Roger V. Gonzalez, Ph.D, P.E, F.ASME, F.AIMBE

Mike Loya Distinguished Chair in Engineering

The University of Texas at El Paso
College of Engineering
Department of Engineering Education and Leadership
500 West University Ave
El Paso, TX 79968
(915) 747-5909 / Fax: (915) 747-5019
Email: rvgonzalez@utep.edu / roger.v.gonzalez@gmail.com

CURRENT POSITIONS

Mike Loya Distinguished Chair in Engineering
Inaugural Chairman and Department of Engineering Education and Leadership
Professor, Department of Engineering Education & Leadership (Tenured)
Program Director, Bachelor of Science in Engineering Innovation and Leadership
Adjunct Professor, Dept of Orthopedic Surgery, Texas Tech University Health Science Center (El Paso)
Founder & Former CEO and President, LIMBS International *(non-profit entity; LIMBS.org)*

LIMBS's mission is to lead the field in innovative product development and design of ultra-low-cost prosthetic solutions for the poorest-of-the poor in the developing world.

ADMINISTRATIVE EXPERIENCE

Inaugural Chairman, Department of Engineering Education and Leadership, UTEP (2014 – Present)

Led the development of a new Academic Department within the College of Engineering at UTEP from the ground up. This new department houses the nation's first BS degree in Engineering Leadership and the MS in Engineering, designed to be multi-disciplinary degrees. Formation of the department required building the procedures and processes, including hiring the faculty and staff.

Inaugural Program Director, Engineering Innovation & Leadership, UTEP (2012 – Present)

Relocated to UTEP to lead the vision and development of our nation's first ever Bachelors of Science degree in Engineering Innovation & Leadership (formerly Engineering Leadership). This degree is a multi-disciplinary engineering degree with an emphasis on Entrepreneurship/Innovation, Leadership Development, and Business Acumen. Development of the degree involved working with UTEP's senior administrative and faculty leadership to obtain approval both internally to UTEP, the UT System, and the Texas Higher Education Coordinating Board. Have also directed acquiring large scale industry sponsorship of the program as well as promotion of the program both locally and nationwide.

Associate Vice-President for Scholarship and Research, LeTourneau University (2008 – 2011)

Developed policies and procedures for faculty engagement and evaluation of scholarly pursuits. Worked with Deans and Department Chairs in various performance metrics suited to their respective disciplines. Developed seed funding mechanisms for the simulation of high-potential research projects.

Associate Dean of Engineering and Engineering Technology, LeTourneau University (2008 – 2010)

Led the development of new programs, including Civil Engineering and a Masters of Science in Engineering. Worked with the Dean to promote the School of Engineering to external entities. Worked with the Engineering Faculty in reworking the policies and procedures of faculty evaluation.

Inaugural Program Director of Biomedical Engineering, LeTourneau University (2001 – 2012)

Led the formation of a new Biomedical Engineering curriculum and obtained seed funding for the launching of the new program. Recruited faculty into the program and helped develop the promotional materials to attract students into the program. Built the advising platform for the program.

Founder, CEO & President, LIMBS International (limbs.org) (2004 – 2017)

Led the formation of an international non-profit mission to help the poorest-of-the-poor amputees walk again throughout the world through our patented and innovative low-cost technologies. We have helped thousands of amputees regain mobility in over 50 countries worldwide through LIMBS technology and our Community-Based Rehabilitation program. I served as CEO and President until 2017 when I stepped down to serve only on its Board of Directors. Now, I serve only as a technical consultant on research endeavors and advisor to the Board of Directors.

PROFESSIONAL EXPERIENCE

2023 – Present	Mike Loya Distinguished Chair in Engineering
1993 - Present	*Registered Professional Engineer* in the State of Texas
6/22 – 5/23	*Faculty Fellow*: University College London, London, UK Research: Current State of Engineering Education and Professional Development in the UK/Ireland
9/12 – 1/15	*Professor*, Mechanical & Biomedical and Engineering, UTEP (*Tenured*)
9/12 – 5/22	*Adjunct Professor,* Mechanical Engineering, University of Delaware
9/03 – 5/18	*CEO and President*, LIMBS International
7/08 – 6/11	*Associate Vice-President*, for Scholarship & Research, Letourneau University
7/08 – 12/10	*Associate Dean*, School of Engineering and Engineering Technology, Letourneau University
9/06 – 6/12	*Professor in Biomedical & Mechanical Engineering* (LeTourneau Univ, Tenured)
8/01 – 8/06	*Associate Professor in Biomedical & Mechanical Engineering* (LeTourneau Univ, Tenured)
8/04 – 5/11	*Executive Director and Founder*, LEGS (LeTourneau Engineering Global Solutions)
8/01 – 7/12	*Program Director*, Biomedical Engineering, LeTourneau University
8/96 – 7/01	*Assistant Professor* in Mechanical Engineering, LeTourneau University
10/94 to 7/96	*Post-Doctoral Research Scientist & NIH-NRSA Fellow* with joint appointments in: *Sensory Motor Performance Program*, Rehabilitation Institute of Chicago *Biomedical Engineering*, Northwestern University *Physical Medicine and Rehabilitation*, Northwestern University Medical School
1/89 to 9/94	*Research Assistant & NASA-JSC Fellow* Mechanical Engineering, The University of Texas at Austin
6/89 to 9/89	*Design Engineer* Aircraft Engine Division, General Electric (Cincinnati, OH) Duties: Re-design of commercial aircraft engine components which failed in service.
6/88 to 1/89	*Senior Engineering Project Manager & Design Engineer* Electric Motors Division, General Electric (El Paso, TX) Duties: Design and construction of a $12 million production facility.

6/86 to 5/88 *Production-Manufacturing Management Engineer*
Aircraft Engine Division, General Electric (Albuquerque, NM),
Major Appliance Division, General Electric (Louisville, KY)
Duties: Manufacturing-Management Engineering in both commercial and military applications. Graduate of GE's Corporate Manufacturing Management Program.

EDUCATION

Post-Doctoral Fellow: Depts. of Physiology and Rehabilitation Med, Northwestern University Medical School
Post-Doctoral Fellow: Sensory Motor Performance Program, Rehabilitation Institute of Chicago
Focus*: Neuromuscular Control, Musculoskeletal Biomechanics, Neuroscience*

Ph.D. in Mechanical Engineering: December 1994
The University of Texas at Austin
Focus*: Computational Musculoskeletal Biomechanics*

M.S. in Biomedical Engineering: December 1990
The University of Texas at Austin
Focus: *Biomechanics*

Manufacturing Engineering-Management Professional Corporate Program: June 1988
General Electric Company

B.S. in Mechanical Engineering: May 1986
The University of Texas at El Paso (UTEP)

AWARDS & HONORS (selected)

Distinguished Chair	*Mike Loya Distinguished Chair in Engineering*	*2023-Present*
UTEP/UCL Faculty Fellow	Year Abroad in collaboration with the University College London	2022-23
Drucker Prize	Drucker Institute - Innovation Award for Non-profit work	2019
TEDx UTEP	"Access makes the Difference"	2019
TIAA (Financial services)	TIAA 100 Difference Maker – LIMBS.org	2018
ASME Fellow	***American Society of Mechanical Engineers***	***2016***
AIMBE Fellow	***American Institute for Medical and Biological Engineering***	***2015***
TEDx El Paso	"The Deception of Technology"	2015
IEEE	Global Humanitarian Engineer of the Year - Finalist	2013
Minnie Stevens Piper Foundation	Piper Professor of the year (Texas Statewide Award)	2008
ASEE	Section Outstanding Teaching Award	2007
LeTourneau University	Faculty Research Award	2004
ASME	Student Section Advisor Award	2002
NSF New Century Scholar	Engineering Teaching Excellence Workshop (Stanford University)	8/98
NIH Fellow	National Research Service Award	10/95 to 9/97
NRSA Training Grant	Rehab Inst. of Chicago/ Northwestern Univ. Med. School	10/94 to 9/95
NASA-JSC Fellow	3-year Graduate Student Training Grant	6/92 to 5/95
GEM Fellow	Graduate Engineering for Minorities Doctoral Fellowship	6/91 to 5/93
R.C. Baker Fellow	Baker Foundation Fellowship, UT Austin	1/94
GEM Fellow	Graduate Engineering for Minorities Masters Fellowship	9/89

PATENTS

U.S. Patent Application No. US-11358326-B2
Gonzalez, Roger V., and Joshua T. Green. "Hotend for additive manufacturing with an actuated rod in a heated chamber."

U.S. Patent Application No. 29/530,847
Gonzalez, Roger V., and Nystrom, A., Minelga, E., Edmunds, M. "Prosthetic Knee"
U.S. Patent Application No. 14/819,059
Gonzalez, Roger V., and Bowen, J., Nystrom, A. "Layering technique for an adjustable, repairable variable stiffness prosthetic foot"
U.S. Patent Application No. 14/370,422
Gonzalez, Roger V., and Terleski, TW, Cantu, CE, LaSalle, RK. "Polycentric Prosthetic Knee"
U.S. Patent Application No. 29/464,611
Gonzalez, Roger V., and Terleski, TW, Cantu, CE, LaSalle, RK. "Prosthetic Knee"
U.S. Patent Application No. 29/444,705
Gonzalez, Roger V., and Terleski, TW, Cantu, CE, LaSalle, RK. "Prosthetic Knee"

International (PCT) Patent Application No. PCT/US2010/029448, entitled "Prosthetic knee."
Related: European Patent Application No. 10711812.7
German Utility Model No. 202010017636.0

International (PCT) Patent Application No. PCT/US2014/012557, entitled "Polycentric Prosthetic Knee."
Related: US Provisional Patent Application No. 61/759,978

US Design Patent No. US D785,177 S, entitled "Prosthetic Knee."
Related: Chinese Design Patent No. 201330368155.7
European Registered Community Design Nos. 2263046-1, 2263046-2, 2263046-3
Indian Design Registration Nos. 254848, 254849, 254850

RESEARCH GRANTS

Principal Investigator

Halliburton Corp – Additive Manufacturing of Multiphase Polymers. Amount: $828,000 from 9/18 – 12/24 (co-PI w/ Dr. Joshua Green)

Department of Education (MSEIP - Minority Science and Engineering Improvement Program) P210A140066: *UTEP-Olin Partnership for Change: Adoption and adaption of innovative practices for 21st century engineering.* Amount $900,000 from 10/01/2014 to 09/30/2018.

Department of Education (DOED- Transition to Teaching) U350B110020: *Taking the LEAP (Local Education Agencies Partnership)* Amount $3,070,340 from 10/01/2011 to 09/30/2016.

National Science Foundation (NSF-BES) 0966398: *Quantifying ACL-deficient Knee Stability and Intersegmental Forces Enhanced via Parametric Probabilistic Modeling.* Amount: $300,000 from 9/10 to 8/14.

UT Stars Award – Equipment & infrastructure support for research in musculoskeletal biomechanics and sustainable technologies. Amount $500,000 from 9/12 to 8/15

National Institute of Health (NIH-Subaward) R01AR046389-0851 *ACL Injured Knee: MRI and Biomechanical Modeling*. Amount: $345,358 from 9/09 to 8/12

National Science Foundation (NSF-OISE): IRES-0651132 *International Research Experiences for Students with LeTourneau Engineering Global Solutions*. Amount: $140,000 from 9/06 to 8/09

National Institute of Health (NIH) R15 AR051316-01A2: *Knee Stability under Time-Varying Multiple-Muscle Loads.* Amount $211,500 from 9/04 to 8/07

National Science Foundation (NSF-IREE): *IREE Experience: A Synergistic Research Endeavor with the University of Western Australia*. Amount: $21,900 from 5/07 to 8/07.

National Science Foundation (NSF-BES) RUI 0502638: *Undergraduate Research on ACL-Deficient Knee Stability and its Prevalence to Osteoarthritis*. Amount: $326,000 from 9/05 to 8/08.

National Science Foundation (NSF-BES) RUI 0201889: *Undergraduate Research on the Intelligent Prosthetic Arm Project.* Amount: $406,000 from 9/02 to 8/06.

National Institute of Health (NIH-Subaward) F32AR08389: *Biomechanics of Juvenile Rheumatoid Arthritis*. Amount: $52,000 from 10/95 to 9/97

National Aeronautics and Space Administration - Johnson Space Center (NASA/JSC) NGT70252: *A Computational Musculoskeletal Model of the Human Elbow and Forearm for Movement Analysis: With Application to Manned Space Operations*. Amount: $66,000 from 6/92 to 5/95

Private Donations – LEGS (LeTourneau Engineering Global Solutions): Initiative of deployment of low-cost prosthetic to Kenya. Amount: $150,000 from 9/04 to 12/06

Riverside Foundation – LEGS (LeTourneau Engineering Global Solutions): Initiative of deployment of low-cost prosthetic to Kenya, Bangladesh, and Sierra Leon. Amount: $10,000; Sept 2005.

M.E. Foundation – LEGS (LeTourneau Engineering Global Solutions): Initiative of deployment of low-cost prosthetic to Kenya, Bangladesh, and Sierra Leon. Amount: $15,000; Sept 2005.

Co-Investigator

National Institute of Health (NIH) R01 Subcontract AR40408: *Neural and Biomechanical Contributions to arm movement*. Amount $151,000 from 1/98 to 12/99, PI-Thomas S. Buchanan, Ph.D., University of Delaware

Teaching/Curriculum Grants

Principal Investigator / Program Director

National Science Foundation: (DUE 0087898) *Multi-disciplinary Biomedical Engineering: Preparing Future Engineers with Diverse Traditional and Specialized Skills.* Amount: $370,000 from 2/2001 to 1/2003.

LeTourneau University – Dept of Education Title III: Grant Development Workshop for LeTourneau University Faculty. Amount: $2,500 from 2005-06.

The Whitaker Foundation: *Undergraduate biomedical engineering concentration: educating future engineers for professional multi-disciplinary industrial and service careers and graduate school opportunities*. Amount: $780,000 over 3 years. (Finalist)

RESEARCH INTERESTS (PAST AND PRESENT)

- Additive Manufacturing of Multiphase Polymers
- Development of modular prosthetics for applications in the Developing World (LIMBS International).
- Determination of ACL loading patterns in dynamic knee movements.
- Development of the "Intelligent Prosthetic Arm" – i.e. the "next" generation of Bioprothetics
- The use of "Artificial Muscle" in the coordination of a skeletal model.
- Development of robust computational musculoskeletal models.
- Biomechanics of Juvenile Rheumatoid Arthritis: muscle pathokinesiology and joint degeneration.
- Determining muscle force patterns and magnitudes via *real-time* EMG - an "EMG-Driven Model"
- Quantifying how the musculoskeletal geometry and muscle architecture affect joint performance.
- Detailed computer graphic models of the human arm and hand as teaching tools and surgery simulation.
- Enhancing human performance via neural network - optimal control hybrid systems.
- Predicting and quantifying muscle fatigue in altered gravity environments.

Supervised Graduate Students / Visiting Professor

Lucas Galey, PhD – Development of an Affordable Intelligent Prosthetic Knee with Predictive Stumble Control

Jonathan Slager, PhD – Multi-material/Fiber/Particulate Selective Laser Sintering System Capable of Local Composition Control and Material Gradients

Rena Hale, PhD – Validation of error sonification auditory feedback training program on proper sagittal plane squat technique

Joshua Green, PhD – A new approach to multiplanar, real-time simulation of physiological knee loads and synthetic knee components augmented by local composition control in fused filament fabrication

Martin Sterling Dietze-Hermosa, PhD – Effects of an 8-week resisted sprint training program on ice skating speed, acceleration, and measures of athletic performance in mail ice hockey players (PhD committee member)

Dulce Gabriela Zamorano Orozco, MS – Design and development of a low-cost five-bar prosthetic knee with automatic mechanical locking mechanism

Lilliana Padilla, MS – Development of an affordable five-link mechanism prosthetic knee joint

Lucas Galey, MS – Development and initial testing of a low-cost electronic, microprocessor-controlled prosthetic knee

Joshua Bowen, MS – A low-cost customizable prosthetic foot with energy return capabilities

Stephen Wilson, MS – A methodology for physically-based contact and meniscus properties in rigid-body computational knee modeling

Michael Rask, MS – *Neural Network Based EMG Signal Processing to Reduce Torque Prediction Error in a Computational Model*

Rena Warren (Hale), MS – Estimation of Individual muscle forces in males and females during squatting and lunging and their load effect on the tibial plateau

Dr. C.S. Lee (*Hangdong University)* Visiting Research Professor on our Intelligent Prosthetic Arm

Invited Lectures (Selected)

"UK Undergraduate Engineering Education: Emphasis on Student Professional Development and Widening Participation"

- University College London, London, UK, March 2023

"Who Gets to Graduate: Access to Higher Education"

- University College London, London UK, July 2022
- Coventry University, Coventry UK, January 2023

"Helping the Poorest-of-the-Poor walk again: How we can all take steps to change a life"

- Keynote: PNACP Annual Meeting, Beaverton OR, March 2019
- Gala Keynote: MedTech Conference, Brussels Belgium, December 2016

"*The Need and Challenge for Sustainable Solutions*" Keynote Address: Origins and Originality: Keeping the Faith. Gordon College, Wenham, MA (March 2011)

"*Academic Leaders Series: "Ultra low-cost prosthetic solutions for the developing world – The need and challenge for sustainable solutions"* Instituto Technologico de Monterrey – Guadalajara (Oct 2010)

"*International Education International Engineering Education with LEGS: A Case Study of Working in Developing Countries"*

- Keynote Address: June 2009 NSF Louis Stokes Alliance National Conference, Washington, DC
- Distinguished Lecture Series: NSF-EEC Program Manager Seminar, Oct 2008
- 2007 ABET Annual Meeting: The Global Workforce: The Future of Technological Education.

"*Biomechanics for prosthetic design in the developed and developing world*", Northwestern University, Dept of Biomedical Engineering.

"*Active Learning: Using students in the lecture process*", University of Delaware, Dept of Mechanical Engineering

"*Computer Graphic Models of Adolescent Wrists with Juvenile Rheumatoid Arthritis*", Northwestern University Medical School, Department of Physical Medicine and Rehabilitation, Research Grand Rounds.

"*Upper Extremity Musculoskeletal Models: Their Development and Application*"

- University of New Mexico, Department of Mechanical Engineering, Albuquerque, NM.
- Iowa State University, Departments of Biomedical Eng and Exercise Science, Ames, IA.

"*A Computational Musculoskeletal Model of the Human Elbow and Forearm for Ballistic Movement Analysis*"

- Johns Hopkins Medical School, Department of Orthopedic Surgery, Baltimore, MD.
- Rehabilitation Institute of Chicago, Sensory Motor Performance Program, Chicago, IL.
- NASA Johnson Space Center, Houston, TX.

"*Computational Biomechanics & Motor Control: Modeling the Upper Extremity*"

- The Univ of Texas at El Paso, Departments of Mechanical Engineering and Kinesiology, El Paso, TX.
- The Univ of Texas at El Paso, College of Nursing and Health Sciences, El Paso, TX.

"*Elbow Joint Research Using Computational Biomechanics and Electromyography*", Providence Memorial Hospital, Department of Physical-Occupational Therapy and Rehabilitation. El Paso, TX.

"*Wrist Joint Strength: Relationship to Muscle Architecture and Geometry*", Rio Vista Rehabilitation Hospital, El Paso, TX.

PUBLICATIONS

Peer-Reviewed Journal Articles

Galey, L; **Gonzalez, RV** (2024). Transfemoral Amputee Stumble Induction Dataset. Figshare Dataset. https://doi.org/10.6084/m9.figshare.25308943.v1

Galey L, Fuentes O, **Gonzalez RV**. Transfemoral Amputee Stumble Detection through Machine-Learning Classification: Initial Exploration with Three Subjects. *Prosthesis*. 2024; 6(2):235-250. https://doi.org/10.3390/prosthesis6020018

Galey L, Beckmann G, Ramos E, Rangel F, **Gonzalez, RV** (2023). "Design and Validation of a Cost-Constrained Hydraulic, Microprocessor Knee Prosthesis Using a Kinematic Analysis Model" *Biomechanics* **2023**, *3*(4), 493-510; https://doi.org/10.3390/biomechanics3040040

Green J, Rybak IA, Slager JJ, Lopez M, Chanoi Z, Stewart CM, **Gonzalez RV** (2023) "Local Composition Control using an Active-mixing Hotend in Fused Filament Fabrication." *Additive Manufacturing Letters* 13-Oct-2023. https://doi.org/10.1016/j.addlet.2023.100177

Green J, Flores M, Hernandez I, Lopez M, Geise L, Delgado PC, Rybak IA, **Gonzalez RV** (Submitted). "Fiber Volume Fraction Control of Thermoplastic Composites quantified micro-computed tomography" *Additive Manufacturing Letters*.

Slager J, Green J, Chanoi Z, O'Brien D, Levine, **Gonzalez RV** (Submitted). Multi-Material Powder Bed Fusion System Design and Operation. *Additive Manufacturing Letters*

Slager J, Green J, Proctor L, **Gonzalez RV** (2023). Selective Laser Sintering Print Orientation and Tensile Characterization of Mechanically Blended Polyamide 12/Carbon Fiber Composites. *Additive Manufacturing Letters* (*in preparation*, 2023)

Slager J, Green J, Levine, **Gonzalez RV** (2024) Multi-Material Selective Laser Sintering Single Edge Notch Tensile Characterization of Functionally Graded Polyamide 12 and Carbon Fiber Blends. Journal TBD (*in preparation*, 2024)

Slager J, O'Brien D, Chanoi Z, Levine, **Gonzalez RV** (2024) Selective Laser Sintering System Capable of Multi-Material builds with functional material gradients. Additive Manufacturing Letters (*in preparation*, 2023)

Slager J, Green J, Levine, **Gonzalez RV** Strength and Crack Propagation Characteristics of Selectively Sintered PA12 Single Edge Notch Tensile Specimens with Binary gradients of CF. Journal TBD. (*in preparation*, 2024)

Galey, L., **Gonzalez, RV.** Transfemoral Amputee Walking and Stumbling Database from Prosthetic IMU. *Springer* (*in preparation*, 2024)

Galey L., and **Gonzalez, RV**. (2022) Design and initial evaluation of a low-cost microprocessor-controlled above-knee prosthesis: a case report of 3 patients. Pr*osthesis* 4, 60-72. https://doi.org/10.3390/prosthesis4010007

Hale R, Dorgo S, **Gonzalez, RV**, Hausselle, J. (2020) The efficacy of simultaneously training two motion targets during a squat using auditory feedback. *Journal of Applied Biomechanics*. 1, 1-7

Wilson S, Hausselle J, Guess TM, **Gonzalez RV** (2019). Rigid-body modeling of knee cartilage and meniscus using experimental pressure-strain curves. Computer Methods in Biomechanics and Biomedical Engineering, DOI: 10.1080/10255842.2019.1569639.

Hale R, Green J, Hausselle, J, **Gonzalez RV** (2018). Quantified *In-Vitro* tibiofemoral contact during a bodyweight back squat. Journal of Biomechanics 79 (2018) 21-30.

Bowen, J., Hausselle, J., **Gonzalez, R.V.** (2018). A Low-Cost Customizable Prosthetic Foot with Energy Return Capabilities. *Prosthetics and Orthotics Open Journal, Vol 2 No 1:1*

Green J, Hale R, Hausselle J, **Gonzalez RV**. (2017) A Reconfigurable Multiplanar in vitro Simulator for Real-time Absolute Motion with External and Musculotendon Forces. ASME. J Biomech Eng. 139 (2017) 1-11: doi:10.1115/1.4037853.

Hale, R., Hausselle, J.G. and **Gonzalez, R.V.** (2014) A preliminary study on the differences in male and female muscle force distribution patterns during squatting and lunging maneuvers. *Computers in Biology and Medicine, 52: 57-65*

Hale, R. Dorman, D., and **Gonzalez, R.V.** (2011) Individual Muscle Force Parameters and Fiber Operating Ranges for Elbow Flexion-Extension and Forearm Pronation-Supination. *Journal of Biomechanics, 44: 650-56.*

Ramsay, J., Hunter, B.V., and **Gonzalez, R.V.** (2009) Muscle Moment Arm and Normalized Moment Contributions as Reference Data for Musculoskeletal Elbow and Wrist Joint Models. *Journal of Biomechanics*, 42(4): 463-73.

Lee, C.S. and **Gonzalez, R.V.** (2008) Fuzzy Logic versus a PID Controller for Position Control of a Muscle-like Actuated Arm, *Journal of Mechanical Science and Technology*, Vol.22(8): 1475-82.

Shull, J, Lopez, J, **Gonzalez, R.V.** (2006) Real-time EMG- and Haptic- Teleoperated Robotic System for Motor Control Analysis *Journal of Neuroscience Methods*, 151(2):194-9.

Rask, M.R, Barr, R.E., and **Gonzalez, R.V.** (2004) Genetically-Designed Neural Networks for Error Reduction in an Optimized Biomechanical Model of the Human Elbow Joint Complex. *Computer Methods in Biomechanics and Biomedical Engineering*, 7(1), pp. 43-50.

Manal, K., **Gonzalez, R.V.,** Lloyd, D.G., and Buchanan, T.S. (2002) A real-time EMG-Driven virtual arm. *Computers in Biology and Medicine* 32: 25-36.

Nieuwenhuis M.K., **Gonzalez R.V.**, van der Net J., Kuis W., Beek F.J.A., Buchanan T.S., Helders P.J.M. (2001) The role of the forearm muscles related to wrist malalignment in juvenile chronic arthritis. *Advances of Physiotherapy* Vol. 3(3), pp. 108-19.

Gonzalez, R.V., Abraham, L.D., Barr, R.E., and Buchanan, T.S. (1999) Muscle activity in rapid multi-degree-of-freedom elbow movements: solutions from a musculoskeletal model. *J. of Biol. Cybernetics* Vol. 80(5), pp. 357-67.

Gonzalez, R.V., Buchanan, T.S., and Delp, S.L. (1997) Interplay of muscle moment arms and architecture in the human wrist. *J. Biomechanics* Vol. 30(7), pp. 705-12.

Lester, W.T., **Gonzalez, R.V.**, Fernández, B., and Barr, R.E. (1997) A neural network approach to electromyographic signal processing for a motor control task. *ASME J. Dynamic Systems, Measurement, and Control* Vol. 119.

Gonzalez, R.V., Hutchins, E.L., Barr, R.E., and Abraham, L.D. (1996) Development and evaluation of a musculoskeletal model of the elbow joint complex. *ASME J. Biomechanical Engineering* Vol. 118(1), pp. 32-40.

Hutchins, E.L., **Gonzalez, R.V.**, and Barr, R.E. (1993) Comparison of experimental and analytical torque-angle relationships of the human elbow joint complex. *Biomed Sci Instrum.*;29:17-24.

Gonzalez, R.V., Andritsos, M.J., Barr, R.E., and Abraham, L.D. (1993) Comparison of Experimental and Predicted Activation Patterns in Ballistic Elbow Joint Movements. *Biomed Sci Instrum.* 29:9-16.

Peer Reviewed Conference Proceedings & Abstracts

Campos-Valles, P.E., Green J.T., McKee, J.W., **Gonzalez, R.V.** (2024) A technique for tailoring composition in thermoformed prosthetic sockets evaluated using an empathic socket. *South-Central American Society of Biomechanics*. Ft Worth, TX, April 2024.

Delgado, P., Green, J., **Gonzalez, R.V**. (2023) Apparent softening in additively manufactured synthetic ligaments due to joint rotation. *2023 SACNAS National Diversity in STEM Conference*, Portland, OR, October, 2023.

Golding, P., Starks, S.A., **Gonzalez, R.V**., Kendall, M.R., Novick, D.G., and Joslyn, C.H. (2021), Leadership in Engineering Innovation and Entrepreneurship, *2021 ASEE Virtual Annual Conference,* https://peer.asee.org/37422

Sanchez B, **Gonzalez RV.** (2020) Post-processing and Heat-treatment Techniques to Improve Multimaterial Print Quality. *COURI Summer 2020 Symposium Abstracts, ID = 57*

Sanchez B, **Gonzalez RV**. (2020) Unified heater system to control temperature profile of printed parts during fused filament fabrication. *COURI Spring 2020 Symposium Abstract, ID = 40*

Manal, K., Green, J., **Gonzalez, R.V.** (2018) Anatomical Model Evaluation Using *In-Vitro* Squat Simulation. *42nd Annual American Society of Biomechanics Conference*, Rochester, MN, August, 2018.

Kendall, M.R., Martinez, E., Salas, C., **Gonzalez, R.V.** (2018) Integrating Engineering Leadership Throughout an Undergraduate Engineering Degree. *Frontiers in Engineering Education Conference,* El Paso, TX, October, 2018.

Garcia, D; Galey, L; Nystrom, A; **Gonzalez, R**. (2018) Development of a low-cost prosthetic ankle device to enhance the performance of a basic prosthetic foot. *UTEP DISCOVER 2018: COURI Spring Symposium* Abstracts, ID= 1322

Aranda, L; Galey, L; **Gonzalez, R**. (2018) Kinematic analysis and hydraulic integration of a mechanical four-bar prosthetic knee. UTEP DISCOVER 2018: COURI Spring Symposium Abstracts, ID= 1270

Golding, P., **Gonzalez, R**., Kendall, M., Moreno, G., Scheophoerster, R., Starks, S. (2016) Bridging the Divide: Pathways to Building Engineering Education & Leadership at a Public, Urban University having a 21st Century Demographic. *Engineering and Liberal Education Symposium*, Union College, Schenectady, NY, June, 2016.

Hale, R., Hausselle, J., Dorgo, S., & **Gonzalez, R.V.** (2016) Validation of an Error Sonification Auditory Feedback Training Program., *40th Annual American Society of Biomechanics Annual Conference*, Raleigh, NC, August, 2016.

Hale, R., Hausselle, J., **Gonzalez, R.V.,** & Dorgo, S. (2016) Effect Of Center Of Pressure On Sagittal Plane Form At Maximum Depth Of A Bodyweight And Weighted Back Squats., *9th Annual NSCA National Conference*, New Orleans, LA, July, 2016.

Lopez, V ; Green, J; **Gonzalez, R**. (2016) Variable Composition Control in 3D Printing. *COURI Symposium Abstracts, Summer 2016, ID= 904*

Aranda, L., **Gonzalez, R**., Nystrom, A., Robles, M., Melendez, N. (2016) Fatigue Performance Evaluation of Multiple Prosthetic Feet Used in the Developed World. *2016 BUILD Symposia, UTEP*

Robles, M., Aranda, L., Melendez N., Nystrom, A., **Gonzalez, R.** (2016) Fatigue Performance Evaluation of Prosthetic Component Designs for Use in the Developing World. *2016 BUILD Symposia, UTEP*

Fernandez, A., Delgado, E., Montoya, Y., **Gonzalez, R**., Vaughan, M. (2015) Student Led Curriculum Development and Instruction of Introduction to Engineering Leadership Course. *Frontiers in Engineering Education Conference*, El Paso, TX, Oct, 2015.

Golding, P., **Gonzalez, R**., Moreno, G., Scheophoerster, R., Starks, S., Townsend, J., Vaughan, M. (2015) 21st Century Engineering Leadership Education. *Frontiers in Engineering Education Conference*, El Paso, TX, Oct, 2015.

Gonzalez, R., Scheophoerster, R., Townsend, J., (2015) Engineering Leadership: A New Discipline. *ASEE Annual Conference*, Seattle, WA, June, 2015.

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Vaughan, M., and **Gonzalez, R.V.** (2006) Roll-over Shapes: Common Prosthetic Feet used in Developing Countries and Their Roll-over shapes. *ASME Student Regional Conference,* Fayetteville, AR, Mar, 2006.

Ness, K., and **Gonzalez, R.V.** (2005) Engineering Design of Lower Extremity Prosthetic for High Ambulation Patients in Developing Nations. *ASME Student Regional Conference,* Lubbock, TX, Mar, 2005. **2nd Place Presentation**

Minelga, E., and **Gonzalez, R.V.** (2005) Prosthesis design for developing nations. *ASME Student Regional Conference,* Lubbock, TX, Mar, 2005. **1st Place Poster**

Plymale, S., and **Gonzalez, R.V.** (2004) An EMG-Driven Fuzzy Logic Controller of a Mechanical Arm. *ASME National Congress,* Anaheim, CA, Nov, 2004. **1st Place Presentation – National Award**

Plymale, S., and **Gonzalez, R.V.** (2004) An EMG-Driven Fuzzy Logic Controller of a Mechanical Arm. *ASME Student Regional Conference,* Longview, TX, March, 2004. **1st Place Presentation & Best Technical**

Ness, K., and **Gonzalez, R.V.** (2004) Intelligent Prosthetic Arm: Quantifying Arm Movement. *ASME Student Regional Conference*, Longview, TX, March, 2004.

Matthews, M., and **Gonzalez, R.V.** (2004) Neuromuscular Adaptation of Human Arm Movements. *ASME Student Regional Conference*, Longview, TX, March, 2004. **2nd Place Poster**

Bassett, D., and **Gonzalez, R.V.** (2003) Robotic Validation of a Computational Knee Model. *ASME National Congress,* Washington DC, Nov, 2003.

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Slager, J, and **Gonzalez, R.V.** (2001) Next Generation Prosthetic. *ASME National Congress*, New York, NY, Nov, 2001.

Slager, J, and **Gonzalez, R.V.** (2001) Next Generation Prosthetic. *ASME Student Regional Conference*, Tulsa, OK, March 2001. **1st Place Presentation & Best Technical**

Johnston, J., and **Gonzalez, R.V.** (2001) Neuromuscular-Based Control of a Prosthetic Limb. *ASME Student Regional Conference*, Tulsa, OK, March 2001.

Jeffers, J., and **Gonzalez, R.V.** (2001) Analysis of Muscular Activation in the Human Arm During Static and Dynamic Exertion. *ASME Student Regional Conference*, Tulsa, OK, March 2001.

Hvass, P, and **Gonzalez, R.V.** (2000) The intelligent prosthetic arm. *ASME National Congress*, Orlando, FL, Nov, 2000.

Hvass, P, and **Gonzalez, R.V.** (2000) The intelligent prosthetic arm. *ASME Student Regional Conference*, Lafayette, LA, March 2000. **1st Place Presentation & Best Technical**

Brodine, M, and **Gonzalez, R.V.** (2000) Modeling neuromuscular control in a pneumatic prosthetic limb. *ASME Student Regional Conference*, Lafayette, LA, March 2000.

Trammell, M, and **Gonzalez, R.V.** (2000) Analysis of Pneumatic Muscles for Prosthetic Limb Movement. *ASME Student Regional Conference*, Lafayette, LA, March 2000.

Rask, M. and **Gonzalez, R.V.** (1999) The virtual human arm. *ASME National Congress*, Nashville, TN, Nov, 1999.

Rask, M. and **Gonzalez, R.V.** (1999) The virtual human arm. *ASME Student Regional Conference*, Fayetteville, AR, March 1999. **1st Place Presentation & Best Technical**

Edmunds, J. and **Gonzalez, R.V.** (1999) The virtual human arm: optimal control's role in determining muscle parameters. *ASME Student Regional Conference*, Fayetteville, AR, March 1999.

Mondy, A. and **Gonzalez, R.V.** (1999) Servo-motor control of human arm kinematics in virtual reality modeling. *ASME Student Regional Conference*, Fayetteville, AR, March 1999.

Warren, S. and **Gonzalez, R.V.** (1998) Fuzzy PD control with simulated proprioceptive feedback of disproportionately loaded artificial muscle actuators in a dual revolute system. *ASME Student Regional Conference*, College Station, TX, April 1998. **1st Place Presentation & Best Technical**

Culver, A. and **Gonzalez, R.V.** (1998) Mechanical characterization of polyacrylonitrile fibers: comparison with human muscle performance. *ASME Student Regional Conference*, College Station, TX, April 1998.

Morrison, I. and **Gonzalez, R.V.** (1998) Dynamic control of artificial muscles across two human elbow joints. *ASME Student Regional Conference*, College Station, TX, April 1998.

Thielman, J. and **Gonzalez, R.V.** (1997) Physical model of human elbow joint using PAN fiber artificial muscles. *ASME Student Regional Conference*, Dallas, TX, April 1997. **2nd Place Presentation & Best Technical**

Lee, C. and **Gonzalez, R.V.** (1997) Artificial muscles across the human elbow. *ASME Student Regional Conference*, Dallas, TX, April 1997.

TEACHING

Courses at LeTourneau University & The University of Texas at El Paso (UTEP)

Dynamics
Mechanical Vibrations

Statics
Mechanics of Materials
Robotics and Manufacturing Applications
Biomechanics of Human Movement
Musculoskeletal Biomechanics
Introduction to Biomechanics
Trauma Biomechanics
Injury Biomechanics
Biomedical Research
Advanced Biomechanics
Biomedical Engineering Seminar
Biomedical Engineering Internship
Mechanisms and Kinematics
Engineering Project Management
Senior Design I & II
Advanced Robotics
Advanced Vibrations
ASME Design
Introduction to Engineering Design and Leadership
Capstone Senior Design I: Definition & Exploration
Capstone Senior Design II: Development & Evaluation

Courses at The University of Texas at Austin

Dynamics
Biomechanics of Human Movement
Biosignal Analysis

Courses at Northwestern University

Musculoskeletal Biomechanics	3 ninety-minute lectures

University of Guanajuato at Salamanca

8-hour seminar on Biomechanics (in Spanish)

Unscheduled Teaching: Advising/Mentor (selected)

Masters Students for whom I have served as appointed advisor:

6 in Biomedical Engineering	Thesis Research
3 in Mechanical Engineering, Biomedical Emphasis	Thesis Research
1 in Electrical Engineering, Biomedical Emphasis	Thesis Research
3 in Biomedical Engineering	Class Projects: Biosignal Analysis
1 visiting scholar from The Netherlands	Thesis Project @ NWU

Undergraduate Students for which I have served as project advisor:

10 in Mechanical Engineering	NSF Minority Summer Research Internship
8 in Mechanical Engineering	Class Projects: Biomechanics
9 ME/EE Senior Design Students at LeTourneau University	SMART Arm Muscle Project
38 ME Senior Design Students at LeTourneau University	Virtual Arm Project
25 Junior Design Students at LeTourneau University	Virtual Arm Project
30 ME/EE Senior Design Students at LeTourneau University	Intelligent Prosthetic Arm
3 Junior Design Students at LeTourneau University	Intelligent Prosthetic Arm
25+ ME/EE Senior Design Students at LeTourneau University	ACL Deficient Knee

Undergraduate Students as BME Research Assistants on Projects at LeTourneau University (selected)

1996-97	1997-98	1998-99	1999-2000	2000-2001
Jeff Thielman	Scott Warren	Scherm, Kris	Paul Hvass	Jonathan Slager
Craig Smokowicz	Ian Morrison	Edmunds, Jeff	Mark Trammell	Karl Scherm
Heather Bock	Adam Culver	Peterson, Eric	Matt Brodine	Trevor Hardy
Chris Lee	Seth Norton	Rask, Michael	Andy Dorsett	Joshua Johnston
Seth Norton	Kim Daharsh	Mondy, Andy	Jerek Hodge	Aaron Nystrom
Glen Collison	Philip Harms	Medin, Timothy	Jonathan Slager	Cari Bickel
	Joel Solis		Jonathan Markely	Brad Swenson

2001-2002	2002-03		2003-04	
Andrea Kirkendall	Dan Bassett	Elliott Downing	Betsy Hunt	Sarah Plymale
Heather Luman	Andrew Jones	Matt Ulrich	Scott Campbell	Ryan Decker
Karen Nollmeyer	Joe Gardineir	Dan (Sven) Voss	Peggy Martin	Kristen Ness
Marcus Tefend	Carly Vanderwoude	Matt Bullpit	Tim Stafford	Glen Edwards
Juan Lopez	Josh Griffin	Scott Campbell	Derek Fitchett	Carly Vanderwoude
Thomas Elliott	Josh Webb	Dan Lockhart	Jennifer Davis	Eliot Landrum
Elliott Downing	Betsy Hunt	Sarah Plymale	David Buchanan	Dan Huizenga
	Sean Smith	Lindsey Conrotto	Megan Matthews	Gabe Bodeen
	Andy Stern	Jeremy Cooper	Becca Ward	Pete Shull
	Dan Hillman	Eric Martin		
	Courtny McCoullum	Megan Matthews		

2004-2005 (IPA)		2004-2005 (LEGS)	2005-2006 (LEGS)	
Frank Dancer	Jacob Maples	Kristin Ness	Youg-Jun Chun	Andres Montero
Gabe Bodeen	Justin Nielson	Eric Minelga	Michael Kindel	Jonathan Palmer
Yong Jun Chun	Rhett Rigby	David Eaton	Dave Hufft	David Dittenber
Brain Vanderwoude	Josiah Sanner	Caleb Roepke	Shannon Toews	Micah Casteel
Jeremiah Bastian	Pete Shull	Youg-Jun Chun		Meagan Vaughan
Derek Fitchett	Linda Griffin	John Ramsay		
Josh Friesenhahn	Beth Horner			
Matthew Hammer	Becca Inwards			

2005-06 (IPA-ACL)		2006-07 (ACL)	
Derek Fitchett	Jake Kobliska	Matt Wisher	Andres Montero
Jacob Maples	Eric Burkholder	Ashley Capps	Beth Suderman
Nathan Pegors	Rhett Rigby	Cedric Charles	Damon Stokes
Josh Friesenhahn	Josh Bowen	Dan Field	David Robbins
Eric Perry	Cedric Charles	Jessica Niemi	John Ramsay
John Ramsay	Minu Valayil	Jon Maglott	Josh Bowen
Jeff Anderson	Nathan Green	Matt Szelistowski	Mike Netecke
Jed Reutter	Josh Blakely	Nathan Green	

2005-06 (LEGS)		2006-07 (LEGS)	
Jonathan Palmer	Richard Baumer	Richard Baumer	Joel Fielder
Micah Casteel	David Dittenber	Micah Casteel	Jason Norris
Leon Fulginiti	Tasha Hennings	Wes Downing	Tasha Hennings
Molly Moran	Ryan Norton		Ryan Potter
Ryan Potter	Meagan Vaughan		

2007-08 (ACL)

John Ramsay	Doug Glidden
Joshua Friesenhahn	Beth Suderman
Cedric Charles	Misty Harper
Jordan Davis	Craig Hawthorne
Jessica Maglott	Tim Hutchins
Leon Fulginiti	David Poe
Matt Szelistowski	Justin Rowe
Zach Fuller	Michael Similia
Jordan Sturdy	Kayle Sumrall
Daniel Wert	Kayla Terrall

2008-09 (ACL-TE)

Richard Godley	Josh Blakely
Craig Hawthorne	Jacob Lind
Josh Green	Josh Harper
Micah Maliskas	Sam Person
Justin Rowe	Dan Dorman
Michael Simila	Erik Benson
Dan Wert	Eric Prickett
Michael Johnson	Jordan Sturdy
Josh Trosen	

Selected undergraduate research students in my lab: Acceptance into Graduate School (selected)

Massachusetts Institute of Technology
Richard Baumer, Andrew Valiente

Stanford
Josh Webb, Pete Shull, Elliott Downing, Matt Ulrich

University of Arizona
Elliott Downing, Andrea Kirkendall, Gabe Bodeen

University of Pennsylvania
Matt Ulrich

UT El Paso
Rena Warren-Hale, Joshua Green, Jonathan Slager, Lucas Galey

Georgia Tech
Matt Ulrich, Josh Griffin, Heather Luman, Dan Lockhart

Berkeley
Josh Webb

Johns Hopkins
Sarah Plymale

Penn State
Matt Ulrich

Texas A&M
Josh Griffin

University of Colorado
Josh Griffin

UT Austin
Paul Hvass, Mike Rask, Dennis Tweeten, Meagan Vaughan, Matthew Wisher

Ohio State
Seth Norton

University of Delaware
Eric Peterson, Dan Bassett, Joe Gardinier, John Ramsay

Colorado School of Mines
Caleb Roepke

Louisiana Tech
Juan Lopez

University of Washington
Eric Minelga

University of Southern California
Derek Fitchett

Washington State University
Beth Suderman

PROFESSIONAL ACTIVITIES (SELECTED)

Research Affiliations & Collaborations (past and present)

University of Delaware, Dr. Thomas Buchanan, Virtual Human Arm
University of Texas at Austin, Dr. Ronald Barr, Upper Extremity Biomechanics
University of Washington, Glenn Klute, Pneumatic Artificial Muscles
Southwest Research Institute, Dan Nicolella, Senior Research Engineer, Materials and Structures Division

Faculty Advisor

LeTourneau's ASME Student Section 9/96 – 9/08

Society of Women Engineers 9/04 – 9/12

Undergraduate Student-Advisor Research Awards (selected)

1st Place Presentation	ASME National Congress, Anaheim, CA (Sarah Plymale)	Nov, 2004
1st Place Presentation	ASME Regional Conference, Longview, TX (Sarah Plymale)	March, 2004
Best Technical Presentation	ASME Regional Conference, Longview, TX (Sarah Plymale)	March, 2004
3rd Place Poster Award	ASME Regional Conference, Longview, TX (Megan Matthews)	March, 2004
1st Place Presentation	ASME Regional Conference, Houston, TX (Dan Bassett)	March, 2003
Best Technical Presentation	ASME Regional Conference, Houston, TX (Dan Bassett)	March, 2003
1st Place Paper Award	ASME National Congress, New Orleans, LA (Kirkendall, et al.)	Nov, 2002
2nd Place Presentation	ASME Regional Conference, Kingsville, TX (Andrea Kirkendall)	March, 2002
1st Place Poster Award	ASME Regional Conference, Kingsville, TX (Juan Lopez)	March, 2002
4th Place Presentation	ASME National Oral Competition, New York, NY (Jay Slager)	November, 2001
1st Place Presentation	ASME Regional Conference, Tulsa, OK (Jay Slager)	March, 2001
Best Technical Presentation	ASME Regional Conference, Tulsa, OK (Jay Slager)	March, 2001
2nd Place Nationally	ASME National Oral Competition, Orlando, FL (Paul Hvass)	November, 2000
1st Place Presentation	ASME Regional Conference, Lafayette, LA (Paul Hvass)	March, 2000
Best Technical Presentation	ASME Regional Conference, Lafayette, LA (Paul Hvass)	March, 2000
2nd Place Poster Award	ASME Regional Conference, Lafayette, LA (Matt Brodine)	March, 2000
2nd Place Nationally	ASME National Oral Competition, Nashville, TN (Michael Rask)	November, 1999
1st Place Presentation	ASME Regional Conference, Fayetteville, AR (Michael Rask)	March, 1999
Best Technical Presentation	ASME Regional Conference, Fayetteville, AR (Michael Rask)	March, 1999
1st Place Poster Award	ASME Regional Conference, Fayetteville, AR (Jeff Edmunds)	March, 1999
3rd Place Poster Award	ASME Regional Conference, Fayetteville, AR (Andy Mondy)	March, 1999
1st Place Design Contest	ASME Regional Conference, Fayetteville, AR (various)	March, 1999
3rd Place Design Contest	ASME Regional Conference, Fayetteville, AR (various)	March, 1999
1st Place Presentation	ASME Regional Conference, College Station, TX (Scott Warren)	April, 1998
Best Technical Presentation	ASME Regional Conference, College Station, TX (Scott Warren)	April, 1998
1st Place Poster Award	ASME Regional Conference, College Station, TX (Adam Culver)	April, 1998
2nd Place Poster Award	ASME Regional Conference, College Station, TX (Ian Morrison)	April, 1998
2nd Place Presentation	ASME Regional Conference, Dallas, TX (Jeff Thielman)	April, 1997
Best Technical Presentation	ASME Regional Conference, Dallas, TX (Jeff Thielman)	April, 1997
1st Place Poster Award	ASME Regional Conference, Dallas, TX (Chris Lee)	April, 1997

Undergraduate Student ASME Design Competition (Technical Advisor)

4th Place Internationally	ASME National Design Competition, Vancouver, BC (Jenson, et al.)	November, 2010
1st Place District E	ASME National Design Competition, Tulsa, OK (Jenson, et al.)	March, 2010
2nd Place District E	ASME National Design Competition, Tulsa, OK (Roskos, et al.)	March, 2007
3rd Place District E	ASME National Design Competition, Fayetteville, AR (Ayers, et al.)	March, 2006
3rd Place Internationally	ASME National Design Competition, Anaheim, CA (Connor, et al.)	November, 2004
1st Place Region X	ASME National Design Competition, Longview, TX (Connor, et al.)	March, 2004
2nd Place Internationally	ASME National Design Competition, Washington, DC (Montesinos, et al.)	November, 2003
1st Place Region X	ASME National Design Competition, Houston, TX (Montesinos, et al.)	March, 2003
4th Place Internationally	ASME National Design Competition, New Orleans, LA (Edwards, et al.)	November, 2002
1st Place Region X	ASME National Design Competition, Kingsville, TX (Edwards, et al.)	March, 2002
2nd Place Region X	ASME National Design Competition, Kingsville, TX (Tanner, et al.)	March, 2002
3rd Place Region X	ASME National Design Competition, Kingsville, TX (Rosene, et al.)	March, 2002
3rd Place Internationally	ASME National Design Competition, New York, NY (Matthew Vernon, et al.)	November, 2001
1st Place Region X	ASME National Design Competition, Tulsa, OK (Matthew Vernon, et al.)	March, 2001
2nd Place Region X	ASME National Design Competition, Tulsa, OK (Lyles, Watson)	March, 2001
4th Place Internationally	ASME National Design Competition, Orlando, FL (Swanbom, Dettmer)	November, 2000
1st Place Region X	ASME National Design Competition, Lafayette, LA (Swanbom, Dettmer)	March, 2000
7th Place Internationally	ASME National Design Competition, Nashville, TN (Chad Buher, et al.)	November, 1999
1st Place Region X	ASME National Design Competition, Fayetteville, AR (Chad Buher, et al.)	March, 1999
3rd Place Region X	ASME National Design Competition, Fayetteville, AR (Edmunds, et al.)	March, 1999

University Committee Assignments

Teaching Faculty Organization (*i.e. Faculty Senate – LeTourneau University*)

Past President	2002-2004
President	2000-2002
Vice-President	1999-2000

Chairman

University Committee on Faculty Scholarship	2008-10
Institutional Review Board	2008-Present
TFO Academic Affairs	1999-2004
Student Affairs	1999-2000
TFO Research Affairs	2004-2005
Advancement	2005-2006

Member

Engineering Search Committee	2010-11
Presidential Strategic Planning	2008-10
Tenure and Review	2005-08
Presidential Transition	2006-07
Admissions and Standards	2004-05
Masters of Engineering	2003-05
Engineering Continuous Improvement (ABET Prep)	2001-05
Academic Policies	2003-04
CARE Committee	2002-03
TFO: Research Affairs Committee	2002-04
Engineering Dean Search Committee	2001
ABET 2000 Accreditation Committee	2001-03
TFO Interpersonal Affairs Committee	2000-01
Social Activities	2000-01
Kinesiology Division Chairman Search	2000
Feasibility for Masters of Engineering	1998-2000
Computer Science Faculty Search	1998-1999
Accreditation & Assessment	1998-99
Information Technology	1996-97
Information Technology, Academic sub-committee	1997
Mechanical Engineering Faculty Search	1997-98
Information Technology Director Search	1998
Student Affairs	1997-99

Honorary Societies (Elected, Past & Present)

Tau Beta Pi	National Engineering Honor Society
Pi Tau Sigma	National Mechanical Engineering Honor Society
Phi Kappa Phi	National Honor Society

Memberships in Professional Organizations (Past & Present)

Member	American Society of Mechanical Engineers (ASME)
Member	American Society of Biomechanics (ASB)
Member	International Society of Biomechanics (ISB)
Member	Biomedical Engineering Society
Member	Society of Hispanic Professional Engineers (SHPE)
Member	Texas Society of Professional Engineers (TSPE)
Member	American Society of Engineering Education (ASEE)

Review Panels

NSF CCLI Proposal Review Panel (5 times)
NSF BES Proposal Review Panel
NSF SBIR Proposal Review Panel
NSF REU Proposal Review Panel

Editorial Service

Journal of Biomechanics
Journal of Biomechanical Engineering
Journal of Biological Cybernetics
Journal of Applied Biomechanics
Journal of the Royal Society Interface
Journal of Higher Education
Journal of Anatomy
NASA Technical Reports
Presence: Virtual Environments and Teleoperation
Archives of Physical Medicine and Rehabilitation

Professional Conference Session Chair

Houston Society of Engineering Medicine and Biology (2 times)

MEDIA PUBLICITY (SELECTED)

DATE	SOURCE	ARTICLE
February, 2011	laRazon (Bolvian News)	“Una protesis permite a personas sin piernas volver a hacer deporte”
March, 2010	Engineering for Change	“Durable, Cheap Prosthetic Knee is Tested for Developing Countries”
February, 2010	O&P Edge Magazine	“R&D Ethics: The case of the $20 Knee”
December 2, 2009	FoxNews.com	“David vs. Goliath: Colleges Battle Over Prosthetic Knee Invention”
December 1, 2009	Longview News Journal	“Credit Due: LeTourneau Deserves Acclaim for Prosthetic Knee”
November 25, 2009	San Francisco Chronicle	“Did Stanford Knee Project Get a Leg Up?”
November 24, 2009	KLTV.com	“LeTourneau University Calls for TIME Magazine Retraction”
November 23, 2009	Inside Higher Ed	“LeTourneau Challenges Stanford on its Invention”
November 22, 2009	The Chronicle of Higher Ed	“Small University Accuses Stanford of Cribbing Idea for .. Knee”
November 16, 2009	The Economic Times of India	“Controversy mars Jaipur Knee’s TIME fete”
November 14, 2009	Longview News Journal	“LeTourneau Stakes Claim on Prosthetic Knee”
November 12, 2009	KLTV.com	“LeTourneau Questions TIME’s Top 100 List”
July 6, 2008	The Dallas Morning News	"Group hopes prosthetics foster independence in Sierra Leone"
May 21, 2008	Longview News-Journal	"LEGS program gains world exposure"
May 11, 2008	Tyler Paper	"LeTourneau University Students Collaborate Globally"
May 9, 2008	KLTV.com	"LeTourneau Prosthetics Teams on Medical Mission"
May 4, 2008	Longview News-Journal	"LeTourneau's Gonzalez receives school's first Piper Award
March 6, 2008	Longview News-Journal	"LeTourneau students' ACL study probes workings of knees"
October 8, 2007	Longview News-Journal	"Rehabilitation team joins effort to help amputees"
June 24, 2007	Longview News-Journal	"LEGS success earns area students honors"
May 6, 2007	Longview News-Journal	"PT students to help LeTourneau with LEGS project"
April 3, 2007	Longview News-Journal	"University send LEGS to Bangladesh"

December 27, 2006	Waxahachie Daily Light	"Giving…hope…LEGS"
December 26, 2006	The Citizen's Voice	"Local college student will take gift of mobility to poorer nations"
November 17, 2006	Chronicle of Higher Ed	Texas Students engineer hope for amputees
October 12, 2006	Longview News-Journal	"Pine Tree students learn about LeTourneau prosthesis program"
September 27, 2006	KLTV.com	"LETU Receives Money For Knee Research"
September 27, 2008	Longview News-Journal	"LeTourneau study seeks knee injury options"
September 27, 2008	Tyler Morning Telegraph	LeTourneau University Awarded More Than $200,000 For … "
March 14, 2006	Houston Chronicle	"LeTourneau's project offers a better path for amputees"
March 14, 2006	Longview News-Journal	"Editorial: New Life- LEGS program shares technology and hope"
March 14, 2006	Longview News-Journal	"Prosthetics-A new design on hope"
March 3, 2006	KRIS-TV Corpus Christi, TX	"Students bring prosthetics to Third World"
March 3, 2006	KGBT-TV Rio Grande Valley, TX	"Students bring prosthetics to Third World"
March 3, 2006	KTEN-TV Denison, TX	"Students bring prosthetics to Third World"
March 3, 2006	KLTV.com	"Students bring prosthetics to Third World"
March 3, 2006	Galveston County Daily News	"Students bring prosthetics to Third World"
March 3, 2006	Austin American Statesman	"Students bring prosthetics to Third World"
March 3, 2006	Fort Worth Star Telegram, TX	"Students bring prosthetics to Third World"
March 3, 2006	Kansas City Star, MO	"Students bring prosthetics to Third World"
March 3, 2006	Team 4 News	"Students bring prosthetics to Third World"
March 3, 2006	Amarillo.com	"Students bring prosthetics to Third World"
March 3, 2006	Kansas .com	"Students bring prosthetics to Third World"
March 3, 2006	Denton Record Chronicle	"Students bring prosthetics to Third World"
March 3, 2006	Bryan College Station Eagle	"Students bring prosthetics to Third World"
March 3, 2006	Dallas Morning News	"Students bring prosthetics to Third World"
February 20, 2006	KETK 11:00 am Midday Show	"LEGS" interview with Dr. Roger Gonzalez
January 25, 2006	KLTV.com	"LeTourneau Students Plan Another Trip to Help Amputees"
March 25, 2005	Longview News Journal	story by Elizabeth Green
May 22, 2005	Tyler newspaper	story by Megan Middleton
May 22, 2005	KLTV news	story about upcoming LEGS trip by Christine Nelson
May 24, 2005	KLTV news	story about upcoming LEGS trip by Christine Nelson
May 29, 2008	KLTV news	story about upcoming LEGS trip by Christine Nelson
May 31, 2005	KLTV news	by Christine Nelson
June 1 2005	KLTV news	by Christine Nelson
June 2, 2005	KLTV news	by Christine Nelson
June 3, 2005	KLTV news	by Christine Nelson
June 4, 2005	KLTV news	by Christine Nelson
May 27, 2005	KETK news	story by Jamie McGriff about LEGS
July 4, 2005	KLTV one-hour documentary	by Christine Nelson after returning from Kenya

PERSONAL INTERESTS

Regional Coordinator/ Trainer Couple - Intimate Life (National Non-profit Organization, Christian)

- Teach (w/ my wife) marriage intimacy/enrichment seminars/retreats

- Lead small groups on marital intimacy
- Marital counseling
- Teach workshops on preparation for marriage to engaged couples.

Conducting summer engineering camps for high-school students from low-income areas.
Licensed Foster Parent in the state of Texas
Volunteer: Big Brothers/Big Sisters of America
Sports: Competitive Tennis