

CURRICULUM VITAE

DALE S. FELDMAN

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Education CLEMSON UNIVERSITY CLEMSON, S.C.
1978 Ph.D. in Bioengineering, specialty biomaterials, in August, 1982.
to Research concerned the healing of tissue around percutaneous implants. . . Surgical,
1981 histological and electron microscopical studies. Courses in biochemistry, immunology,
experimental surgery, histology, electron microscopy, and grantsmanship taken.

UNIVERSITY OF DAYTON DAYTON, OH
1977 Masters of Science in Materials Engineering in August, 1979.
to Research concerned crystallization of monosodium urate in the pathogenesis of gout. . .
1978 Habit modification of monosodium urate using components of normal synovial fluid. . .
X-ray diffraction and scanning electron microscope studies. Courses in corrosion, surface
analysis, polymers, metals, and x-ray diffraction taken.

NORTHWESTERN UNIVERSITY EVANSTON, IL
1974 Bachelor of Science in Biomedical Engineering, specialty biomaterials, in June, 1977.
to Research at the Dental School in maxillofacial prosthetics. Research at the Medical
1977 School in Chlamydomonas flagellum regeneration.

Areas of Technical Interest Biomaterials enhanced regeneration; tissue engineering; wound healing enhancement;
tissue state and wound healing assessment; degradable polymers for tissue adhesives,
degradable metals for orthopedics, drug delivery systems, and tissue scaffolds; electrical
stimulation for wound healing; accident reconstruction and injury biomechanics; and
inquiry based application oriented math and science education.

Teaching

Experience:

Courses taught:

Biomechanics: biomechanics (graduate) and strength of materials (undergraduate biomechanics)

Biomaterials: biomaterials, polymeric biomaterials, porous implant materials, selection of implant materials, biodegradation phenomena, biomaterials compatibility, tissue interactions, histopathological analysis of biomaterials, histological quantitative microscopy, artificial internal organs, artificial arteries, analysis of artificial organs, soft tissue biomaterials, bone graft substitutes, soft tissue reconstruction, tissue engineering, medical device industry issues, implant design, growth factors, wound healing, and wound healing assessment.

Bioengineering: bioengineering senior design, laboratory techniques in bioengineering, and bioethics

Materials Engineering: polymers, polymeric composites, and x-ray diffraction

Computer: Intro to computing (MATLab and Excel) and Computer based learning

Honors Student Advising

Chairman (or departmental advisor) of 13 committees and member of 18 additional committees; with 20 graduating with honors. Seven have gone on to UAB Graduate school (six in BME) and have completed at least an M.S. degree.

Graduate Advising:

Chairman (or departmental advisor) of 52 committees (44 have graduated—10 Ph.D.). Member of 65 additional committees (59 have graduated—20 Ph.D.).

MENTORED STUDENTS

Students	M.S. or Ph.D.	Topic	Graduation Date	First Positions
UAB				
Chairman				
Rafael Andino	M.S.	PEMF for pressure ulcer healing	1991	C. R. Bard, CIBA
Rafael Andino	Ph.D.	Electric bandage		Biofisica
Rajiv Ashar	M.S.	Collagen/TGF/FGF for healing	1993	India
Tom Barker	M.S.	PEG tethering to fibrin	2000	PhD. UAB, Georgia Tech
Angela Blackwell	M.S.	Biodegradable composites	1992	FDA
Barbara Blum	M.S.	Albumin scaffolds	1999	UAB, BME
Barbara Blum	Ph.D.	Albumin scaffolds	2000	Wright Medical
Peter Czuwala	M.S.	Finger joint design	1992	Osteonics
Trudy Estridge	Ph.D.	In vitro healing effect O ₂ and growth factors	1991	Cohesion, Angiotech
Doug Ferguson	M.S.	Porous ingrowth	1991	Spire; C.R. Bard
Charlene Flahiff	M.S.	Fibrin glue for blood vessel anastomosis	1990	Biomechanics Lab Univ. of AK
Glenn Fleisig	Ph.D.	Shoulder injuries	1994	ASMI
Pareesh Ghodge	M.S.	Gelatin scaffolds		
Amber Jennings	M.S.	Skin healing	2003	BME Grad School
Amber Jennings	Ph.D.	Electrical Stimulation	2007	Univ of Memphis
Manasi Kekan	M.S.	Laser Doppler Assessment	2005	Physician
Stacey Kelpke	M.S.	PEMF for pressure ulcer	1994	Ph.D. BME, UAB
John McCauley	M.S.	Stem cells and gene therapy for Excisional wound healing	2010	Medical School, UF
Keith McConnell	M.S.	Heparin-copper and angiogenesis	1995	Children's Hospital, OH
Jenn McCullars	M.S.	Endothelial stem cell scaffolds	2005	Southern Co
Steven Moore	M.S.	Gene therapy for incisional healing	2007	Regenerative Technology
Andrea Ohldin	M.S.	Biofeedback release systems	1989	Physician
Scott Osborne	M.S.	Skin graft healing	1999	Physician
Robyn Overby	M.S.	Albumin scaffold development	2003	Wright Medical
Abhay Pandit	M.S.	Oxygen treatment of wounds	1991	UAB, BME
Abhay Pandit	Ph.D.	Treatment of pressure ulcers	1998	Kendall, Univ. of Ireland
Stacy Range Mitchell	M.S.	FGF pegylation	2003	Nektar
Rob Redden	M.S.	Biomechanics of skin	2000	Children's hospital, PA
Becky Schoumacher	M.S.	Long-term IV catheter design	1990	
Michael Sealy	Ph.D.	Degradable Metal	2014	Surface Integrity Univ. Nebraska
David Sierra	M.S.	Fibrin glue for skin grafts	1991	Matrix Pharm., BioSurgical
Ken Solovay	M.S.	Long-term IV catheter design	1991	USCI, Cordis
Stacey Sullivan	M.S.	Fibrin/FGF for nerve regeneration	1997	SBS Polymers
Josephine Torrente	M.S.	Artificial blood vessel design	1991	Wyeth Ayerst, Lawyer

Andrew Uehlin	Ph.D.	Artificial ligament	2012	St. Jude Medical
David Wilson	M.S.	FGF/Fibrin for pressure ulcers	1994	Otogen, Cordis
John Bowman	Ph.D.	Drug delivery		Samford
Kevin Harris	M.S.	Tissue ingrowth		CV Res. Lab UAB
Ji Hong	M.S.	Fiber diameter vs. cellular response		Research Lab, UAB Gastroenterology

Departmental Advisor

Tom Barker	Ph.D.	Fibrinogen and wound healing	2003	Georgia Tech
Joydip Barman	Ph.D.	Stroke patient monitoring	2012	
Cara Davis	M.S.	Electrical stimulation and healing	2007	Brookwood Pharm.
Stacey Kelpke	Ph.D.	FGF and healing	2000	UAB
Amanee Salaam	Ph.D.	Drug Delivery for prostate cancer	2014	Proctor and Gamble
Alyssa Terry	M.S.	Rifampacin drug delivery	2014	
John Wehby	M.S.	FGF Assay	1998	UAB

Texas A&M

James Boyd	M.S.	Interlocking I.M. rod	1987	
Trudy Estridge	M.S.	Angiogenic assessment	1988	UAB, BME
Stuart Johnston	M.S.	Surface analysis of sterilization meth.	1987	
Craig Nixon	M.S.	Stress Shielding	1988	USCI

PROFESSIONAL EXPERIENCE

Employment

October 1988-	Adjunct Associate Professor of Materials Engineering at the University of Alabama at Tuscaloosa
September 1988-	Adjunct Associate Professor of Materials Engineering at the University of Alabama at Huntsville
September 1986-	Associate Professor of Materials Engineering, University of Alabama at Birmingham
January 1986-	Associate Professor of Biomedical Engineering, University of Alabama at Birmingham
August 1981- January 1986	Assistant Professor of Bioengineering, Texas A&M University
August 1978- August 1981	Research Assistant in Bioengineering, Clemson University
August 1977- August 1978	Research Assistant in Materials Engineering, University of Dayton

UAB Center Affiliations

2008	Center for Biophysical Sciences and Engineering
2006	BERM Center
2005	Neurology Center
2002	Aesthetic Surgery Center
1999	Injury Science Center
1997	Center for Metabolic Bone Disease
1996	Biomedical Implant Center
1996	Cell Adhesion and Matrix Center
1996	Burn Center
1996	Center for Aging
1988	Injury Control Research Center
1987	Rehabilitation Research and Training Center

Extramural Research

As PI (Direct Cost)

Biofisica--	Electric field assessment development, \$20,000, 5/07-9/07
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Biofisica-- Clinical study, \$30,000, 8/04-9/06
 Biofisica-- Microarray analysis, \$40,000, 1/05-1/07
 KCI-- Analysis of the VAC, 10/03-8/04, \$14,100
 Biofisica-- Electric Bandage Clinical, 4/03-2/05, \$115,000
 Biofisica-- Electric Bandage Development, 3/01-2/03, \$45,000
 Encelle-- Full-thickness Healing, 9/01-2/02, \$8,000
 Cory Watson-- Characterization of Silicone Breast Explants, 1/97-1/00, \$57,000.
 CDC-- Growth Hormone and FGF-1/Fibrin Glue for Burn Treatment, 9/95-8/99, \$635,000.
 SRLI Acquisition of an In Situ Mechanical Test Analysis, 1/95, \$25,000
 NIH-- A Regenerative System for Blood Vessels, 9/90-9/91, \$35,500.
 Vitaphore-- Tissue Acceptance and Antimicrobial Efficacy of Percutaneous Implants, 5/90-5/91, \$51,000.
 Vitaphore-- Evaluation of Vitacuff Percutaneous Infection Control Kit, 1/88-12/89, \$80,000.
 Vitaphore-- Bioactive Soft Tissue Porous Implants, 3/87 - 4/89, \$80,000.
 Vitaphore-- Vitaguard - Percutaneous Catheter Evaluation, 10/85-12/86, \$2,500.
 NIH-- Fabric Configuration and Percutaneous Interface Healing, 9/1/85 - 8/31/87, \$173,459.
 NSF-- Engineering Research Initiation Grant, 06/01/82- 08/31/85, "Percutaneous and Subcutaneous Healing of a Velour Implant," \$41,000.

As co-PI (Direct Cost)

NSF-- Greater Birmingham Math Partnership, 9/04-8/11, \$1.2M/yr (UAB component), \$2.7M/year total project (with BSC and MEC).
 HSF-- Wound Healing Center (co-PI with Dr. Wirthlin), 5/00-5/01, \$140,000.
 NIH-- Biomedical Research Support Grant, 04/01/84-03/31/86, "Surface Structure-Biocompatibility Studies of Implant Materials," \$11,000, Co-PI.

As PI of Part of Program Project or Center Grant

CDC-- Injury Control Research Center, 8/04-7/09, \$750,000/year (R. Fine, PI) "Albumin scaffold", 8/07-8/11, \$110,000, PI.
 CDC-- Injury Control Research Center, 8/04-7/09, \$750,000/year (R. Fine, PI) "Treatment and Assessment of Pressure Ulcers", 8/04-7/07, \$100,000, PI.
 CDC-- Injury Control Research Center, 8/99-7/04, \$750,000/year (R. Fine, PI) "Home-Health Delivered Albumin Scaffold", 4/00-7/04, \$339,000, PI.
 NSF-- Biomaterial Technology Transfer, 9/95-8/99, \$1,300,000/year, Investigator (L. Lucas, PI)
 "Pegylation of fibrin and FGF, \$140,000, PI
 NIDRR-- Medical and Rehabilitation Research Training Center in Secondary Complication of Sci, 10/93-09/96, \$700,000/year, Investigator (S. Richards, PI)
 "Use of Growth Factors in Pressure Ulcer Healing: Clinical Trials," \$105,000, PI.
 CDC-- Injury Control Research Center, 9/92-9/95, \$728,000/year, Investigator (R. Fine, PI.)
 "Treatment of Burns and Pressure Ulcers," \$75,000, PI.
 NSF-- Modification of Material Surfaces, 4/92-3/95, \$500,000/year, Investigator (M. Harris, PI)
 "Fabrication and Characterization of Surface Modified Materials," \$105,000, PI.
 CDC-- Injury Prevention and Control Center, 10/89-9/94, \$500,000/year, Investigator (R. Fine, PI) Biodegradable Fracture Fixation," \$6,000, PI, 2/90.
 NIDRR-- Spain Rehabilitation Research Training Center Grant, 6/88 - 5/93, \$500,000/year, Investigator (S. Stover, PI), "Treatment of Pressure Ulcers", \$175,000, PI.

As an Investigator

NSF STTR Phase I, \$225,000 (total cost), (M.Sealy P.I.), 25% effort, 6/15-6/17
 NSF-- Senior Design, \$150,000, (A. Eberhardt, PI), 8/13-8/16
 NCIAA-- Senior Design, \$100,000, (A. Eberhardt, PI), 1/14-1/16

NSF— Graduate fellowship, \$25,000/yr, 8/03-12/05 (Jenn McCullars), 5% effort.

NIH-- Implant Retrieval Program, \$800,000/yr, 6/05-5/09 (J. Lemons, PI), 10% effort

NIH(NIAMS)-- UAB Core Center for Musculoskeletal Disorders, 4/01-3/08, \$1,946,507 (J. MacDonald, PI), 2% effort.

NIH-- Training Grant for Musculoskeletal Disorders, 1/02 -1/08, 180K/yr., (J. MacDonald, PI), 2% effort

GANN-- Minority Graduate Fellowship (through Graduate School), 8/01-8/03, \$37,000/yr, 5% effort.

NHTSA-- Injury Science Research, \$1,250,000, 2000-2002 (L. Rue, PI), 2% effort.

UAB HSF-- Aesthetic Surgery Center, 1/03-1-04, \$105,000 (J. de La Torre, PI), 2% effort.

NSF-EPSCoR Biomedical Implant Center, 9/98-8/02, 1,500,000 (L. Lucas, PI), 5% effort.

UAB HSF-- Biomechanics Lab, 1/99-1/00, \$100,000, (H. Jo, PI) 2% effort

Whitaker-- Biomedical Implant Center, 1/99-12/02, \$1,000,000 (L. Lucas, PI), 5% effort.

NIH-- Quantification of Burn Healing, 12/96-11/99, \$96,000/year (J. Turner, PI) 5% effort.

NSF-- Undergraduate Senior Design, 2/97-1/13, \$50,000/year (A. Eberhardt, PI) 5% effort.

NIDRR-- Rehabilitation Research Training, 10/91-09/04, \$125,000/year (S. Richards, PI) 5% effort.

NSF-- Acquisition of an FTIR, 1/93, \$120,000 (L. Lucas, PI).

Dept. Ed.-- Graduate and Professional Opportunities Program, \$120,000, 9/85-8/92 (L. Lucas, PI) 5% effort.

NSF-- Minority Student Fellowship Program, \$100,000, 9/89-8/91 (L. Lucas, PI), 5% effort.

NIH-- Dental Scientist Award, 9/90-8/10, \$340,000 (M. Jeffcoat, PI), 5% effort.

NIH-- "Development of Antimicrobial Percutaneous Cuff for Long-Term Vascular Catheterization Procedures", 1/89-12/90, \$50,000/year (R. Yamamoto, PI), 33% effort.

Matrix-- Fibrinogen-Collagen Interaction, 10/88-Pharm.8/90, \$30,000/year (D. Sierra, PI), 25% effort.

Southern-- Effect of fiber diameter on tissue response, 9/90 - 8/91, \$2,500 (L. Vasconez, PI) 5% effort

Med. Assoc.

NSF-- Acquisition of Analytical TEM, 1988, \$206,235 (S. Walck, PI).

NSF-- EPSCoR, 9/86 - 8/89, "A State Plan for Improving Materials Science and Engineering Research in Alabama" \$7,600,000 (total project), (M. Harris, PI)

"Implant Surface Analysis Modification" (\$17,000)—D. Feldman component.

AVMA-- Development of a Biodegradable Interlocking Intramedullary Pin Using Finite Element Analysis, 8/1/85-7/31/86, \$10,500 (D. Hulse, PI), 25% effort.

NIH (NHLBI)-- 04/01/79 - 03/31/81, Healing of Intestinal Mucosa to a Penetrating Conduit, \$101,000, Research Assistant (A. von Recum, PI), 50% effort.

Consulting Experience

Research

Electrical stimulation devices -- Johnson & Johnson. 11/10
Wound healing-- Biofisica, Electrical stimulation, 1/01-1/05
Encelle, Wound healing assessment, 7/01-6/02
Alpha Electronics, Electrical stimulation, 1998-1999
Percutaneous Devices-- Vitaphore Inc., Percutaneous catheter design, 10/1/85- 10/90
Biosensors-- Optex, Inc., Design of an intravenous O₂, CO₂, and pH sensor, 11/85 - 1990.

Papers (41)

Refereed (39)

Published (29)

First or last author or mentored graduate student first author

26. Sealy, M., Guo, Y., Caslaru, R., Sharkins, J., and **Feldman, D.**, Fatigue performance of biodegradable magnesium–calcium alloy processed by laser shock peening for orthopedic implants, Int J Fatigue, 82:428-436, 2016 (online September 2015).
25. Jennings, A., Chen, D., and **Feldman, D.**, Upregulation of chemokine (C-C motif) ligand 20 in adult epidermal keratinocytes in direct current electric fields, Ach Derm. Res., online journal, September 2009.
24. Jennings, A., Chen, D., and **Feldman, D.**, Transcriptional response of dermal fibroblasts in direct current electric fields, Bioelectromagnetics, 29(5): p. 394-405., 2008.
23. Lee, H., Reddy, M., Geurs, N., Palcanis, K., Lemons, Rahemtulla, F., Ho, K., Chen, D. J., Davis, C., and **Feldman, D.**, Efficacy of platelet-rich plasma on wound healing in rabbits. J Peridontology, 25: 691-696, 2008.
22. McCracken, M., Zinn, K., Lemons, J., Thompson, J., and **Feldman, D.**, Radioimaging of implants in rats using Tc-99m-MDP, Clin. Oral Impl. Res., 12: 372-378, 2001.
21. Barker, T., Klinger, M., **Feldman, D.**, Fuller, G., and Hagood, S., Spectrophotometric analysis for determining the average number of poly(ethylene) glycol molecules on PEGylated proteins utilizing a protein digestion step, Anal. Biochem, 290: 382-385, 2001.
20. Barker, T., Fuller, G., Klinger, M., **Feldman, D.**, and Hagood, S., Modification of fibrinogen with polyethylene glycol and its effects on fibrin clot characteristics, JBMR, 56(4): 529-535, 2001.
19. McCracken, M., Lemons, J., Rahemtulla, F., Prince, C., and **Feldman, D.**, Bone response to titanium alloy implants placed in diabetic rats, Inter Journ Oral & Maxillo Impl., 15(3): 345-354, 2000.
18. Sierra, D., O’Grady, K., Toriumi, D., Foresman, P., Rodeheaver, G., Eberhardt, A., **Feldman, D.**, Lemons, J., Modulation of mechanical properties in multiple component tissue adhesives, JBMR, 52: 534-542, 2000.
17. Pandit, A., Wilson, D., **Feldman, D.** and Thompson, J, Fibrin scaffold as an effective vehicle for the delivery of acidic fibroblast growth factor (FGF-1), Journal of Biomaterials Applications, 14: 229-242, 2000.
16. Kilpadi, D., **Feldman, D.**, Ferguson, D., Estridge, T., and Johnston, S., The effect of solvent extraction and sterilization procedure on the tissue response to dacron velour, Biomaterials, 20: 129-136, 1999.
15. Pandit, A., Ashar, R., and **Feldman D.**, The effect of TGF- β delivered through a collagen scaffold on wound healing, J. Investigative Surgery, 12: 89-100, 1999.
14. Pandit, A., Ashar, R., **Feldman, D.**, and Thompson, A., Investigation of acidic fibroblast growth factor delivered through a collagen scaffold for the treatment of full-thickness skin defects, in a rabbit model, Plastic and Reconstructive Surgery, 101(3): 766-775, 1998.
13. Pandit, A., **Feldman, D.**, Caufield, J. and Thompson, J., Stimulation of angiogenesis by FGF-1 delivered through a modified fibrin scaffold, Growth Factors, 15: 113-123, 1998.
12. Pandit, A., Caufield, J. and **Feldman, D.**, In vivo wound healing response to a modified degradable fibrin scaffold, J. of Biomaterials Applications, 12: 222-236, 1997.
11. Pandit, A., **Feldman, D.**, Listinsky, K., and Thompson, J., The effect on wound healing by a modified

- fibrin scaffold delivering acidic fibroblast growth factor (FGF-1), J. Bioactive and Compatible Polymers, 12: 99, 1997.
10. Flahiff, C., Blackwell, A., Hollis, J., and **Feldman, D.**, Analysis of a biodegradable composite for bone healing, J. Biomat Res., 32(3): 419-24, 1996.
 9. Pandit, A. and **Feldman, D.**, The effect of oxygen permeability on full-thickness skin defects, Wound Healing & Regeneration, 2: 130-7, 1994.
 8. Flahiff, C., **Feldman, D.**, Saltz, R. and Huang, S., Mechanical testing of fibrin adhesives for blood vessel anastomosis, J. Biomat Res., 26: 481-491, 1992.
 7. Sierra, D., **Feldman, D.**, Saltz, R., and Huang, S., A method to determine the shear adhesive strength of fibrin sealants, Applied Biomaterials, 3: 147-151, 1992.
 6. Estridge, T. and **Feldman, D.**, Quantification of vascular ingrowth into dacron velour, Biomaterials Applications, 6: 157-169, 1992.
 5. **Feldman, D.** and Gombotz, W., Biomaterials education from an academic and industrial viewpoint, J. Applied Biomat., 2: 133-139, 1991.
 4. **Feldman, D.**, Hunter, J., and Hale, S., Intraluminal bypass device for arterial surgery, Journal of Investigative Surgery, 3: 169-176, 1990.
 3. Estridge, T. and **Feldman, D.**, A comparison of three techniques to quantify vascular ingrowth into dacron velour, Journal of Investigative Surgery, 1: 309-319, 1988.
 2. **Feldman, D.** and von Recum, A., Non-epidermally induced failure modes of percutaneous devices, Biomaterials, 6(5): 352-356, 1985.
 1. **Feldman, D.**, Hultman, S., Colaizzo, R., and von Recum, A., Electron microscopic investigation of soft tissue ingrowth into dacron velour with dogs, Biomaterials, 4(2): 105-111, 1983.

As Collaborator

3. Stoff A, Rivera AA, Sanjib Banerjee N, Moore ST, Michael Numnum T, Espinosa-de-Los-Monteros A, Richter DF, Siegal GP, Chow LT, **Feldman D.**, Vasconez LO, Michael Mathis J, Stoff-Khalili MA, Curiel DT. Promotion of incisional wound repair by human mesenchymal stem cell transplantation. Exp Dermatol. 2009 Apr;1 8(4):362-9.
2. Stoff A, Rivera AA, Mathis JM, Moore ST, Banerjee NS, Everts M, Espinosa-de-Los-Monteros A, Novak Z, Vasconez LO, Broker TR, Richter DF, **Feldman D.**, Siegal GP, Stoff-Khalili MA, Curiel DT. Effect of adenoviral mediated overexpression of fibromodulin on human dermal fibroblasts and scar formation in full-thickness incisional wounds. J Mol Med. 2007 May;85(5):481-96.
1. Saltz, R., Sierra, D., **Feldman, D.**, Saltz, M., Dimick, A., and Vasconez, L., Experimental and clinical applications of fibrin glue, Plastic and Reconstructive Surgery, 88(6): 1005-1015, 1991.

Other papers--First or last author or mentored graduate student first author

10. **Feldman, D.**, An Approach to Designing a Curriculum to Meet Program Educational Objectives and Assess that it Does, Transactions of the 2013 ABET Symposium, p.43
9. McClain, A. and **Feldman, D.**, Engineering applications for middle school mathematics education: supporting an inquiry-based classroom environment, American Society for Engineering Education, 2007.
8. **Feldman, D.** and Jennings, A, Healing equations, Wounds, 15(11): 385, 2003.
7. McConnell, K. and **Feldman, D.**, The effects of a heparin-copper complex on the stability of tissue ingrowth into dacron velour, Digest of Papers of the Seventh Southern Biomedical Engineering Conference, edited by D. Moyle, 1988, pp. 194-196.
6. Harris, K., Estridge, T., and **Feldman, D.**, The effects of chelated silver on the success of percutaneous devices, Digest of Papers of the Seventh Southern Biomedical Engineering Conference, edited by D. Moyle, 1988, pp. 192-193.
5. Estridge, T. and **Feldman, D.**, Quantifying vascular ingrowth into dacron velour, Digest of Papers of the Seventh Southern Biomedical Engineering Conference, edited by D. Moyle, 1988, pp. 171-174.
4. Estridge, T. and **Feldman, D.**, The use of oxygen to activate fibroblasts in non-healing wounds, Digest of Papers of the Seventh Southern Biomedical Engineering Conference, edited by D. Moyle, 1988, pp. 197-199.

3. **Feldman, D.** and von Recum, A., The pathophysiology of avulsion as a failure mode of percutaneous implants, Biomedical Engineering II. Recent Developments, ed. by C. Hall, Pergamon Press, San Antonio, 1983, pp. 349-352.
2. **Feldman, D.**, Colaizzo, R., von Recum, A., and Hultman, S., Electron microscope analysis of tissue ingrowth into dacron velour, Biomedical Engineering II. Recent Developments, ed. by C. Hall, Pergamon Press, San Antonio, 1983, pp. 275-278.
1. **Feldman, D.**, Percutaneous implants: histological interface study, Dissertation, Clemson University, 1982.

Other Mentored Student Papers

2. Barman, J., Uswatte, G., Sarkar, N., Ghaffari, T., Sokal, B., Sensor-enabled RFID system for monitoring arm activity in daily life. *33rd Annu. Int. Conf. IEEE Eng. Medicine Biol. Soc.*, 2011. 33: p. 5219-5223
1. Barman, J., Uswatte, G., Sarkar, N., Ghaffari, T., Sokal, B., Byrom, E., Trinh, E., Brewer, M., and Varghese, C., Sensor-enabled RFID system for monitoring arm activity: reliability and validity.

Submitted Papers

First or last author or mentored graduate student first author

1. Uehlin, A., J., Vines, J., Thomas, V., **Feldman, D.**, and Dean, D., Inkjet printing of nanohydroxyapatite on an optimized poly-(lactic acid) tissue scaffold.

Patents

3. Degradable Metals for Orthopedics, U.S. and international patents pending
2. Endothelial Predecessor Cell Seeded Wound Healing Scaffold, Provisional Patent submitted; currently patent pending with international and full US patent applied for.
1. Porous Tissue Scaffolding Materials and Uses Thereof, Pat 6,656,496 B1, 12/2/03.

Book Chapters--first author or mentored graduate student first author

8. **Feldman, D.**, Adhesion and hemostasis in surgery, Encyclopedia of Materials: Science and Technology, ed. by D. Williams, 2002, Elsevier Science Ltd., London, pp: 38-43.
7. Kilpadi, D. and **Feldman, D.**, Biocompatibility of silicone gel breast Implants, Biomaterials Engineering and Devices: Human Applications, Vol. 1, ed. By D. Wise, 2000, Humana Press, Totowa, NJ, pp: 57-84.
6. Bowman, J. and **Feldman, D.**, Tissue adhesives for growth factor delivery, Biomaterials and Bioengineering Handbook, ed. by D. Wise, 2000, Marcel Dekker, New York, pp: 261-312.
5. **Feldman, D.**, Barker, T., Blum B., Kilpadi, D., and Redden, R., Tissue assessment of skin substitutes, Biomaterials and Bioengineering Handbook, ed. by D. Wise, 2000, Marcel Dekker, New York, pp: 773-806.
4. **Feldman, D.**, Barker, T., Bowman, J., Blum B., Kilpadi, D., and Redden, R., Biomaterial enhanced regeneration for skin wounds, Biomaterials and Bioengineering Handbook, ed. by D. Wise, 2000, Marcel Dekker, New York, pp: 807-842.
3. **Feldman, D.**, Czuwala, P., Kelpke, S., Pandit, A., and Wilson, D., A biocompatibility hierarchy: justification for biomaterial enhanced regeneration, Encyclopedic Handbook of Biomaterials and Bioengineering, ed. by D. Wise, 1995, pp. 223-268, Marcel Dekker, New York.
2. **Feldman, D.** and Sierra, D., Tissue Adhesives in Wound Healing, Encyclopedic Handbook of Biomaterials and Bioengineering, ed., by D. Wise, 1995, pp. 1347-1384, Marcel Dekker, New York.
1. **Feldman, D.**, Wound Healing Applications of Fibrin Sealants, Surgical Tissue Adhesives and Sealants, ed. D. Sierra, and R. Saltz, Technomic, Lancaster, PA, pp. 99-108, 1996.

Mentored graduate student dissertations and theses (39)

Ph.D.

8. Sealy, M., 2014. Degradable metal surface treatment
7. Uehlin, A., 2012. Optimization of a biomimetic poly-(lactic) ligament scaffold.
6. Barman, J., 2012. Monitoring arm use in daily life via RFID tracking of household objects.
5. Jennings, A., 2007. Regulation of gene expression in response to continuous low intensity direct current electric fields, UAB.

4. Blum, B., 2000. Investigation of an adhesive albumin to enhance healing of full-thickness skin wounds, UAB.
3. Pandit, A., 1998. Fibrin as a matrix for FGF-1 delivery *in vivo*, UAB.
2. Fleisig, G., 1994. The biomechanics of baseball pitching, UAB.
1. Estridge T.D., 1991. The use of oxygen, growth factors and implants to effect cellular activity *in vitro*, UAB.

M.S.

31. McCauley, 2010. Mesenchymal stem cells, TGF- β_3 , and an albumin scaffold to promoted full thickness wound healing, UAB.
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19. Torrente, J. and **Feldman, D.**, The effect of ECGF and PDGF on proliferation and interaction of co-cultured vascular cell lines in a regenerative model, Transactions of ASAIO, 37: 109, 1991.
18. Sierra, D., **Feldman, D.**, and Saltz, R., Evaluation of fibrin glue adhesive strength, Transactions of the Society for Biomaterials, 16: 8, 1990.
17. Flahiff, C., **Feldman, D.**, Saltz, R., and Huang, S., Mechanical testing of fibrin adhesives for blood vessel anastomosis, Transactions of the Society for Biomaterials, 16: 7, 1990.
16. Steedley, A., Anderson, C., Bidez, M., and **Feldman, D.**, Finite element model of a biodegradable intramedullary rod, Transactions of the Society for Biomaterials, 16: 51, 1990.
15. **Feldman, D.** and Oldin, A., Controlled release of a heparin-copper complex across a polyacrylamide membrane, Transactions of the Society for Biomaterials, 16: 114, 1990.
14. **Feldman, D.**, Estridge, T., McConnell, K., and Schoumacher, B., Stimulating tissue ingrowth into dacron velour with a heparin-copper complex, Transactions of the World Biomaterials Congress, 3: 450, 1988.
13. Estridge, T., and **Feldman, D.**, Quantifying vascular ingrowth into dacron velour, Transactions of the Society for Biomaterials, 13: 200, 1987.

12. **Feldman, D.**, and Libuit, N., Hyperbaric oxygen used to stimulate tissue ingrowth into dacron velour, Transactions of the Society for Biomaterials, 12: 22, 1986.
11. **Feldman, D.** and Lee, P., The effect of Biolite coating on the histological response to dacron velour, Transactions of the Society for Biomaterials, 11: 74, 1985.
10. **Feldman, D.**, Estridge, T., Ankrom, M., Johnston, A., and Boyd, J., The effect of preparation on the surface and resultant tissue response of a dacron velour implant, Transaction of the Society for Biomaterials, 11: 142, 1985.
9. **Feldman, D.**, Hale, S., and Hunter, J., Intraluminal bypass device for artificial aortic graft implantation, Transactions of The World Congress on Biomaterials, 2: 103, 1984.
8. Hultman, S. and **Feldman, D.**, Comparison of soft tissue ingrowth in subcutaneous and percutaneous velour implants, Transactions of The World Congress on Biomaterials, 2: 36, 1984.
7. **Feldman, D.** and Estridge, T., Factors affecting soft tissue ingrowth into porous implants, Transactions of The World Congress on Biomaterials, 2: 37, 1984.
6. **Feldman, D.**, Negele, J., and Estridge, T., An electron microscope investigation of blood vessel ingrowth into dacron velour, Transactions of The World Congress on Biomaterials, 2: 88, 1984.
5. **Feldman, D.**, Colaizzo, R., and von Recum, A., Epidermal contact inhibition around percutaneous implants, Transactions of the Society for Biomaterials, 9: 2, 1983.
4. **Feldman, D.**, Colaizzo, R., and von Recum, A., The use of biological spacers around percutaneous implants, Transactions of the Society for Biomaterials, 8: 66, 1982.
3. **Feldman, D.**, Colaizzo, R., Hultman, S., and von Recum, A., Electron microscope analysis of tissue ingrowth into dacron velour, Transactions of the Society for Biomaterials, 8: 65, 1982.
2. von Recum, A., Colaizzo, R., **Feldman, D.**, Powers, D., Kenner, G., and Grosse-Siestrup, C., Failure modes of cutaneous healing around percutaneous implants, Proceedings of the Second European Conference on Biomaterials, 1981.
1. **Feldman, D.**, von Recum, A., Colaizzo, R., and Park, J., Failure modes of percutaneous implant devices, Transactions for the American Society of Artificial Internal Organs, 27: 19, 1981.

Abstract and presentations (41)

Presenter or mentored student presented at a conference

37. M.P. Sealy, C.H. Fu, Y.B. Guo, **D. Feldman**, 2014, "Surface Integrity's Next Generation Orthopedic Devices," Material Research Society (MRS) Innovation in Materials Science (iMatSci) Competition, 12/01/2014, Boston, MA. (Awarded 2nd Place).
36. M.P. Sealy, C.H. Fu, Y.B. Guo, **D. Feldman**, 2014, "Surface Integrity LLC: Creating an Orthopedic Revolution," Rocket Hatch and Southern/alpha, *Will This Fly? Startup Village*, 11/20/2014, Huntsville, AL.
35. J. Sharkin, Fatigue testing of biodegradable magnesium implants processed by laser shock peening, Alabama Science & Engineering Fair, 2014
34. M.P. Sealy, Y.B. Guo, **D. Feldman**, 2014, "Surface Integrity LLC: Creating an Orthopedic Revolution", Startup Showcase, UA Research Innovation Day, 04/16/2014, Bryant Conference Center, Tuscaloosa, AL.
33. J. Sharkin, Fatigue testing of biodegradable magnesium implants processed by laser shock peening, Central Alabama Regional Science Fair, 2014
32. M.P. Sealy, Y.B. Guo, **D. Feldman**, 2014, "Surface Integrity LLC: Creating an Orthopedic Revolution," Edward K. Aldag Jr. Business Plan Competition, The EDGE Center for Entrepreneurship & Innovation, 02/27/2014, Tuscaloosa, AL.
31. J. Sharkin, Fatigue testing of biodegradable magnesium implants processed by laser shock peening, UAB-CORD CARSEF, 2013
30. Paresh G. and **Feldman D.**, Effect of composition and cure time on bonding strength of poly(ethylene glycol) crosslinked Gelatin, Transactions of Southeast Tissue Engineering Conference. 2:8, 2005
29. Kekan, M. and **Feldman, D.**, Prognostic evaluation of pressure ulcers using the Laser Doppler Perfusion Imager, Transactions of Southeast Tissue Engineering Conference. 2: 9, 2005.
28. McCullars, J. and **Feldman, D.**, Evaluation of endothelial progenitor cells for wound healing, Transactions of Southeast Tissue Engineering Conference. 2: 14, 2005
27. Jennings, A. and **Feldman, D.**, Evaluation of electric field induced regulation of gene expression.,

- Transactions of Southeast Tissue Engineering Conference. 2: 19, 2005
26. Jennings, A., Andino, R., and **Feldman, D.**, An electrical stimulation bandage for wound healing, Transactions of Southeast Tissue Engineering Conference. 2: 31, 2005
 25. Jennings, A., Andino, R., and **Feldman, D.**, Electrical stimulation affects cellular activity in an in vitro model, Transactions of Southeast Workshop on Tissue Engineering and Biomaterials, 1: 20, 2004.
 24. **Feldman, D.**, Wirthlin, D., Kilpadi, D., and Redden, R., Quantitative non-invasive assessment of skin wounds, Transactions of the Southern Biomedical Engineering Conference, 20: 69, 2001.
 23. **Feldman, D.**, Barker, T., Blum, B., Kilpadi, D., and Redden, R., Tissue adhesive scaffolds for skin wounds, Transactions of the Southern Biomedical Engineering Conference, 20: 70, 2001.
 22. **Feldman, D.**, Wirthlin, D., Kilpadi, D., Oberheu, A., and Tyree, L., Telemedicine for wound healing, Transactions of the Southern Biomedical Engineering Conference, 20: 71, 2001.
 21. **Feldman, D.**, Barker, T., Blum, B., Kilpadi, D., and Redden, R., Wound healing assessment of skin tissue scaffolds, Transactions World Biomaterials Congress, 6: 223, 2000.
 20. Kilpadi, D., **Feldman, D.**, and Huang, S., Shear strength of an albumin based tissue adhesive system, Trans. of the 10th Annual Materials Research Society of India, 1999.
 19. Kilpadi, D., Lallone, R., and **Feldman, D.**, Silicone oil-blood plasma interfacial tensions as a predictor for biocompatibility, Trans. of the 10th Annual Materials Research Society of India, 1999.
 18. Kilpadi, D., Chawla, K., Lallone, R., and **Feldman, D.**, Emulsion characteristics of silicone oils in plasmas of varying lipid levels, Trans. Alabama Materials Research Conference, 1998.
 17. Dixon, J., Pandit, A., and **Feldman, D.**, Wound healing: a technological approach, Trans. Alabama Materials Research Conference, 8: 27, 1994.
 16. Osborne, S., Pandit, A., **Feldman, D.**, and Patterson, B., Histomorphometric analysis of biomaterial enhanced regeneration, Trans. Alabama Materials Research Conference, 8: 33, 1994.
 15. Pandit, A., **Feldman, D.**, and Thompson, J., In vivo dose response of FGF-1 delivered through a porous fibrin scaffold on wound healing, Trans. Alabama Materials Research Conference, 8: 62, 1994.
 14. Dixon, J., Pandit, A., and **Feldman, D.**, Wound healing: a technological approach, Trans. National Conference on Diversity in the Scientific and Technological Workforce, p 25, 1994.
 13. Andino, R. and **Feldman, D.**, Use of pulsating electromagnetic field to treat full thickness skin defects in the rabbit model, Bioelectrical Repair and Growth Society, 1993.
 12. Wilson, D., **Feldman, D.**, and Thompson, J.A., Fibrin glue as a matrix for a-FGF delivery in conjunction with oxygen treatments for skin defects, Trans. Annual Alabama Materials Research Conference, 7: A2-13, 1993.
 11. Cook, N., Hong, J., **Feldman, D.**, and Engels, B., The effect of fiber diameter and carbon coating treatment on the in vivo cellular response to Dacron fabric materials, Trans. Annual Alabama Materials Research Conference, 7: A2-11, 1993.
 9. Pandit, A., Ashar, R., Slade, L., and **Feldman, D.**, The effect of acidic fibroblast growth factor (a-FGF) and transforming growth factor beta (TGF- β) delivered through a collagen matrix on wound healing, Trans. Annual Alabama Materials Research Conference, 7: A2-18, 1993.
 8. Hong, J. and **Feldman, D.**, The effect of dacron fiber diameter on the in vitro cellular response, Proceedings of the Southern Biomedical Engineering Conference, 7: 4, 1988.
 7. Schoumacher, B., Estridge, T., and **Feldman, D.**, Antimicrobial vascular catheters, Proceedings of the Southern Biomedical Engineering Conference, 7: 3, 1988.
 6. **Feldman, D.**, Johnston, M., and Estridge, T., Surface modifications to enhance ingrowth into dacron velour implants, Alabama Materials Research Conference, 1987.
 5. Ankrom, M., Cocke, D., and **Feldman, D.**, Surface chemistry and biocompatibility of implant materials, Presented at the Third Annual Industry-University Cooperative Chemistry Program (IUCCP) Symposium: New Direction in Chemical Analysis, 1985.
 4. Estridge, T. and **Feldman, D.**, Microcasting: A technique to study soft tissue ingrowth in porous biomaterials using the scanning electron microscope, Texas Society for Electron Microscopy, 16(1): 66, 1985.
 3. Martinez, C. and **Feldman, D.**, The role of vitamins in the prevention of gouty arthritis, Texas Society for Electron Microscopy, 16(1): 65, 1985.
 2. **Feldman, D.** and von Recum, A., The pathophysiology of avulsion as a failure mode of

- percutaneous implants, Southern Biomedical Engineering Conference, 1983.
1. **Feldman, D.**, Colaizzo, R., von Recum, A., and Hultman, S., Electron microscopy analysis of tissue ingrowth into dacron velour, Southern Biomedical Engineering Conference, 1983.

As Collaborator

4. Askren, C., Howard, P., and **Feldman, D.**, Construction and biomechanical properties of poly L-lactic acid mini-plates for craniomaxillofacial surgery, Plastic Surgery Research Council, 1991.
3. Saltz, R., Sierra, D., Huang, S., **Feldman, D.**, and Vasconez, L., Experimental and clinical applications of fibrin glue, American Association of Plastic Surgery, 1990.
2. Wan, H., Huang, S., Floyd, D., McGowan, E., and **Feldman, D.**, Is the amount of fibrinogen in cryoprecipitate adequate for fibrin glue, Annual Meeting of the American Association of Blood Banks, 1989.
1. Hulse, D., Nelson, J., **Feldman, D.**, and Leyendecker, L., Finite element analysis of biodegradable fracture fixation system, Veterinary Orthopedic Society, Steamboat Springs, March 1986

Invited

Presentations (106)

International

1. Electrical stimulation for pressure ulcer healing, Paris, 2003

National

34. Stem cells and Albumin Scaffold, NCPIC, 2008
33. Albumin Scaffolds, NCIPC site visit, 2007.
32. Engineering projects for GBMP update, NSF site visit, 2006.
31. Biofisica clinical update, Atlanta, 2006
30. Biofisica clinical update, Atlanta, 2005
29. Biofisica clinical update, Atlanta, 2004
28. Biofisica update, Horizon Medical, Santa Ana, CA, 2003.
27. Biofisica update, UAB, 2002
26. Home health delivered albumin for SCI, CDC site visit, 2001
25. Biofisica update, UAB, 2001
24. Biofisica update, UAB, 2000
23. Wound Healing Strategies, Encelle, 2000
22. Wound healing strategies, Alpha Electronics, 1999
21. Growth hormone and FGF-1/Fibrin glue for burn treatment, CDC update, Univ Pitt, 1999.
20. Cell Culture for Biomaterial Design: Basic Principles Society for Biomaterials Meeting, 1999
19. Home health albumin scaffold for SCI patients, Reverse site visit, CDC, Atlanta, 1999.
18. Wound healing strategies, Alpha Electronics, 1998
17. Pressure Ulcer Growth hormone and FGF-1/Fibrin glue for burn treatment, CDC project report, CDC, 1997.
16. Growth hormone and FGF-1/Fibrin glue for burn treatment, CDC update, UAB, 1997.
15. Growth hormone and FGF-1/Fibrin glue for burn treatment, CDC site visit, UAB, 1995.
14. Growth hormone and FGF-1/Fibrin for skin wounds, CDC project Year 01 ICRC site visit 1995.
13. Biomaterial Enhanced Regeneration, Collagen Corp., Palo Alto, CA, 1994.
12. Treatment of Burns, Reverse site visit, CDC, Atlanta, 1994.
11. Wound Healing Applications of Fibrin, Surgical Tissue Adhesive Meeting, 1993.
10. In Vitro/In Vivo Characteristics of Fibrin, Surgical Tissue Adhesive Meeting, Panel Moderator, 1993.
9. Surface Modification for Percutaneous Implants, NSF-EPSCoR site visit, 1993.
8. Design of Degradable Regenerative Implant Systems In Vitro, Tissue Engineering Symposium, 1992.
7. Biomaterials Education Workshop, Moderator, Academic Viewpoint, Society for Biomaterials, 1990.
6. Biodegradable Regenerative Systems, Vitaphore Corporation, Menlo Park, CA, 1989.
5. Biocompatibility Hierarchy and Its Ramifications, Clemson University, 1988.
4. Percutaneous Device Failures, Texas A&M University, 1982.
3. Teaching Undergraduate Biomaterials Courses at Texas A&M University, 90th Annual Conference of the American Society of Engineering Education, 1982.

2. Percutaneous Interface Healing, USCI Bard, Billerica, MA, 1981.
1. Habit Modification of Monosodium Urate, Burroughs and Wellcome, Research Triangle Park, 1981.

Local

25. Degradable Metals for Orthopedics, Alabama LaunchPad Competition., UTUBE video for first round and oral presentation for second round. Summer 2013
24. Design and Commercialization of Medical Devices, UA, Spring 13.
23. Engineering projects for GBMP update, advisory board meeting, 2009.
22. Engineering projects for GBMP update, BSC, 2009.
21. Engineering projects for GBMP update, advisory board meeting, 2008.
20. Engineering projects for GBMP update, BSC, 2008.
19. Engineering projects for GBMP update, advisory board meeting, 2007.
18. Engineering projects for GBMP update, BSC, 2007.
17. Collagen as a Biomaterial, Biochemistry summer intern program, 2006
16. Engineering projects for GBMP update, BSC, 2006.
15. Engineering projects for GBMP update, BSC, 2005.
14. Collagen as a Biomaterial, Biochemistry summer intern program, 2005
13. Collagen as a Biomaterial, Biochemistry summer intern program, 2004
12. Collagen as a Biomaterial, Biochemistry summer intern program, 2003
11. Collagen as a Biomaterial, Biochemistry summer intern program, 2002
10. Biomaterial Enhanced Regeneration, Chemistry Department, University of Alabama at Tuscaloosa, 2000
9. Biomaterial Enhanced Regeneration, Materials Science Program, UAH, 1996
8. Biomedical Engineering, IIT Institute, Birmingham, 1995.
7. Biomedical Engineering, Alabama School of Fine Arts, 1995.
6. Biomedical Engineering: Quality in Design, ASPE, Birmingham, 1995.
5. In Vivo and Clinical Testing of Biomaterials, Alabama Materials Research Conference, 1993.
4. Cutting Edge Technology in Biomedical Engineering, ASPE, 1993.
3. Implant Design in Biomaterials, Department of Chemistry, University of Alabama at Tuscaloosa, 1993.
2. Design of Implants, Department of Metallurgy, University of Alabama at Tuscaloosa, 1991.
1. Biomedical Engineering -- Past, Present, and Future, Muscle Shoals Chapter of the Alabama Society of Professional Engineers, Florence, Alabama, 1986.

UAB

46. Polymers in Biomaterials, Society of Plastic Engineers, 2006
45. Tissue Engineering for wound healing, BME seminar, 2006
44. Wound healing, BME seminar, 2005
43. Strategies for healing and assessing pressure ulcers, Spain Rehabilitation research update, 2005
42. To heal or not to heal, BME seminar, 2004
41. Biomaterial enhanced regeneration, BME seminar, 2003

Cell and Matrix Center Retreat, 2003

40. Electrical bandage for healing
39. Biofeedback control of FGF-1
38. Albumin scaffold systems
37. Home health delivered albumin for SCI, Center external review, 2003

BME Advisory Council, 2002

36. Electrical stimulation for healing
35. Biofeedback control drug delivery
34. Albumin tissue adhesives
33. Home health delivered albumin for SCI, update, 2002.
32. Biomaterial enhanced regeneration, UAB Alumni luncheon, 2002.
31. Biomaterial enhanced regeneration, BME seminar, 2002.
30. Biomaterials Enhanced Regeneration: Rationale for implant design, BME Seminar, 2002.
29. Healing and assessing of pressure ulcers, ICRC research update, 2002.

28. Healing and assessing of pressure ulcers, BME Seminar, 2001.
27. Home-health delivered albumin, ICRC research update, 2001.
26. Healing and assessing of pressure ulcers, ICRC research update, 2001.
25. Healing and assessing of pressure ulcers, ICRC research update, 2000.
24. Wound Care Facility, BME Advisory Board, 1999.
23. FGF-1/Fibrin for skin wounds, ICRC research update, 1999
22. Biomaterial Enhanced Regeneration, BME Advisory Board, 1998
21. Tissue Adhesive Scaffolds, Cell Adhesion and Matrix Center, 1998
20. FGF-1/fibrin in Clinical Trials, Spain Rehabilitation research Update, 1997.
19. FGF-1/Fibrin for skin wounds, ICRC research update, 1997.
18. FGF-1/fibrin in Clinical Trials, Spain Rehabilitation research Update, 1996.
17. FGF-1/Fibrin for skin wounds, ICRC research update, 1996.
16. Biomaterials Enhanced Regeneration, Transplant Research, 1995.
15. FGF-1/Fibrin for skin wounds, ICRC Research-in Progress Seminar Series, 1995.

Tissue healing and repair poster session, 1995:

14. Implant design and evaluation (ongoing)
13. Implant design and evaluation (future)
12. Biomaterial enhanced regeneration
11. FGF-1/fibrin in clinical trials, Spain Rehabilitation research Update, 1994.
10. Fibrin in Plastic Surgery, Plastic Surgery Grand Rounds, 1993.
9. Design of Implants in Rehabilitation Engineering, Rehabilitation Medicine Grand Rounds, 1993.
8. Treatment of Pressure Ulcers, Rehabilitation Medicine, 1991.
7. Biodegradable Miniplates, Plastic Surgery Grand Rounds, 1991.
6. Biomaterials Research in Plastic Surgery, Plastic Surgery Grand Rounds, 1990.
5. Treatment of Pressure Sores, Rehabilitation Medicine Grand Rounds, 1989.
4. Basic and Applied Polymeric Biomaterials Research, Johnson & Johnson Corp., UAB, 1989.
3. Biodegradable Polymers, Plastic Surgery Grand Rounds, 1988.
2. Biomechanics and Biomaterials in Rehabilitation Medicine, Rehabilitation Grand Rounds, 1987.
1. Soft Tissue Response to Porous Implants, BME, 1985.

Work Shops/Symposium or Sessions Organized

6. Southeastern Workshop on Tissue Engineering and Biomaterials, 2005
5. Tissue Engineering sessions (4) at Society for Biomaterials annual meeting , 2005
4. Tissue Engineering in Skin Wound Healing, Society for Biomaterials annual meeting, 2003
3. Cell Culture for Biomaterial Design, Society for Biomaterials annual meeting, 1999
2. Wound Healing Assessment, Wound Healing Society annual meeting, 1996
1. Biomaterials Education, Society for Biomaterials annual meeting, 1990

Work Shops/Symposium Chaired

3. Southeastern Workshop on Tissue Engineering and Biomaterials, 2005
2. Biomaterials in Wound Healing, Wound Healing Society annual meeting, 2004
1. Biomaterials in Wound Healing, Wound Healing Society annual meeting, 2003

Reviews (107)

Study Sections/proposals

12. Comprehensive Cancer Center, Multi-investigator grant competition, 2013
11. Comprehensive Cancer Center, Pilot Grant competition, 2012
10. Comprehensive Cancer Center, Eminent Scholars Program, 2012
9. Israel Science Foundation, Effects of sustained Mechanical Loading on Cell viability as related to the Aetiology of chronic Wounds, 2009
8. CDC NCIPC FOA, study section, Biomechanics, 2008.
7. CDC IPCRC grant review, 2006.
6. CDC IPCRC grant review, 2005.
5. National Multiple Sclerosis Research Society, 2004

4. NIH RFA Study Section, Advanced Biomaterials, 2003.
3. NIH SBIR Bioengineering Study Section, 1994.
2. NIH RFA Study Section, Chronic wound healing in skin: failure to heal, 1994.
1. NIH SBIR, Special Study Section, Microbiology, 1992.

Books or Book chapters reviewed

5. ASTM paper for Biocompatibility of Particulate Implant Materials entitled, Correlation between metal ion concentration and fretting wear volume of orthopaedic implant materials, 1990.
4. Porous Ingrowth: The Quantitative Characterization and Performance of Porous Implants for Hard Tissue Applications for Annals of Biomedical Engineering, 1988.
3. The Biomechanics of Impact Trauma for Annals of Biomedical Engineering, 1985.
2. Biomaterials -- An Interfacial Approach in Medical Physics 11(3), pp. 345-346, May 1984.
1. Advances in Biomaterials, Vol. I and II in IEEE Engineering in Medicine and Biology.

Journal articles reviewed (79 and 28 re-reviews)

79. Horizon Research Publishing, Influence of different degradation techniques on the molecular weight distribution of k-Carrageenan, 2015
78. Journal of Biomedical Materials, Evaluation of accelerating wound repair without scar with gel of Chitosan/ Carboxymethyl-chitosan/Panax-notoginsides, 2015.
77. Archives of Dermatological Research, Pulsed Electromagnetic Fields (PEMF) Promote Collagen Fibre Deposition through Myofibroblast Proliferation in the Early Healing Phase of Diabetic Wound, 2014.
76. Journal of Biomedical Materials, Efficacy of antimicrobial nanocomposite dressing composed of PVA hydrogel and reservoirs of silver nanoparticles coated chitosan wafer for superficial wounds: In-vitro and In-vivo study using Wistar rat model, 2015 and re-review.
75. Journal of Biomedical Materials , Biodegradable hybrid scaffold containing silver nano particles support differentiation of adipose derived mesenchymal cells and skin tissue engineering, , 2014, and 4 re-reviews
74. Journal of Biomedical Materials, Biodegradable semi-interpenetrating hydrogel networks of polyacrylamide and gelatin (PaM/G) for wound healing application: in-vivo study, 2014
73. Journal of Biomedical Materials, Novel copper (II) Alginate Hydrogels and their potential for use as anti-bacterial wound dressings, 2013 and 3 re-reviews.
72. Journal of Biomedical Materials, Adipose-derived stem cells seeded on PLCL/P123 eletrospun nanofibrous scaffold enhance wound healing, 2013 and 2 re-reviews.
71. Journal of Medical Devices, Fractional skin harvesting: device design and functional validation, 2013.
70. Journal of Biomechanical Engineering, An Approach to Determine Pressure Profile Generated by Compression Bandage Using Quasi-Linear Viscoelastic Model, 2011 and re-review.
69. Journal of Biomedical Materials Research, Characterization of Bionanocomposite Scaffolds Comprised of Mercaptoethylamine—Functionalized Gold Nanoparticles Crosslinked to an Acellular Porcine Tendon, 2011 and re-review.
68. Journal of Biomedical Materials Research, Method of preparing a decellularized porcine tendon using tributyl phosphate, 2010
67. Journal of Biomedical Materials Research, Development of a cell-derived biomaterial: Effects of epidermal growth factor in chemically defined culture, 2008 and re-review.
66. Journal of Biomedical Materials Research., ¹H NMR spectroscopic study of the effect of ageing vascular prostheses made of poly(ethylene terephthalate) on the macromolecular weight, 2008 and re-review.
65. Journal of Biomedical Materials Research, A mixture of hyaluronic acid and dermatan sulfate reduces apoptosis and proliferation in *in vitro* organotypic cultures of human skin explants interfaced with external fixator pins, 2008.
64. Journal of Biomedical Materials Research, Heat shock-induced three-dimensional-like proliferation of normal human fibroblasts mediated by pressed silk, 2008.
63. ASME Journal of Medical Devices, A Modified Footplate for the Kerrison Rongeur, 2008.
62. Journal of Biomedical Materials Research, New Polymeric Biocides: Synthesis, Characterization and Anti-microbial Studies of Polyurethane Bearing Azomethine Metal Chelates, 2007.

61. Journal of Biomedical Materials Research, Accelerating effects of silk fibroin on wound healing in hairless descendants of Mexican hairless dogs, 2007.
60. Archives of Physical Medicine and Rehabilitation, Investigations using an experimental model of the validity of estimated shear force, 2007.
59. Archives of Physical Medicine and Rehabilitation, The validity and the sensing area of KINOTEX sensor for developing a new mattress with interface pressure sensing system, 2007.
58. Journal of Biomedical Materials Research, Sealing the skin barrier around transcutaneous implants: An in vitro study of keratinocyte proliferation and adhesion in response to surface modifications of titanium alloy, 2006.
57. Journal of Biomedical Materials Research, Preparation and characterization of a genipin-crosslinked chitosan film integrated with the soybean protein nonwoven fabric for wound dressing, 2006, and re-review
56. Journal of Biomedical Materials Research, An Investigation of Burn Wound Healing Using Epidermal Growth Factor Liposome Formulation, 2006, and re-review
55. Journal of Biomedical Materials Research, Gamma irradiated chitosan/pHEMA membranes for drug release systems, 2006.
54. Journal of Biomedical Materials Research, Macroporous Condensed poly(tetra fluoro-ethylene): II. In vivo effect on adhesion formation and tissue integration, 2006 and re-review.
53. Journal of Biomedical Materials Research, Down regulation of macrophages results in early control of a collagen-based biomaterial-related infection in rats, 2006, and re-review.
52. Biomacromolecules, Fourier transform infrared spectroscopy for detection of contaminant proteins in poly (3-hydroxybutyrate) purified from *Alcaligenes eutrophus*, 2005
51. Journal of Biomedical Materials Research, Poly (ϵ -caprolactone) grafted with nano-structured chitosan enhances growth of human fibroblasts: effects of different nano-structured chitosan surface, 2005.
50. Journal of Biomedical Materials Research, Long-term biofunctionality evaluation of porous PEGT/PBT implants for soft tissue augmentation, 2005.
49. Biomacromolecules, In vivo analysis of infected wound healing using Ciprofloxacin incorporated collagen bilayer dressing, 2005.
48. Biomacromolecules, Preparation and characterization of biodegradable, microporous physiologically clotted fibrin-chitosan composite wound dressing, 2005.
47. Archives of Physical Medicine and Rehabilitation, Turning bias and lateral dominance in able-bodied and amputee populations, 2005.
46. Journal of Biomedical Materials Research, Pexiganan incorporated collagen matrices for infected wound healing processes in rat, 2004 and 2 re-reviews 2005.
45. Material Science & Engineering, Influence of thermal treatment of nanoscaled silica on interfacial adhesion properties of the silica/rubber compounding, 2004.
44. Journal of Biomedical Materials Research, Development of new injectable bulking agents. Biocompatibility of radio-opaque polymeric microspheres studied in a mouse model, 2004, 2007.
43. Journal of Biomedical Materials Research, Study for the possibility of recombinant human BMP-2/collagen composites as regenerative material for auditory ossicles, 2004.
42. ASAIO, Time-related histopathologic changes of acellularized xenogenic pulmonary valved conduits, 2004.
41. Journal of Biomedical Materials Research, Evaluation of fungal chitosan as a modulator for enhanced wound healing 2004.
40. Archives of Physical Medicine and Rehabilitation, Manuscript Title: A comparison of Spinergy vs. standard steel-spoke wheelchair wheels, 2004.
39. Journal of Biomedical Materials Research, Small fiber-diameter fibro-porous mesh: Tissue response sensitivity to fiber spacing, 2003, re-review 2004.
38. Journal of Biomedical Materials Research, The effect of pore size on cell adhesion in collagen-GAG scaffolds, 2003.
37. Journal of Biomaterials Science (Polymer Edition), Stimuli-sensitive hydrogels: ideal carriers for chronobiology and chronotherapy, 2003.
36. Journal of Biomaterials Science (Polymer Edition), In vitro and in vivo degradation and tissue response of rosin-based biomaterials, 2003.

35. Journal of Biomedical Materials Research, Functional evaluation of collagen fiber scaffolds for ACL reconstruction: cyclic loading in proteolytic enzyme solutions, 2003, re-review 2003.
34. Journal of Biomedical Materials Research, In vitro evaluation of degradation and cytotoxicity of a novel composite as bone substitute, 2002, re-review 2003
33. Journal of Biomedical Materials Research, Elastin hydrogelation for elastic tissue engineering: preparation and elasticity of a hydrogel with a novel cross-linker, 2002, re-review 2002.
32. Journal of Biomedical Materials Research, Novel visible-light-induced photocurable hemostatic glue composed of multiple styrene gelatin and poly(ethylene glycol) diacrylate, 2002
31. Journal of Applied Biomaterials, Adhesive strength of marine mussel extracts on porcine skin, 2002.
30. Journal of Applied Biomaterials, In vitro cytotoxicity testing of AB-polymer networks based on oligo(ϵ -caprolactone) segments having shape-memory properties. I. Indirect tests, 2002.
29. Journal of Biomaterials Science (Polymer Edition), Preparation and in vivo evaluation of porous collagen/chitosan scaffolds as dermal equivalents, 2002.
28. Archives of Physical Medicine and Rehabilitation, Evaluation of selected sidewalk pavement surfaces, 2002.
27. Archives of Physical Medicine and Rehabilitation, Post occlusive hyperaemic response of tissue to static and dynamic loading, 2002.
26. Archives of Physical Medicine and Rehabilitation, Slipping and tipping accidents while traversing a bump in a wheelchair, 2002.
25. Archives of Physical Medicine and Rehabilitation, Variable ratio power assist wheelchair eases wheeling over a variety of terrains for elders, 2002.
24. Archives of Physical Medicine and Rehabilitation, Wheelchair configuration and postural alignment in persons with spinal cord injury, 2002.
23. Archives of Physical Medicine and Rehabilitation, Static and dynamic stability and braking distances of five models of electric powered wheelchairs, 2001.
22. Wound Repair and Regeneration, Acceleration of wound contraction and healing with a photocrosslinkable chitosan hydrogel, 2001.
21. Archives of Physical Medicine and Rehabilitation, Validation test for climate control on air loss supports, 2000.
20. Archives of Physical Medicine and Rehabilitation, Transmission electron microscopic examination of collagen fibrils in diabetic heel pads, 2000.
19. Applied Biomaterials, Biofilm formation and design features of indwelling silicone rubber tracheoesophageal voice prostheses, 2000.
18. Archives of Physical Medicine and Rehabilitation, Joint kinetics in unilateral below-knee amputees during running, 2000.
17. Journal of Rehabilitation Research and Development, Microstructural characteristics of human skin subjected to static versus cyclic pressures, 1998, re-review 1999.
16. Journal of Biomaterials Science (Polymer Edition), Release from alginate enhances the biological activity of vascular endothelial growth factor, 1998.
15. Journal of Biological Chemistry, Biomimetic peptide surfaces that regulate adhesion, spreading, cytoskeletal organization, and mineralization of matrix deposited by osteoblast-like cells", 1998.
14. Journal of Biomaterials Science (Polymer Edition), Test methodology for following biodegradation in vitro, 1993.
13. Wound Repair and Regeneration, Increases in tensile failure strength of a fibroblast contracted collagen gel, 1992.
12. Wound Repair and Regeneration, Role of TGF- β 1 and FGF in the wound healing process; an in vivo biomechanical evaluation, 1992.
11. Science, Erosion kinetics of hydrolytically degradable polymers, 1992.
10. Journal of Investigative Surgery, Relationship between the longitudinal tension and length changes in a knitted polyester arterial prosthesis implanted as a thoraco-abdominal bypass in dogs, 1991, re-review 1993.
9. Journal of Investigative Surgery, Histological evaluation of percutaneous implants in humans and animals, 1989.
8. Journal of Biomedical Materials Research, Physical and hydrodynamic factors affecting erythrocyte

adhesion, 1987.

1-7. Seven articles for Applied Mechanics Review, 1981-1983.

Engineering Project Reviews (16 case studies, 3 units, 12 lessons and 28 activities)

Teaching Engineering Ethics: A Case Study Approach

17-32. 16 reviews

TeachEngineering

16. Cleaning the Floor with a Robot, 2014
Activity
15. Energy Through the Air, 2013
Activity
14. Citizen Science with Zooniverse, 2013
Activity
13. Flexiconcrete or Bust, 2013
Activity
12. Concentrate this Sugar or Salt, 2012
Lesson and Activity
11. Resurfacing our School's Floors, 2012
Activity
10. Curricula Unit: NanoTech: Insights into a nano-sized world, 2012
Unit, 2 lessons, 5 activities
9. Curricular Unit: Engineering of Bone, 2011
Unit, 2 lessons and 2 activities
8. Surfactants: Helping Molecules Get Along, 2011
Lesson and 4 activities
7. How High Can a Superball Bounce, 2010
Activity
6. The Electric and Magnetic Personalities of Mr. Maxwell, 2010
Lesson and 2 activities
5. Curricular Unit: Forget the Chedda, 2010
Unit, 3 lessons, and 3 activities
4. Newton's First law of Motion, 2010
Activity
3. Get in Gear, 2009
Activity
2. Energy Forms, States and Conversions, 2009
Lesson and 2 activities
1. Energy Basics, 2008
Lesson and 1 activity

Engineering Accreditation—ABET

Undergraduate Program Committee, BME initial accreditation, 2006

Undergraduate Program Director and ABET Coordinator, BME 2nd Accreditation 2012

Undergraduate Program Committee, BME Accreditation 2018

PEV training, summer 2013

Accreditation Team for UCO, BME for BME, fall 2013

Professional Organizations

International

Editorial Board Journal of Biomedical Materials Research (2001-present)

Society for Biomaterials

Member (1980 - present)

Elected to Nominations and Awards Committee (1994-1995)

Local Arrangements Committee (1993 - Birmingham meeting)

Program Committee (1990, 1997, 1998, and 2005 meetings)

Educational and Professional Development Committee [Chair 1987 - 1989, member (1983 - 94)]

Governing Council (1987-1989)

Session Chairperson (1984-1986, 1989-1991, 1993, 1999-2003, 2005)

Symposium or session organizer (1990, 2003, 2005)

SIG reorganization committee (2005-2006)

TESIG

Elected Program Chair (2003-2004)

Elected Secretary/Treasurer (2002-2003)

Elected Publications Chair (2001-2002)

Elected Nominations Chair (2000-2001)

Elected Electronic Bulletin Board committee (1996-2001)

Governing Council (1996-2005)

Wound Healing Society

Member (1992 - present)

Education Committee (1995 -2000, 2007-present)

Program Committee (1996, 2002-2004)

Government Relations Committee (2003-2004)

Session Chairperson (2003, 2004)

Symposium organizer (1996, 2003, 2004)

American Burn Association (1995)

Surgical Tissue Adhesive

Program Committee (Atlanta meeting 1993)

ASTM, Committee F-4 on Medical and Surgical Materials and Devices,

Member (1987-1990, 1998-2005)

Tissue adhesive subcommittee (2002-2005)

Fibrin subcommittee (2002-2005)

Assessment (2002-2005)

Regional

Southern Biomedical Engineering Society

Steering Committee (1982 - 1987)

Southeast Workshop on Tissue Engineering and Biomaterials

Organizer (2005)

Local

Advisor for Society for Biomaterials student group (1990-present)

Advisor for Biomedical Engineering student group (2001-present)

Advisor Biomedical Engineering Honors Program (2002-2008)

News Articles

Lisa Mahan, 2015, "Start-Up Spotlight: Surface Integrity, LLC," SmartTRAK.net, 02/02/2015.

Lauren White, 2015, "UA startup places second overall," The Crimson and White. 01/07/2015.

Lauren Morgan, 2015, "BioAlabama Student Member Reaches Success with University of Alabama Affiliated Startup," 01/22/2015.

David Miller, 2014, "UA StartUp Finishes Second at International Innovation Conference," The University of Alabama News, 12/16/2015.

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