORN Journal* 93(6): 767–774
21. Spera P, Lloyd JD, Hernandez E, Hughes N, Petersen C, Nelson A and Spratt DG, "Tissue Retraction in the Perioperative Setting." *AORN Journal* 2011 94(1) 54–58
22. Water T, Lloyd J, Hernandez E & Nelson A. (2011) Ergonomics Tool 7: Pushing, Pulling and Moving Equipment on Wheels. *AORN Journal* 94; (3): 254-260
23. Lloyd et al. (2011) Biomechanical Evaluation of Infant Shaking compared with Pediatric Activities of Daily Living. *Journal of Forensic Biomechanics*
24. Caccese V, Lloyd J, Ferguson J. An Impact Test Apparatus for Protective Head Wear Testing Using a Hybrid III Head-Neck Assembly. *Experimental Techniques* 2012 (pending)

#### **JOURNAL ARTICLES (NON-PEER REVIEWED)**

1. Lloyd JD: (1995) Getting Injured Employees Back to the Workplace - Return to Work Planning. *Workplace Ergonomics Magazine* Steven Publishing, TX
2. Lloyd JD: (1995) A Holistic Ergonomic Approach for Successful Return to Work. Chartered Property Casualty Underwriters Society, Malvern, PA
3. Lloyd JD and Gross C: (1996) Ergonomic evaluation of pen design and writing characteristics. *Ergonomics Intelligence Report* James Publishing, Santa Ana, CA
4. Lloyd JD and Gross C: (1996) Biomedical stress test for carpal tunnel syndrome. *Ergonomics Intelligence Report* James Publishing, Santa Ana, CA
5. Lloyd JD: (1996) How to correctly set up an ergonomic office workstation. *Ergonomics Intelligence Report* James Publishing, Santa Ana, CA
6. Lloyd JD: (1996) A checklist for the evaluation of ergonomic stress at computer workstations. *Ergonomics Intelligence Report*, James Publishing, Santa Ana, CA
7. Gross C, Lloyd JD and Tabler R: Ergonomic Analysis of Pen Comfort and Wrist Dynamics While Writing. *Unpublished*.
8. Gross C and Lloyd JD: (1997) HumanTRAC: A New Method for Rapid Product Ergonomic Assessments. *Unpublished*. University of South Florida, Tampa, FL

## CONFERENCE PROCEEDINGS

1. Research Basis for the Development of a Dynamic Median Nerve Stress Test. Proceedings of American Occupational Health Conference. Orlando, FL, May 16, 1997
2. 'Work-related carpal tunnel syndrome'. Presented at Alabama Governor's safety and health conference. Birmingham, AL. August 29, 2000
3. Lloyd JD and Westhoff O. Development of an Intelligent Mannequin for Research in Safe Patient Handling and Movement. Proceedings of the Sixth Annual Safe Patient Handling and Movement Conference. Clearwater, FL, March 2, 2006
4. Lloyd JD. Biomechanical Evaluation of Patient Transport Technologies – a project in development. Proceedings of the Sixth Annual Safe Patient Handling and Movement conference. Clearwater, FL, March 2, 2006
5. Lloyd, JD. Developing Helmet Standards and Testing Methods to Protect from Brain Injury. Proceedings of the ASTM Symposium on Concussion in Sports. Atlanta, GA. November 20, 2012

## ABSTRACTS

1. Belsole RJ and Lloyd JD. Repetitive wrist movements: an adverse effect on median nerve conduction. *American Society for Surgery of the Hand (ASSH)*. 54<sup>th</sup> Annual Meeting, 1998.
2. Lloyd JD and Belsole RJ. Neurovascular considerations of median nerve neuropathy and implications for clinical diagnosis. *American Society for Surgery of the Hand (ASSH)*. 54<sup>th</sup> Annual Meeting, 1998.
3. Lloyd JD and Belsole RJ. Repetitive wrist movements: an adverse effect on median nerve conduction. *University of South Florida Health Sciences Center Research Day*, February 1999.
4. Lloyd JD, Nelson AL, Gross CM and Menzel N. Redesigning Patient Handling Tasks and Equipment to Prevent Nursing Back Injuries. *Department of Veterans Affairs, Health Services Research and Development*. 19<sup>th</sup> annual meeting, February 2001.
5. Lloyd JD. Repetitive Wrist Movements: Clinical Implications for Ergonomic Workplace Surveillance. International Society for Occupational Ergonomics and Safety annual meeting, June 2005.
6. Lloyd JD. Clinical Biomechanics of Wheelchair Transfers and Repositioning Tasks in SCI. 20<sup>th</sup> Congress of the International Biomechanics Society and 29th Annual Meeting of the American Society of Biomechanics, August 2005.
7. Lloyd JD and Harrow JJ. Clinical Biomechanics of Wheelchair Transfers in Spinal Cord Injury. American Paraplegic Society Annual meeting, September 2005.



8. Harrow JJ and Lloyd JD. Biomechanical Assessment of Pressure-Relief and Repositioning Tasks in Persons with SCI. American Paraplegic Society annual meeting, September 2005.
9. Lloyd JD and Harrow JJ. Clinical Biomechanics of Wheelchair Transfers in Spinal Cord Injury. American Association of SCI Nursing annual meeting, September 2005.
10. Harrow JJ and Lloyd JD. Biomechanical Assessment of Pressure-Relief and Repositioning Tasks in Persons with SCI. American Association of SCI Nursing annual meeting, September 2005.
11. Lloyd JD and Harrow JJ. Biomechanical Assessment of Independent Wheelchair Transfers in Persons with SCI. American Association of SCI Nursing annual meeting, September 2006.
12. Campbell RR, Lloyd JD and Gutmann J. VHA Trends in the total costs of care for the polytrauma cohort: Disproportionate impact of post-acute inpatient care. Federal Interagency Conference on Traumatic Brain Injury, 2011
13. Lloyd JD, Gutmann J and Arslan O. Toward Biomechanical Understanding of Brain Kinematics Associated with TBI using cadaveric specimens. Federal Interagency Conference on Traumatic Brain Injury, 2011
14. Lloyd JD, Gutmann J and Del Rossi G. Do Ill-Fitting Helmets Amplify the Risk of Head Injury Among Youth Football Players? – A Biomechanical Analysis, with Discussion for Applicability to Military Protection. Federal Interagency Conference on Traumatic Brain Injury, 2011
15. Lloyd JD, Gutmann J, Craighead J & Del Rossi G. Do Helmets Prevent Concussion? 8<sup>th</sup> Annual Conference of Blast TBI, December 2011, Tampa.
16. Lloyd JD, Gutmann J, Craighead J & Arslan O. Biomechanics of Blast TBI. 8<sup>th</sup> Annual Conference of Blast TBI, December 2011, Tampa.
17. Lloyd, JD. Biomechanical Evaluation of Head Kinematics During Infant Shaking Versus Pediatric Activities of Daily Living. *Submitted to American Academy of Forensic Sciences*, 2013
18. Lloyd JD. Head Kinematics Associated with Short Falls in Children. *Submitted to American Academy of Forensic Sciences*, 2013
19. Lloyd JD. Biomechanical Evaluation of Shaken Impact Syndrome. *Submitted to American Academy of Forensic Sciences*, 2013

#### TECHNICAL REPORTS AND PRODUCTS

1. Lloyd JD: Controls and displays. In: Whalley S et al: Ergonomic guidelines for the offshore oil and gas industry. R.M. Consultants Ltd., Warrington, England, 1989.
2. Lloyd JD: Cumulative trauma disorders of the upper extremities - Experiment report: Liberty Mutual Insurance Co., Boston, MA, 1991.

3. Lloyd JD: A human factors approach to the design and implementation of mobile data terminals in British Gas service engineer's vehicles. Thesis - University of Technology, Loughborough, Leicestershire, England, 1992.
4. Nair C and Lloyd JD: Ergonomic assessment of the N250 flight deck. PT. Industri Pesawat Terbang Nusantara, Indonesia, 1992.
5. Rome D, Ratner D, Braveman K and Lloyd JD: Mannequin tutorial. In: Mannequin high - ergonomics in design. Biomechanics Corporation of America, Melville, NY, 1992.
6. Lloyd JD: Ergonomic assessment of risk and liability for heavy electronics manufacturing facility. Square D Company, Smyrna, TN, 1992.
7. Lloyd JD: AADCAS Phase II - a comprehensive anthropometry and reach study using sonic digitization techniques. Grumman Aircraft Systems, Grumman Corporation, Bethpage, NY, 1992.
8. Lloyd JD: Ergonomic workplace assessment for materials handling operations. Fujitsu Network Transmission Systems Inc., Richardson, TX, 1993.
9. Lloyd JD: Ergonomic assessment of risk and liability for a precision electronics assembly process. Fujitsu Network Transmission Systems Inc., Richardson, TX, 1993.
10. Lloyd JD: Corporate ergonomics program for safety and environmental compliance. Biomechanics Corporation of America, Melville, NY, 1993.
11. Lloyd JD: Ergonomic assessment of risk and liability, including NIOSH lifting evaluation. Philip Morris USA, Cabarrus Manufacturing Center, NC, 1993.
12. Lloyd JD: Engineering Workplace Assessment. Sony Music, Carrolton, GA, 1993.
13. Lloyd JD: Ergonomic assessment of risk and liability for aftermarket product manufacturing division. Allied Signal, Greenville, OH, 1993.
14. Lloyd JD: Wrist Stress Determination. U.S. Surgical Corporation, CT, 1993.
15. Lloyd JD: Ergonomic assessment of risk and liability for heavy assembly operation. Nevamar Corporation, Odenton, MD, 1993.
16. Lloyd JD: Ergonomic assessment of risk and liability for a medical laboratory. MetPath Laboratories, PA, 1993.
17. Lloyd JD: Ergonomic assessment of risk and liability for an office facility. Allied Signal, RI, 1993.
18. Lloyd JD: Ergonomic assessment of risk and liability for packaging and warehouse activities. Allied Signal, Jackson Facility, TN, 1993.
19. Lloyd JD: Ergonomic assessment of risk and liability for furnace operators. Climax Molybdenum Company, IA, 1993.
20. Lloyd JD: Ergonomic assessment of risk and liability for unskilled manufacturing tasks. Climax Molybdenum Company, Langeloth Plant, PA, 1993.

21. Lloyd JD: Ergonomic workplace assessment and cost benefit analysis for garment manufacturing facility. Bestop Inc. - Prepared for Ergonomics Solutions Group, 1993.
22. Lloyd JD: Ergonomic assessment for an aftermarket product manufacturing facility. Allied Signal, UT, 1993.
23. Lloyd JD: Ergonomic assessment of risk and liability for sorting and packaging workstations. Allied Signal, Aftermarket Filter Division, NV, 1993.
24. Mitchell D, Nair C and Lloyd JD: Ergonomic assessment of risk and liability for a vehicle servicing facility. Salt River Project, Tempe, AZ, 1993.
25. Lloyd JD: Ergonomic assessment of risk and liability for paper manufacturing activities. Armstrong World Industries, Lancaster, PA, 1993.
26. Mitchell D, Costello K and Lloyd JD: Ergonomic assessment of risk and liability for gas construction and maintenance activities. Long Island Lighting Company, New York, NY, 1993.
27. Lloyd JD: EARLY Workplace Assessment for The Prevention of Musculoskeletal Injuries. Neapco Inc., Pottstown, PA, 1993.
28. Lloyd JD: Ergonomic Assessment of Risk and Liability for a Nursing Home. Presbyterian Manors, Topeka, KS, 1993.
29. Lloyd JD: EARLY Workplace Assessment for The Prevention of Musculoskeletal Injuries - Electronic Sales Presentation. Pioneer Electronics, CA, 1993.
30. Lloyd JD: EARLY Workplace Assessment for The Prevention of Musculoskeletal Injuries. American Honda Aftermarket Accessories Division, 1993.
31. Lloyd JD: Ergonomic Analysis of 'The Upper Hand' as a Tool for Reducing Physical Stress Caused by Shoveling Activities. Brookhaven National Laboratories, 1994.
32. Lloyd JD and Casar T: LILCO's Ergonomics Initiative. Long Island Lighting Company, Gas Construction and Maintenance Division, New York, NY, 1994.
33. Lloyd JD: Corporate Ergonomics Program for Safety and Environmental Compliance. Nu-Kanu, Inc., Long Island, NY, 1994.
34. Lloyd JD: Training Manual for PT. IPTN Phase III Ergonomics Laboratory. PT. Industri Pesawat Terbang Nusantara, Indonesia, 1994.
35. Lloyd JD: Ergonomic Analysis to Identify Physical Stressors in the Workplace. Parker-Hannifin Corporation / Gull, Hauppauge, NY; 1994.
36. Lloyd JD: Ergonomic Evaluation of a Hospital Emergency Reception Station with Recommendations for Redesign. John T. Mather Memorial Hospital, Port Jeff, NY; 1994.
37. Lloyd JD: Introduction to Ergonomics. Northrop Grumman Corporation, Bethpage, NY; 1994.
38. Lloyd JD: Mannequin v 1.1 Training Manual. Northrop Grumman Corporation, Bethpage, NY; 1994.

39. Lloyd JD: Ergonomic Evaluation of Musculoskeletal Stress Associated with Abrasive Coating Process. IKG Industries / Harsco Steel Division, Nashville, TN; 1995.
40. Lloyd JD: Anthropometry - Designing for an International Population. United Airlines, CA; 1995.
41. Lloyd JD: Ergonomic Guidelines for Control Position and Configuration. United Airlines; 1995.
42. Krueger GP, Lloyd JD and Casar T: Ergonomic and Biomechanic Best-In-Class Assessment of Five .22 Caliber Rimfire and One .223 Cal Center fire Rifles. U.S. Rifle Manufacturer: c/o Biomechanics Corporation of America, Melville, NY; 1995
43. Lloyd JD: Rapid Ergonomic Assessment of Cumulative Hazards. Batesville Casket Company, Manchester, TN; 1995
44. Lloyd JD: Ph.D. Course in Human Factors Engineering. Kennedy-Western University; 1995
45. Lloyd JD: M.S. Course in Ergonomics. Kennedy-Western University; 1995.
46. Lloyd JD: Ergonomic Assessment of Occupational Risk Factors. Techalloy Company Welding Division, Baltimore, Maryland; 1995
47. Lloyd JD: Rapid Ergonomic Assessment of Cumulative Hazards - Hardware Loader and Hardware Unloader. Batesville Casket Company, Manchester, TN; 1995.
48. Gross C, Lloyd JD and Tabler R: Ergonomics Evaluation of Five Writing Instruments. Center for Product Ergonomics, University of South Florida; 1996
49. Lloyd JD: Demonstration of R&D capabilities for ergonomic evaluation of Harley-Davidson motorcycles. Harley-Davidson Motor Company, Milwaukee, WI; 1996
50. Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement. Patient Safety Center of Inquiry. October 2001
51. CD-ROM Interactive Training Program on Safe Patient Handling and Movement. VA Employee Education Service. 2002
52. Instrumented Mannequin for Restraint and Control Training: Final Report. VA Occupational Health, Washington, DC, January 2004
53. AORN Guidance Statement: Safe Patient Handling and Movement in the Perioperative Setting. AORN (Association of periOperative Registered Nurses), Denver, CO; 2007
54. Harrow JJ, Lloyd JD, Gironda R, Nelson A, Luther S, Schulz B, Applegarth S, Baptiste A and Cresta T. Final Report – Clinical Biomechanics of Wheelchair Transfers in Spinal Cord Injury: A Pilot Study. Report # B2900P. VA Rehabilitation Research and Development Service, Washington DC; 2007
55. Lloyd, JD. Tailored Medical Helmets for Specific Patient Populations and Co-Morbidities. Patient Safety Center of Inquiry, Tampa FL; 2012

56. Lloyd, JD. Biomechanical Determination of Safest Footwear for Institutional Patients, Considering Flooring Materials and Conditions. Patient Safety Center of Inquiry, Tampa FL; 2012

#### PRESENTATIONS

1. 'Ergonomics In Action' seminar discussing the importance of workplace ergonomics: presented to Institute of Industrial Engineers, Chapter 76. Long Island, NY, January 1994
2. 'Mannequin Man-Modeling and HumanCAD Training Workshop.' Presented to Northrop Grumman Corporation. Bethpage NY, December 1994
3. 'Biomechanics Evaluation and Comparison of Two Pole Climbing Methods - Report of Findings.' Presented to Long Island Lighting Company, Hicksville, NY, September 1995.
4. 'Introduction to the Center for Product Ergonomics' presented to NASA Occupational Health Group, Kennedy Space Center, FL; May 1996.
5. 'Ergonomics Applications in Space' Bayonet Point Hospital, FL; July 1996.
6. 'Beyond Bricks and Mortar - Innovations for Senior Living: Ergo House' : presented at West Central Florida Area Agency on Aging conference; September 17, 1996.
7. 'Ergonomics in Action!' presented at ITESM International Conference, Mexico City; September 24, 1996.
8. 'Applied Ergonomics in Flightdeck Design' presented at ITESM International Conference, Mexico City; September 25, 1996.
9. 'Ergonomics Applications in Space' Department of Environmental and Occupational Health, University of South Florida; October 1996.
10. 'Research Basis for the Development of a Dynamic Median Nerve Stress Test' American Occupational Health Conference, Orlando, FL; May 16, 1997.
11. Grand Rounds: 'Ergonomic applications for Spinal Cord Injury patients' James A. Haley Veterans Hospital, Tampa, FL; May 23, 1997.
12. 'Product Ergonomics' OSHA Regional Conference, Clearwater, FL; July 16, 1997.
13. 'Elderly falling study'. Presented at: USF Institute on Aging Annual Meeting, Tampa, FL; April 24, 1998.
14. 'Etiology of musculoskeletal disorders'. Presented at: Prevention of Musculoskeletal Injuries in Healthcare Workers: State of the Science. Tampa, FL; May 14, 1998.
15. 'Breakthrough research in injury prevention: What technology has to offer'. Presented at: Prevention of Musculoskeletal Injuries in Healthcare Workers: State of the Science. Tampa, FL; May 15, 1998.
16. 'Ergonomic Risk Factors in the Workplace.' Presented to Occupational Health and Safety Administration (OSHA), Tampa, FL; February 18, 1999.

17. 'Introduction to the 3D Static Strength Prediction Model'. National Aeronautical and Space Administration (NASA), Kennedy Space Center, FL; May 14, 1999.
18. 'How to Evaluate Ergonomic Products'. National Aeronautical and Space Administration (NASA), Kennedy Space Center, FL; May 14, 1999.
19. 'Repetitive wrist movements: an adverse effect on median nerve conduction'. American Society for Surgery of the Hand (ASSH). 54<sup>th</sup> Annual Meeting, Boston, MA; September 1999.
20. 'VA Biomechanics Research Laboratory - Virtual Tour'. Presented at James A. Haley Veteran's Hospital, Patient Safety Center Press-Day. November 15, 1999.
21. 'Patient Safety Center of Inquiry – Technology Innovations Division'. Presented to GAO. March 29, 2000.
22. 'Work-related carpal tunnel syndrome'. Presented at Alabama Governor's safety and health conference. August 29, 2000.
23. 'Factors contributing to injuries related to patient handling'. Presented at VISN 8 PSCI Safe Patient Handling Conference. January 8-10, 2001.
24. 'Criteria for evaluating and selecting safe patient care equipment'. Presented at VISN 8 PSCI Safe Patient Handling Conference, St. Pete Beach, FL; January 8-10, 2001.
25. "Redesigning At Risk Tasks: A Panel Discussion." Safe Patient Handling and Movement. TradeWinds Sirata Beach Resort, St. Pete Beach, FL; January 8-10, 2001.
26. Ergonomics Satellite Broadcasts on Safe Patient Handling and Movement. A two part series (4 hours) held August 2001 and repeated in November 2001. Part I includes the Ergonomic Workplace Assessment Protocol for Patient Care Areas. Part II includes Selecting the Right Equipment, Patient Assessment Criteria, Algorithms, and Use of Back Injury Resource Nurses.
27. 'New and Emerging Technology for Safe Patient Handling and Movement' Presented at VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; January 16-18, 2002.
28. 'Biomechanics Research Laboratory: A Virtual Tour' Presented at VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; January 16-18, 2002.
29. 'Biomechanical Evaluation of Friction Reducing Devices.' James A. Haley Veterans Hospital Research Day, Tampa, FL; April 25, 2002.
30. 'Evaluation of Technology to Support Safe Patient Handling and Movement.' Safe Patient Handling and Movement Conference, Clearwater, FL; March 4-7, 2003.
31. 'Ergonomic Comparison of Overhead Ceiling Lifts and Mobile Floor Lifts' Presented at VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; March 4-7, 2003.

32. 'New Directions in Technology for Safe Patient Handling and Movement' Presented at VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; March 4-7, 2003.
33. 'Clinical Applications in Rehabilitation Engineering' lecture to University of South Florida MS Rehabilitation Engineering program July 2, 2003.
34. 'Injury Epidemiology and Prevention' lecture to University of South Florida MPH Program. August 9, 2003.
35. 'Equipment Fairs and Clinical Trials: Obtaining Staff Buy-In' Safe Patient Handling Conference, Orlando, FL; 2004.
36. 'Evaluation of Friction Reducing Devices for Patient Lateral Transfers in Critical Care'. Safe Patient Handling Conference, Orlando, FL; 2004.
37. 'Patient Risks Related to Trapeze Bar Repositioning'. Safe Patient Handling Conference, Orlando, FL; 2004.
38. 'Demonstration of a Mechanical Lateral Transfer Accessory to Patient Ceiling Lift Systems'. Safe Patient Handling Conference, Orlando, FL; 2004.
39. 'Equipment Fairs and Clinical Trials: Obtaining Staff Buy-In' Safe Patient Handling Conference. Orlando, FL; 2004.
40. 'Equipment Fairs and Clinical Trials' Safe Patient Handling Conference. Clearwater, FL; 2005.
41. 'Biomechanical Assessment of Pressure-Relief and Repositioning Tasks in Persons with SCI' AASCIN Conference, Las Vegas, NV; September 2005.
42. 'Biomechanical Evaluation of Patient Transport Technologies' Safe Patient Handling and Movement Conference. St. Petersburg, FL; 2006.
43. 'Development of an Intelligent Mannequin for Research in Safe Patient Handling and Movement' Safe Patient Handling and Movement Conference. St. Petersburg, FL; 2006.
44. 'Biomechanical Evaluation of Injury Severity Associated with Patient Falls from Bed' Evidence-Based Falls Prevention Conference. St. Petersburg, FL; 2006.
45. 'Biomechanical Assessment of Independent Wheelchair Transfers in SCI' AASCIN Conference, Las Vegas, NV; September 2006.
46. Lateral Patient Transfer using a Friction Reducing Device. November 2006.
47. Vertical Patient Transfer using a Ceiling-mounted Full-Body Lift System. November 2006.
48. Bed to Chair Transfer using a Powered Stand-Assist Lift. November 2006.
49. Vertical Patient Transfer using a Floor-Based Full-Body Sling Lift. November 2006.
50. Coefficient of Friction: The Science of Slips, Trips and Falls. Florida Justice Association. February 2007.

51. Safe Patient Handling in Operating Rooms. Safe Patient Handling and Movement Conference. Orlando, FL; 2008.
52. Biomechanical Evaluation of Patient Transport Tasks. Safe Patient Handling and Movement Conference. Orlando, FL; 2008.
53. Car Transfer Technologies. Safe Patient Handling and Movement Conference. Orlando, FL; 2008.
54. Evaluation of Friction Reducing Devices. Safe Patient Handling and Movement Conference. Orlando, FL; 2008.
55. Biomechanical Evaluation of Protective Technologies for Fall Injury Prevention. Evidence-Based Falls Prevention Conference. Clearwater, FL; 2008.
56. Doheny, M., Sedlak, C., Gonzalez, C., Howe, C., Patterson, M., Nelson, A., Waters, T., Matz, M., Baptiste, A., Radawiec, S., Meechan, P., Kelleher, V., Lloyd, J., and Hughes, N. (2008, July 7). Development of Evidence- Based Algorithms for Safe Patient Handling of Orthopedic Patients. Invited paper presentation at the Sigma Theta Tau International Honor Society of Nursing, 19th International Nursing Research Congress, Singapore.
57. Lloyd J. and Hernandez E. Risks and solutions for safe patient handling in operating rooms. Presented at 9<sup>th</sup> Annual Safe Patient Handling and Movement Conference. Orlando. April 2009.
58. Lloyd J and Bogue B. Transfer and Transport: Emerging technology and protocols for safe interdepartmental patient handling. Presented at 9<sup>th</sup> Annual Safe Patient Handling and Movement Conference. Orlando. April 2009.
59. Lloyd, J. Helmet technology to minimize head injuries associated with falls. 10<sup>th</sup> Annual Conference on Transforming Fall Management Prevention Practices. Clearwater, FL; May 2009.
60. Lloyd, J. and Applegarth, S. Commercially available mats to prevent bed-related fall injuries. 10<sup>th</sup> Annual Conference on Transforming Fall Management Prevention Practices. Clearwater, FL; May 2009.
61. Biomechanics of Traumatic Brain Injury. Florida Public Defender's 'Life Over Death' Annual Meeting. Naples, FL 2010
62. Lloyd J. Technology Gaps Associated with Safe Patient Handling and Movement. Presented at 11<sup>th</sup> Annual Safe Patient Handling and Movement Conference. Orlando. April 2011.
63. Lloyd, JD. Biomechanics of Pediatric Brain Injury. Presented at Department of Children and Families, Wildwood, FL. July 2012
64. Lloyd, JD. Biomechanics of Pediatric Brain Injury. Presented at Evidence Based Medicine and Social Investigation conference, Vancouver, Canada. August 3, 2012
65. Lloyd, JD. Developing Helmet Standards and Testing Methods to Protect from Brain Injury. Proceedings of the ASTM Symposium on Concussion in Sports. Atlanta, GA. November 20, 2012



66. Lloyd, JD. Biomechanics of Pediatric Brain Injury. Presented at Evidence Based Medicine and Social Investigation conference, Vancouver, Canada. January 18th, 2012
67. Lloyd, JD. Biomechanics of Pediatric Brain Injury. Presented at Department of Office of the Public Defender, 13<sup>th</sup> Judicial Circuit, Tampa, FL. January 2013

#### POSTER PRESENTATIONS

1. 'Biomechanical assessment and stress test of dynamic postural sway to predict falls in healthy elderly' Research Day, James A. Haley Veteran's Hospital, Tampa, FL; April 15, 1998.
2. 'Effect of wrist exposures on median nerve conduction' Research Day, James A. Haley Veteran's Hospital, Tampa, FL; April 15, 1998.
3. 'A Flick of the Wrist' Demonstration and poster presentation. Presented at University of South Florida President's Council fundraising dinner. Tampa, FL; September 1998.
4. 'Repetitive wrist movements: an adverse effect on the median nerve' Poster presentation at University of South Florida Health Sciences Research Day. Tampa, FL; February 25, 1999.
5. 'Neurovascular considerations of median nerve neuropathy and implications for clinical diagnosis'. Poster presented at American Society for Surgery of the Hand (ASSH). 54<sup>th</sup> Annual Meeting, Boston, MA; September 1999.
6. 'Safe Patient Room of the Future.' James A. Haley Veterans Hospital Research Day, Tampa, FL; April 25, 2002.
7. 'Stretcher Lift Design and Prototype.' James A. Haley Veterans Hospital Research Day, Tampa, FL; April 25, 2002.
8. 'Whole-Body Biomechanical Model for Dynamic Analysis of Human Motion' James A. Haley Veterans Hospital Research Day, Tampa, FL; April 29, 2005.
9. 'Biomechanical Evaluation of Patient Falls from Bed'. Evidenced-Based Strategies for Patient Falls and Wandering, Clearwater, FL; May 2005.
10. 'Estimation, Simulation, and Experimentation of a Fall from Bed' 8<sup>th</sup> Annual Conference on Fall Prevention Strategies, Clearwater, FL; April 2007.
11. 'Estimation, Simulation, and Experimentation of a Fall from Bed' James A. Haley Veterans Hospital Research Day, Tampa, FL; May 2007.
12. 'Evaluation of Fall Protection and Prevention Technologies'. 8<sup>th</sup> Annual Conference on Fall Prevention Strategies. Clearwater, FL; April 2007.
13. Estimation, Simulation, and Experimentation of a Fall from Bed. 9<sup>th</sup> Annual Conference on Fall Prevention Strategies. Clearwater, FL; April 2007.

14. Biomechanical evaluation of the LiftSeat for independent patient toileting tasks. Exhibited at 9<sup>th</sup> Annual Safe Patient Handling and Movement Conference. Orlando. April 2009.
15. The effects of everyday concurrent tasks on 3D overground minimum toe clearance and gait parameters. Exhibited at 10<sup>th</sup> Annual Conference on Transforming Fall Management Prevention Practices. Clearwater, FL; May 2009.
16. Impact Testing to Evaluate Materials for Head Protection Devices. Exhibited at 10<sup>th</sup> Annual Conference on Transforming Fall Management Prevention Practices. Clearwater, FL; May 2009.
17. Gutmann J and Lloyd JD. Toward a Cadaveric Biomechanical Understanding of Brain Kinematics Associated with TBI. JAHVA Research Day, 2011
18. Campbell RR, Lloyd JD and Gutmann J. VHA Trends in the total costs of care for the polytrauma cohort: Disproportionate impact of post-acute inpatient care. Federal Interagency Conference on Traumatic Brain Injury, 2011
19. Lloyd JD, Gutmann J and Arslan O. Toward Biomechanical Understanding of Brain Kinematics Associated with TBI using cadaveric specimens. Federal Interagency Conference on Traumatic Brain Injury, 2011
20. Lloyd JD, Gutmann J and Del Rossi G. Do Ill-Fitting Helmets Amplify the Risk of Head Injury Among Youth Football Players? – a Biomechanical Analysis, with Discussion for Applicability to Military Protection. Federal Interagency Conference on Traumatic Brain Injury, 2011
21. Lloyd JD, Gutmann J, Craighead J & Del Rossi G. Do Helmets Prevent Concussion? 8<sup>th</sup> Annual Conference of Blast Traumatic Brain Injury, December 2011, Tampa.
22. Lloyd JD, Gutmann J, Craighead J & Arslan O. Biomechanics of Blast TBI. 8<sup>th</sup> Annual Conference of Blast Traumatic Brain Injury, December 2011, Tampa.

#### **CONFERENCES ATTENDED**

1. West Central Florida Area Agency on Aging conference; September 17, 1996.
2. ITESM International Conference, Mexico City; September 24, 1996.
3. American Occupational Health Conference, Orlando, FL; May 16, 1997.
4. OSHA Regional Conference, Clearwater, FL; July 16, 1997. James A. Haley Veterans Hospital Research Day, FL; April 15, 1998.
5. Prevention of Musculoskeletal Injuries in Healthcare Workers: State of the Science. Tampa, FL; May 15, 1998
6. University of South Florida Health Sciences Research Day. Tampa, FL; February 25, 1999.
7. Alabama Governor's safety and health conference. August 29, 2000.

8. VISN 8 PSCI Safe Patient Handling Conference, St. Pete Beach, FL; January 8-10, 2001.
9. VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; January 16-18, 2002.
10. James A. Haley Veterans Hospital Research Day, Tampa, FL; April 25, 2002.
11. VISN 8 PSCI Safe Patient Handling Conference, Clearwater, FL; March 4-7, 2003.
12. Safe Patient Handling Conference. Orlando, FL; 2004.
13. James A. Haley Veterans Hospital Research Day, Tampa, FL; April 29, 2005.
14. Safe Patient Handling Conference. Clearwater, FL; 2005.
15. Evidence-Based Strategies for Patient Falls and Wandering, Clearwater, FL; May 2005.
16. AASCIN Conference, Las Vegas, NV; September 2005.
17. Safe Patient Handling and Movement Conference. St. Petersburg, FL; 2006.
18. Evidence-Based Falls Prevention Conference. St. Petersburg, FL; 2006.
19. AASCIN Conference, Las Vegas, NV; September 2006.
20. James A. Haley Veterans Hospital Research Day, Tampa, FL; May 2007.
21. 8<sup>th</sup> Annual Conference on Fall Prevention Strategies. Clearwater, FL; April 2007.
22. Florida Justice Association. February 2007.
23. 8<sup>th</sup> Annual Safe Patient Handling and Movement Conference. Orlando, FL; 2008.
24. 9<sup>th</sup> Annual Safe Patient Handling and Movement Conference. Orlando. April 2009.
25. 10<sup>th</sup> Annual Conference on Transforming Fall Management Prevention Practices. Clearwater, FL; May 2009.
26. Florida Public Defender's 'Life Over Death' Annual Meeting. Naples, FL September 2010
27. American Academy of Forensic Sciences meeting, Chicago, IL. February 2011.
28. 11<sup>th</sup> Annual Safe Patient Handling and Movement Conference. Orlando. April 2011.
29. James A. Haley Veterans Hospital Research Day, Tampa, FL; May 2011.
30. Federal Interagency Conference on Traumatic Brain Injury, 2011
31. 8<sup>th</sup> Annual Conference of Blast Traumatic Brain Injury, Tampa, December 2011
32. James A. Haley Veterans Hospital Research Day, Tampa, FL; May 2012.
33. Evidence Based Medicine and Social Investigation conference, Vancouver, Canada. August 3, 2012
34. Neuroscience. New Orleans, LA. October 13-17, 2012

35. Special Operation Medical Association / Blast Traumatic Brain Injury, Tampa, December 2012.

36. American Academy of Forensic Sciences, Washington, DC. February 2013.

#### **TEACHING ACTIVITIES - - GUEST LECTURES AND PRESENTATIONS**

- 'Injury Epidemiology and Prevention' – USF College of Public Health, MPH Program
- 'Ergonomics in Action' – USF College of Public Health
- 'Applications in Clinical Rehabilitation' – USF College of Engineering, Biomedical Engineering Program
- 'A Day in the Life ...' USF School of Physical Education, Kinesiology Program
- 'Technology for Safe Patient Handling and Movement' USF Center for Aging program
- 'Biomedical Engineering at the VA Patient Safety Center' USF Biomedical Engineering graduate program

#### **TEACHING ACTIVITIES - - GRADUATE STUDENTS SUPERVISED**

- Robert Wilson, MS; USF Department of Electrical Engineering; 1998 – 'Occupant trajectory determinant for vehicles equipped with airbag protection systems'
- Brian Waldron, BS; USF Department of Mechanical Engineering; 2000/1 'Engineering evaluation and modeling of harness design in full-body sling lifts' - served as mentor for MS thesis
- Oneida Westhoff, MS; USF Department of Electrical Engineering; 2003 'Development of an Instrumented Mannequin for Safe Patient Handling and Movement' - served as mentor for MS thesis
- Tony Cresta, MS; USF Department of Biomedical Engineering; 2003 'Biomechanical evaluation of trapeze bar use by persons with paraplegia'
- Tony Cresta, MS; USF Department of Biomedical Engineering; 2003/6 'Biomechanical assessment of wheelchair transfers in persons with spinal cord injury' - served as mentor and committee Chair for MS thesis
- Sruthi Vasudev Boda, MS; USF Department of Biomedical Engineering; 2003 'Clinical evaluation of friction reducing devices for lateral transfer of patients' - served as mentor for MS thesis
- Roberto Guerra, BS; USF Department of Electrical Engineering; 2004 'Development of an Instrumented Mannequin for Personal Safety Training'
- Tony Morreli; USF Department of Electrical Engineering; 2004 – 'Development of an Instrumented Mannequin for Personal Safety Training'

- Bonnie Bowers, MS; USF Department of Biomedical Engineering; 2004/5 'Biomechanics of Injuries Associated with Falls from Bed' - served as mentor for MS thesis
- Fariba Vesali, MD; USF College of Medicine; 2004 'Biomechanical assessment of wheelchair transfers in persons with spinal cord injury' - served as mentor for Medical residency program
- Maria Symeonidis; USF Department of Electrical Engineering; 2004 'Biomechanics of Injuries Associated with Falls from Bed'
- Jeffrey Harrow, PhD, MD; 2006 - served as mentor for Career Development Award
- Brian Schulz, PhD; 2007 - served as mentor for Career Development Award
- Shawn Applegarth, PhD (c); USF Department of Mechanical Engineering; 2006 - served as mentor for PhD dissertation in biomedical engineering
- Michael Kerrigan; USF Department of Biomedical Engineering; 2008 'Development of headwear to prevent head injuries associated with falls' - mentored MS thesis
- Lee Barks, PhD; 2008 - served as mentor for post-doctoral fellow
- Karen Mann; USF Department of Biomedical Engineering; 2009 'Biomechanical Evaluation of Independent Wheelchair Transfers in Persons with SCI' - served as mentor and committee member for MS thesis
- Julie Kahn; USF Department of Biomedical Engineering; 2012. 'Threats to Skin Integrity Associated with Sling-Based Patient Lifts in Vulnerable Veterans' - served as mentor and committee member for MS thesis

#### INTELLECTUAL PROPERTY

1. Automotive Deceleration Indicator. Filed with USF Patents and Licensing office, 4/97. Patent review in progress.
2. Automotive Audible Warning (Horn) Intensity Controller. Filed with USF Patents and Licensing office, 4/97. Patent review in progress.
3. Determination of Occupant Trajectory in Airbag Protection Systems. Filed with USF Patents and Licensing office, 5/97. Patent application in progress.
4. Airbag Deployment Directional Controller. Filed with USF Patents and Licensing office, 5/97. Patent application in progress. Licensing agreement under negotiation with Breed Technologies, Inc.
5. Airbag Depowerment Strategy as a Function of Impact Vector and Inertial Characteristics. Filed with USF Patents and Licensing office, 6/97. Patent review in progress.
6. CPE USF Trademark / Service Mark / Certification Mark for display on ergonomically superior products. Filed with USF Patents and Licensing office, 7/97. Trademark review in progress.

7. Integrated vehicular security and personal assistance system. Filed with USF Patents and Licensing office, 10/97. Patent review in progress.
8. Orthotic device to improve blood circulation in the median distribution of the hand. Filed with USF Patents and Licensing office, 3/98. Patent review in progress.
9. Swimming pool feedback eyeball / diverter switch. Filed with USF Patents and Licensing office, 3/98. Patent review in progress.
10. Method for biomechanical evaluation of joint kinematics. Filed with Department of Veteran's Affairs patents and licensing office, 11/99. Patent review in progress.
11. Integrated sling for patient lift manipulation. Filed with Department of Veteran's Affairs patents and licensing office, 11/99. Patent review in progress.
12. Technology improvement for air-assisted lateral transfer devices. Filed with Department of Veteran's Affairs patents and licensing office, 7/02. Patent review in progress.
13. Mechanical Lateral Transfer Accessory to Patient Lifting Devices. Filed with Department of Veteran's Affairs patents and licensing office, 9/02. Patent awarded.
14. Limb Holding Device. Invention Disclosure in preparation with Department of Veteran's Affairs patents and licensing office, 09/06.