BIOGRAPHICAL DATA HYMAN, William A.

Professor Department of Biomedical Engineering Texas A&M University, College Station, Texas 77843-3120 979-845-5532; FAX: 979-216-1588; w-hyman@tamu.edu

PROFESSIONAL INTERESTS:

System Safety in Medical Device Design Rehabilitation Engineering Clinical Engineering Biomechanics

EDUCATION:

Sc.D., Engineering Mechanics, Columbia University, 1970 M.S., Engineering Mechanics, Columbia University, 1966 B.S.M.E., Mechanical Engineering, The Cooper Union, 1965

EXPERIENCE:

Educational

Professor, Texas A&M University, 1983-Interim Head, Department of Biomedical Engineering, TAMU, 2002-2004 Professor & Chair, Biomedical Engineering Program, TAMU, 1983-, 1996-2002 Senior Scientist, UT-Houston Biomaterials Research Center, 1995-Member, Faculty of Material Science and Engineering, TAMU, 1997-Participating faculty, Texas A&M University Sports Medicine Institute Bioengineering Program Head, Texas A&M University, 1979-1989

Associate Professor, Texas A&M University, 1977-1983

Adjunct Professor, Baylor College of Medicine, 1974-1983

Assistant Professor, Texas A&M University, 1972-1977

Research Associate, Massachusetts Inst. of Technology, 1969-1972

Cumulative Research Support

Whitaker Foundation
NASA - Faculty Fellowship Program
NASA - KC135 Program Assessment
NASA - PORTABLE LIFE SUPPORT SUBSYSTEM (PLSS) SCHEMATIC STUDY
Texas Department of Mental Health and Mental Retardation
National Science Foundation
Department of Education/NIDRR
Department of Health, Education and Welfare
Veterans Administration
U.S. Air Force
University of Texas Southwestern Medical Center, Mobility Research and Assessment Laboratory
Scott&White Memorial Hospital
Texas A&M University, College of Veterinary Medicine Research & Texas Engineering Experiment Station

TVMA Foundation, Nutramax and Starr Fund King Foundation

Short Courses Taught (1990 -)

"Preparation for the 2008 Chinese Clinical Engineering Certification Exam", Hangzhou, China, 2008. "Medical Devices 101", FDA Medical device Industry Coalition, Dallas, TX, 2007 5th International Clinical Engineering Workshop, Hangzouh, China, 2007 "Medical Devices 101", FDA Medical Device/Industry Coalition et al, Dallas, TX, 2006 "Introduction to Risk Management", FDA Medical Device/Industry Coalition, Dallas, TX, 2006 4th International Clinical Engineering Workshop, Beijing, China, 2005 Clinical Engineering Workshop: Investigation Methodology Associated with Medical Technology, participating instructor, Houston Society for Engineering in Medicine and Biology, 2005 PAHO/WHO – ACCE Advanced Clinical Engineering Workshop – Dominica, participating instructor, 2003. Medical Device HACCP, A Training Workshop for the Medical Device Industry; participating instructor, HACCP Alliance, 2001, 2002 and 2003. General Hospital and Critical Care Devices: Whose Fault is Human Error?, presented at AAMI/FDA Conference on Human Factors in Medical Devices: Design, Regulation and Patient Safety, 1995 Whose Fault is User Error, presented as part of staff college course on Human Error/Human Factors, Food and Drug Administration, 1994. Overview of Engineering Services, presented at Introduction to Rehabilitation Technology, presented at Texas Rehabilitation Commission workshop, 1994 ESF Research Update, presented at Complete Course on External Skeletal Fixation, 1993 Introduction to Safety Analysis, presented at Texas Rehabilitation Commission workshop, 1993 Rehabilitation Engineering and Technology in the Workplace, presented at The Americans With Disabilities Act: New Challenges in the Workplace, The Health Law and Policy Institute, The University of Houston, 1991 Introduction to System Safety Analysis in Rehabilitation Applications, RESNA, 1991 Switch on to Learning, for the Texas Education Agency, Region VI,1991 Design and Modification of Augmentative Rehabilitation Devices, for the Texas Department of Mental Health and Mental Retardation, (Co-director and speaker), 1991 Consulting Food and Drug Administration Louisiana Board of Regents National Science Foundation National Institutes of Health

Texas Department of Mental Health and Mental Retardation

Texas Rehabilitation Commission

United Airlines Service Corporation, Lakewood, Colorado

U.S. Army

U.S. General Accounting Office

Various clients on medical device design, medical device patents, human factors and system safety, and biomechanics of injury

PROFESSIONAL LICENSES:

Registered Professional Engineer, Texas #34711

HONORS AND AWARDS

NDEA Fellowship in Biomechanics, 1966-1969 Honor societies: Sigma Xi, Pi Tau Sigma, Tau Beta Pi Outstanding Young Engineer, Brazos Valley Chapter, Texas Society of Professional Engineers, 1980 SONY Award Lecturer, Society for Engineering in Urology, 1993 Lockheed Martin Excellence in Engineering Teaching Award, 1996 United Cerebral Palsy of Greater Houston recognition on the "Wall of Fame", 1996 Enhancing Diversity Award-Administrator-Department of Multi-Cultural Services, 2003 Fellow, Biomedical Engineering Society, 2005 Charles C. Crawford Service Award, Look College of Engineering, 2005 ASTM Meritorious Service Award, 2005

SOCIETY MEMBERSHIPS

American Society of Testing and Materials American College of Clinical Engineering Association for the Advancement of Medical Instrumentation Biomedical Engineering Society (Fellow) Human Factors and Ergonomics Society Technical Group on Medical Systems and Functionally Impaired Populations

RECENT COMMITTEE AND PROFESSIONAL ACTIVITIES

<u>ACCE Healthcare Technology Commission</u> Member, Board of Directors, 2006 – Secretary, Executive Board & Board of Directors, 2006 -

<u>ASTM</u>

Member, F-4, Committee on Surgical Implants and Medical Devices, Member, F-8, Committee on Sports Equipment and Facilities, Member, E-30, Committee on Forensic Sciences

<u>FDA</u>

Member, Dallas District FDA/Industry Coalition, 1999-

Medical Device Excellence Awards Juror, 2003, 2005, 2006, 2008

Journal of Clinical Engineering Editor, 1995-

US Board of Examiners for Clinical Engineering Member, 2002-2008

BOOKS

Engineering a Safe Hospital Environment, Wiley-Interscience, with DL Smathers, DE Clapp and DD Duncan, 1982.

"Human Factors and Medical Instrumentation" and "Legal Liability in Medical Devices", chapters in Encyclopedia of Medical Devices and Instrumentation, Ed. J Webster, John Wiley, 1988. "Medical Equipment Risk Management" chapter in PTSM Monograph (807), JCAHO, 1988.

"Biomechanics of Fracture Fixation Failure", DA Hulse and WA Hyman, <u>Veterinary Clinics</u> of North America, Ed. M Olmstead, Saunders, <u>21(4)</u>, 647-67, 1991.

"Principles of Bone Healing and Biomechanics of External Skeletal Fixation", RH Palmer, DA Hulse, WA Hyman, RR Palmer, <u>Veterinary Clinics of North America</u>, Ed. J Harari, <u>22(1)</u>,45-68,1992.

"Fracture Biology and Biomechanics", DA Hulse and WA Hyman, chapter 120 in <u>Textbook of Small Animal Surgery</u>, Ed. D Slatter, Saunders:Philadelphia, 1993.

"Errors in the Use of Medical Equipment", chapter 15 <u>Human Error in Medicine"</u>, Ed. MS Bogner, Lawrence Erlbaum Associates: Hillsdale, NJ, 1994.

"Practical Biomechanics", DA Hulse and WA Hyman, chapter in <u>Small Animal Orthopedics</u>, Ed. Olmstead, Mosby:St.Louis, 1995.

"Fracture Biology and Biomechanics", DA Hulse and WA Hyman, chapter 126 in <u>Textbook of Small Animal Surgery</u>, Ed. D Slatter, Saunders:Philadelphia, 2003.

"Human Factors: Environment", WA Hyman and V Wangler, chapter 83 in <u>Clinical Engineering Handbook</u>, Ed. D Dyro, Elsevier Academic Press, 2004.

"Medical Device Design and Modification", WA Hyman, In: Encyclopedia of Biomedical Engineering (Ed. M Akay, ed), John Wiley, 2006.

"Use Errors: The Benefits and Challenges of In-service Education", WA Hyman, In: A Practicum for Biomedical Engineering & Technology Management Issues (Ed. LR Atles), Kendall/Hunt Publishers, 2008.

PUBLICATIONS (1990 -)

Refining "Close Call" Definitions, Biomedical safety & Standards, 39(4), 25-27, 2009

Commentary: Providing Excellent Service, ACCE News, http://accenet.org/newsletters/ACCENewsJanFeb2009.pdf

Searching the Web for Medical Device Info: CDRH Device Web-sites, ACCE News, http://www.accenet.org/newsletters/ACCENewsNovDec2008.pdf, 2008.

Medical Devices, Computers and Computer Networks, Biomedical Safety & Standards, 39(1), 1-4, 2009.

Excellence in Clinical Engineering Leadership and the Inaugural AHTF ExCEL Award, Y David, M Baretich, WA Hyman, W Morse & J Wear, Journal of Clinical Engineering, 33, 201-205, 2008.

Another Hospital Bed Entrapment Concern: "Power Down versus "Gravity Down", WA Hyman, McKnight's Long-Term Care & Assisted Living, Guest Column, <u>http://www.mcknights.com/</u>, October 10, 2008.

Bed-rail Entrapments Still a Serious Problem, WA Hyman, McKnight's Long-Term Care & Assisted Living, Guest Column, <u>http://www.mcknights.com/</u>, July 24, 2008.

High Reliability Clinical Engineering Organizations, WA Hyman, Journal of Clinical Engineering, 33, 143-150, 2008.

That Pesky Learning Curve, WA Hyman, Biomedical Safety and Standards, 38(14), 107-109 77, 2008. Commentary: AAN Nurses Promote Workflow Improvements, WA Hyman, ACCE News, http://accenet.org/newsletters/ACCENewsMayJune2008.pdf, 2008.

Instructions That Cannot be Followed, WA Hyman, Biomedical Safety and Standards, 38(10), 75-77, 2008.

Fault Tree Analysis of Clinical Alarms, E Johnson and WA Hyman, Journal of Clinical Engineering, 33, 85-94, 2008.

Fifteen Minutes?, WA Hyman, Biomedical Safety and Standards, 38(7), 49-50, 2008

Commentary: Competency is Not a Binary Variable, WA Hyman, ACCE News, <u>http://www.accenet.org/newsletters/ACCENewsJanFeb2008.pdf</u>, 2008.

A Comprehensive Guide to the Quality System Regulation Preamble, K Miller and WA Hyman, Medical Device & Diagnostic Industry, January, Web Exclusive, <u>http://www.devicelink.com/mddi/qsr_guide/</u>, 2008.

Overcoming Barriers to Success: Collecting Medical Device Incident Data, Y David, WA Hyman, VD Woodruff & M Howell, Biomedical Instrumentation & Technology, 41, 471-475, 2007.

Replacement Parts – Identical, Suitable or Inappropriate, R Torres and WA Hyman, Journal of Clinical Engineering, 32, 157-161, 2007.

Recalls, FDA and the Realities of Ongoing Hospital Activities, WA Hyman, Biomedical Instrumentation and Technology, 41, 363-366, 2007

Risk Management, The Joint Commission, and ISO 14971, K Phelps and WA Hyman, Journal of Clinical Engineering, 32(2), 70-73, 2007.

Dangerous Bedrails Still in Widespread Use, WA Hyman, Biomedical Safety & Standards, 37, 33-36, 2007; and From the Editor's Desk, Journal of Clinical Engineering, 32(2), 53-54, 2007.

Impact of Clinical Alarms on Patient Safety, A Report from the ACCE Healthcare Technology Foundation, WA Hyman contributing author and editor, Journal of Clinical Engineering, 32, 22-33, 2007

Pictowhat? Problems with the Use of Pictograms on Medical Devices, H Lemmon and WA Hyman, Journal of Clinical Engineering, 31 (4), 202-205, 2006.

Impact of Clinical Alarms on Patient Safety, A Report from the ACCE Healthcare Technology Foundation, WA Hyman contributing author and editor, On-line at http://www.acce-htf.org/clinical.html, October, 2006.

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Task Reality vs.Task Fantasy: How the Concept of Real-World Use Affects Patient Safety, Patient Safety Focus, WA Hyman, Biomedical Instrumentation and Technology, 40, 283-285, 2006.

From the Editor's Desk: Why Do Well Meaning Personnel Disable Safety Devices?, WA Hyman, Journal of Clinical Engineering, 31 (3), 115-16, 2006.

From the Editor's Desk: Prerequisites for Useful Safety-related Reporting, WA Hyman, Journal of Clinical Engineering, 31 (2), 61-2, 2006.

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From the Editor's Desk: The JCAHO National Patient Safety Goals-Are They Helpful? WA Hyman, Journal of Clinical Engineering, 31 (1), 1-2, 2006.

The ACCE Healthcare Technology Foundation-Creating a Model for the Clinical Engineering Profession, William Hyman Interviews Yadin David, Journal of Clinical Engineering, 31 (1), 36-9, 2006.

Why Don't Healthcare Professionals Do What They "Know" They Should?, WA Hyman, Journal of Clinical Engineering, 30, 241-248, 2005.

From the Editor's Desk: You Dropped It, Now What?, WA Hyman, Journal of Clinical Engineering, 30, 181, 2005.

Making the Best Use of Your Sharps Injury Log, WA Hyman, Infection Control Today, 9(11), 32, 2005.

The Food and Drug Administration and the Hospital, L Wegner, V Lichaa, S Ngang, K Carleton, S Devenport, J Hoernis, J Hua and WA Hyman, Journal of Clinical Engineering, 30, 153-160, 2005.

Looking Good Matters in Medical Device Design, WA Hyman and MB Privitera, Medical Device & Diagnostic Industry, 27, 54-63, 2005.

Blaming the User for Safety Systems Failures – Back Where We Started, WA Hyman, Journal of Clinical Engineering, 30, 1-2, 2005. (Reprint of BS&S item of same title listed below.)

Needlesticks: Are "Safety" Syringes Really Safe?, WA Hyman, Infection Control Today, March, 2005.

Needlestick Prevention: Where are the Device Specific Data, Guest Column, WA Hyman, Biomedical Safety & Standards, 35(3), 20-21, 2005.

Mechanical Bone Strength of the Tibial Resection Surface at Increasing Distance From the Joint Line in Total Knee Arthroplasty, CD Chaput, SH Weeden; WA Hyman & KD Kirby, Journal of Surgical Orthopedic Advances, 13, 195-198, 2005.

What Does Productivity Mean?, Final Word Column, WA Hyman, Biomedical Instrumentation & Technology, 38, 492, 2004.

Blaming the User for Safety Systems Failures – Back Where We Started, WA Hyman, Biomedical Safety & Standards, 34(22), 174-5, 2004.

Staffing and Productivity-A New Look at an Old Calculation, WA Hyman, Journal of Clinical Engineering, 29, 206-9, 2004.

From the Editor's Desk: Interdepartmental Relations, WA Hyman, Journal of Clinical Engineering, 29, 107, 2004

Specifications...How Much Do We Really Know?, Patient Safety Focus, WA Hyman, Biomedical Instrumentation & Technology, 38, 144-6, 2004.

Mitigating Risks in Service, WA Hyman, 24x7, 9, 22-25, 2004.

From the Editor's Desk: How to Get What You "Want", WA Hyman, Journal of Clinical Engineering, 29, 1-2, 2004.

The Application of HACCP in Clinical Engineering, WA Hyman, Journal of Clinical Engineering, 28, 158-162, 2003.

From the Editor's Desk: Use Error...Then What?, WA Hyman, Journal of Clinical Engineering, 28, 139-40, 2003.

The Theory and Practice of Preventive Maintenance, WA Hyman, Journal of Clinical Engineering, 28, 31-36, 2003.

From the Editor's Desk: Worthwhile Activities and Worthwhile Outcomes, WA Hyman, Journal of Clinical Engineering, 28, 1, 2003.

FDA Revises MDR Guidance for Reporting Needlesticks, WA Hyman, Biomedical Safety & Standards, 32, 180-1, 2002.

Human Factors Analysis of Needle Stick Safety Devices, WA Hyman, Journal of Clinical Engineering, 27, 280-286, 2002.

A Generic Fault Tree for Medical Device Error, WA Hyman, Journal of Clinical Engineering, 27,134-140, 2002

The Pause That Prevents Error, WA Hyman, Journal of Clinical Engineering, 27,92-3, 2002

A Human Factors Check List for Equipment Evaluation and Use, WA Hyman and N Cram, Journal of Clinical Engineering, 27,131-133, 2002

From the Editors Desk: The Big Denominator, WA Hyman, Journal of Clinical Engineering, 27,80, 2002

What's in a Name?: Products with "Safety" in the Brand Name, WA Hyman, Biomedical Safety & Standards, 32(4), 25-26, 2002

Modeling of Failure Mode in Knee Ligaments Depending on the Strain Rate, M Lee and WA Hyman

BMC Musculoskeletal Disorders 2002, 3:3, 2002.

GPO's Versus Independent Judgment, WA Hyman, Editor's Desk, Journal of Clinical Engineering, 26(4), 33, 2001.

Clinical Engineering and Medical Technology, WA Hyman, Journal of Clinical Engineering, 26(3), 218-223, 2001.

System Safety Compromised by Bad Assumptions, WA Hyman, Biomedical Safety & Standards, 31(4), 30, 2001.

Effect of Intramedullary Pin Size in Reducing Plate Strain, DA Hulse, Ferry K, Fawcett A, Gentry D, Hyman W, Geller S, Slater M, Veterinary and Comparative Orthopedics and Traumatology; 13:185-190, 2000.

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What is HACCP and Why is it Important, WA Hyman, Biomedical Safety and Standards, 30(15), 117-18, 2000, also printed as editorial, Journal of Clinical Engineering, 25(5), 242, 2000.

Requirements for Incident Avoidance, WA Hyman, Journal of Clinical Engineering, 25(2), 104-107, 2000.

Responding to Medical Errors During a Time of High Sensitivity, WA Hyman, Biomedical Safety & Standards, 30(7), 50, 52-3, 2000.

Model for a Web-based Communication System between Clinical Engineers and Medical Device Companies, S. Misri and WA Hyman, Journal of Clinical Engineering 25(1), 36-49, 2000.

From the Editor's Desk, WA Hyman, "Tracking Instructional Updates", 25(1), 4, Journal of Clinical Engineering, 2000.

Reuse Revisited, WA Hyman. Biomedical Safety & Standards, 30(3), 18-20, 2000

Y2K (and Other Date Related Problems)-Are You Ready, WA Hyman, Journal of Clinical Engineering, 24(4), 249-257, 1999

Confession and Blame in Medical Device Reporting, WA Hyman, Regulatory Affairs Focus, 4(8), 32, 1999.

In-source, Out-source, On-site, Off-site: A Checklist of Clinical Engineering Services, WA Hyman and N Cram, Journal of Clinical Engineering, 24(3), 172-174, 1999.

From the Editor's Desk, WA Hyman, "Policies and Procedures vs. Reality", 24(3), 139; and "Y2K and Vendor Relationships", 24(6), 336, Journal of Clinical Engineering, 1999.

Reprocessing and Reuse of Medical Devices Poses Manageable Risks, Proactive Risk Management, 4(17), 81-85, 1998.

Human Factors Analysis of an ICU, AR Westover, T Moog and WA Hyman, Journal of Clinical Engineering,

23(2), 110-116, 1998.

From the Editor's Desk, WA Hyman, Journal of Clinical Engineering, "ACCE &AAMI", 23(3), 147, "The Edge of the Cliff", 23(5),315, "The FDA and the Regulation of CE/BMET Departments", 23(6), 379, 1998.

Conference Report: AAMI/FDA Conference on Reprocessing Medical Devices: Designing, Testing and Labeling, WA Hyman, Journal of Clinical Engineering, 23(1), 24-25, 1998.

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From the Editor's Desk, WA Hyman, Journal of Clinical Engineering, "A Commitment to Error Reduction", 22(3), 131; Conference Report: Health Facilities '97, 22(5), 274-275; "Good Service, and Bad Service Recovery", 22(6), 353, 1997.

Determination of Graft Forces for Cranial Cruciate Ligament Reconstruction in the Dog, RA Shelley, DA Hulse, MR Slater, JF Hunter and WA Hyman, V.C.O.T.,9, 165-71, 1996.

From the Editor's Desk, WA Hyman, Journal of Clinical Engineering, "Medical Devices: The Good, the Bad and the Ugly", 21(2), 71; "Close Call Reporting", 21(5), 341; "Technology Overviews Will Focus On Device Design, Function and Use", 21(6), 409, 1996.

General Hospital and Critical Care Devices: Whose Fault Is User Error, WA Hyman, <u>Human Factors in</u> <u>Medical Devices: Design, Regulation and Patient Safety</u>, AAMI/FDA Conference Report, 25-30,1996.

Increased Safety in Perfusion Through Integrated Design, WA Hyman, <u>Perfusion Life</u>, <u>12(9)</u>, 28-31, 1995. Impact of Medical Product Liability Restrictions on Hospital Risk Management, WA Hyman, <u>Proactive Risk Management</u>, 1(3), 101-2, 1995.

The Issue is Use, Not User, Error, Guest Editorial, WA Hyman, <u>Medical Device & Diagnostic Industry</u>, 17(5), 58-9, 1995.

Holding Power of Threaded External Skeletal Fixation Pins in the Near and Far Cortices of Cadaveric Canine Tibiae, DE McDonald, RH Palmer, DA Hulse, JS Neigut, WA Hyman and MR Slater, <u>Veterinary</u> <u>Surgery</u>, 23, 488-93, 1994.

Device-Related Litigation and Clinical Engineering, WA Hyman and JS Neigut, <u>J. of Clinical Engineering</u>, 19, 441-445, 1994.

The Role of the External Bar in a 6-Pin Unilateral External Skeletal Fixation Device, FR Pollo, WA Hyman, and DA Hulse, <u>Veterinary and Comparative Orthopedics and Traumatology</u>, <u>6</u>,75-9,1993.

Design Considerations and Analysis Techniques for Medical Expert Systems, CE Williams, WM Lively and WA Hyman, <u>Medical Device Technology (Europe)</u>, May, 1992.

SMDA '90: Some Specifics About Service, WA Hyman and H Remschel, <u>Second Source Imaging</u>, 7(11), 104-6, 1992.

Pressure Wave Fidelity in Catheter Introducers, CL Tock and WA Hyman, Catheterization and

Cardiovascular Diagnosis, 27, 57-65, 1992.

Safety Issues for Expert Systems Which 'Learn', WA Hyman, WL Lively and CE Williams, <u>Proceedings of the Tenth International System Safety Conference, Vol.II</u>, 1991.

Defining the Intended Use of Medical Expert Systems, <u>Proceedings of the Conference IEEE</u> <u>Engineering in Medicine and Biology Society</u>, 1341-2, 1990.

ABSTRACTS AND PRESENTATIONS (2005 -)

"PSOs and Medical Devices", Patient Safety Organizations: Transforming Health Care, Houston, January, 2009.

"Safety and Quality Control Systems for Medical Devices", 2008 Chinese Congress of Clinical Engineering & Digital Medicine and The 9th Annual Meeting of Medical Engineering Society of Chinese Medical Association, Hangzhou, China, October, 2008.

"Side Rails and Other Dangerous Products in the Nursing Home", AJJ Annual Conference, Philadelphia, July, 2008.

"Excellence in Medical Device Design", MD&DI Webcast, Medical Device Design Trends, June, 2008.

"Responding to Medical Device Incidents", ACCE Teleconference, February, 2008.

"Quantitative Analysis of Risk-Are Current Methods Theoretically Sound", CBI Medical Device & Diagnostics Risk Management Summit, Washington DC, July, 2007

"Issues Associated with Off Label Use of Medical Devices", Poster, Y David and W. Hyman, 29th Annual International Conference of the IEEE Engineering in Medicine and Biology Conference, Lyon, France, 2007.

"Why Don't Healthcare Professionals Do What They "Know" They Should?". Catholic Healthcare West, Sacramento CA, March, 2007.

"System Safety in the Design and Use of Medical Devices", 2do. Congresso Nacional Interdisciplinario de Technologias Avandnzada, Mexico City, October, 2006 and 2° Simposium Internacional de Ingeniería Biomédica, Monterrey, Mexico, March, 2006.

"You Taught Them, But What Did They Learn?", 22nd Annual Conference on Clinical Engineering and Cost Effectiveness, Washington, DC, June, 2006.

"Whose Fault is User Error?-The Future of Technology in Healthcare", Gulf Coast Association for Healthcare Quality, Houston, TX, November, 2005.

"Needlesticks: A Human Factors Classic", FDA/MedSun 4th Annual Conference, Baltimore MD, September, 2005 and San Diego CA, October, 2005; and U.S. Food and Drug Administration, Rockville, MD, August, 2005; and Houston Society for Engineering in Medicine and Biology, February, 2005.

"Human Factors: Whose Fault is User Error?", South East Texas Clinical Engineering Society, Houston, July, 2005, and Dallas District FDA/Industry Coalition, Dallas, May 2005.

"Secondary and Delayed Traumatic Injury", WA Hyman (presenter) with M. Mickal and G. Reza, Houston Society for Engineering in Medicine and Biology, February, 2005.