

## CURRICULUM VITAE

**Franklin D. Shuler, M.D., Ph.D.**  
**Diplomate, American Board of Orthopaedic Surgery**

OFFICE PHONE NUMBER

304-293-2779

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### EDUCATIONAL ACCOMPLISHMENTS

#### APPOINTMENTS AND POSITIONS

West Virginia University Morgantown, WV	Director, Orthopaedic Research Director, Molecular Orthopaedics Laboratory	11/2007- present
West Virginia University Morgantown, WV	Assistant Professor Orthopaedic Trauma	9/2007- present
Vanderbilt University Nashville, TN	Assistant Professor Orthopaedic Trauma	2003- 5/2007
Jilin University, China (Honorary Appointment)	Professor (Adjunct) School of Pharmacy	2003- present
University of Pittsburgh School of Medicine Pittsburgh, PA	Trauma Fellow & Clinical Instructor Orthopaedic Surgery	2002-3
University of Pittsburgh School of Medicine Pittsburgh, PA	Clinical Instructor Orthopaedic Surgery (Veteran's Hospital, St Margaret's, Southside)	2001-3

#### ORTHOPAEDIC TRAUMA ATTENDING

**Diplomate of the American Board of Orthopaedic Surgery (Through 12/31/2016)**  
**Director, Orthopaedic Research**  
**Director, Molecular Orthopaedic Laboratory**

**West Virginia University** 2007-present

Who's Who in the World 2008-2009

Elected to WVU Hospitals Capacity Management Group (October 2008)

OTA 2008 24<sup>th</sup> Annual Meeting, Denver, CO. Poster and 2 podium papers/contributor.

Faculty 2008 OTA Resident Course Lab Instructor

Faculty 2008 Medtronic, Speakers Bureau - INFUSE® -- Consultant Medtronic – Surgeon Education Programs in Raleigh, NC; Gainesville, FL; Kalamazoo, MI and corporate basic sales training.

Faculty 2008 AO Orthopaedic Trauma Advance Course Team Approach to Fracture Management, West Palm Beach, FL

Invited Lecturer for 2008 BMP Conference, Lake Tahoe, CA – Dr. Harri Reddi and Dr. Thomas Einhorn: "Orthopaedic Trauma Applications of BMP: Is the Juice Worth the Squeeze and How is the Data Perceived?"

Awarded 2008 Zimmer Competitive Research Grant "The Effect of Orthopaedic Implant Copper Coatings on Infection: In Vitro and In Vivo Analysis."

Faculty 2008 Miller's Colorado Review Course

Awarded 2008 Stryker Competitive Research Grant "Compartment Syndrome: Are We Able to Detect Elevated Compartment Pressures with Physical Examination?"

**First place award** for WVU's Resident Research Day 2008 – Under Pressure: Compartment Syndrome Detection.

Faculty 2008 Miller's Colorado Recertification Review Course

National Excellence in Healthcare Award 2007 – PRC, Inc. Individual provider **5-Star award winner.**

National Doctors Day – WVU Awardee for Excellence in Service

Elected to Department of Orthopaedics Promotion and Tenure Committee (December 2007)

OTA 2007 23<sup>rd</sup> Annual Meeting, Boston, MA Podium/contributor.

Faculty 2007 OTA Resident Course Lab Instructor

Faculty 2007 Orthopaedic Trauma: A Team Approach to Fracture Management

Faculty 2007 Miller's Colorado Orthopaedic Board Review Course

Faculty 2007 Miller's Colorado Recertification Review Course

Faculty 2007 Medtronic National Sales Meeting – Biologics Speaker

Faculty 2007 Medtronic, Speakers Bureau - INFUSE® -- Consultant Medtronic – Surgeon Education Programs in Shreveport, LA; Raleigh, NC.

### **Vanderbilt University**

2003-5/16/07

Faculty 2006 OTA Resident Course Lab Instructor

Faculty 2006 Controversies and Outcomes in Locked Plating of Fractures

Faculty 2006 OTA Residents Comprehensive Fracture Course

OTA 2006 22<sup>nd</sup> Annual Meeting, Phoenix, Arizona (Podium, Poster)

AO North America Visiting Professor June 2006

Faculty 2006 Miller's Colorado Orthopaedic Board Review Course

Faculty 2006 Miller's Colorado Recertification Review Course

Faculty 2006 Medtronic, Speakers Bureau - INFUSE®

OTA 2005 21<sup>st</sup> Annual Meeting, Ottawa, Ontario, Canada (Podium x 2)

Faculty 2005 Medtronic, Speakers Bureau - INFUSE®

Faculty 2005 Miller's Colorado Orthopaedic Board Review Course

ORS 2005 51<sup>st</sup> Annual Meeting, Washington, D.C.

OTA 2004 20<sup>th</sup> Annual Meeting, Hollywood, FL (Podium)

Faculty 2004 AO ASIF Nursing Continuing Education Course, Indianapolis, IN

Faculty 2004 Advanced Trauma Training Program, San Francisco, CA

Faculty 2004 Advanced Trauma Training Program, Nashville, TN

AO ASIF 2004 Principles of Fracture Management Course Marco Island, FL

Faculty 2004 Miller's Colorado Orthopaedic Board Review Course – voted best lecturer

### **ORTHOPAEDIC TRAUMATOLOGY FELLOWSHIP**

University of Pittsburgh

2002-3

Awarded first **Foundation for Orthopaedic Trauma Traveling Fellowship.** This fellowship allows the recipient to rotate with well-established trauma surgeons. I was fortunate to rotate with several traumatologists including Drs. Sanders and DiPasquale (Tampa General Hospital – January 2003 and August 2003), Dr. Matta (Good Samaritan Hospital – Feb 2003 and May 2003) and Dr. Kregor (Vanderbilt – September 2003)

Faculty 2003 Miller's Colorado Orthopaedic Board Review Course

Faculty 2003 Advanced Concepts of Fracture Management (lectures and Foot and Ankle Moderator)

Masters in Orthopaedic Coding Sept 2003 AAOS Nashville

Faculty 2002 Smith and Nephew, Inc 17<sup>th</sup> Annual Orthopaedic Residents Conference

Faculty 2002 AO ASIF Orthopaedic Trauma: Team Approach to Fracture Management

Invited lecturer at Tampa General Hospital Orthopaedic Grand Rounds – January 2003

Invited lecturer at Indiana University Orthopaedic Grand Rounds – January 2003

Invited lecturer at Duke Medical Center Orthopaedic Grand Rounds -- December 2002

**POSTGRADUATE**

University of Pittsburgh School of Medicine Pittsburgh, PA	Resident Orthopaedic Surgery	1996- 2001
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**First Place Award** for “Gene Therapy for Cartilage Repair” presented at the 1998 Smith and Nephew, Inc. 16<sup>th</sup> Annual Orthopaedic Residents Conference. The prize also included a research grant for my department.

**First Place Award** for 1999 Orthopaedic Radiology Case of the Week Program - Department of Orthopaedic Surgery University of Pittsburgh.

Winner of **Second Place Award** for scientific merit: Gene Therapy – New Frontiers for Cartilage Repair. Pennsylvania Orthopaedic Society 2000 Spring Scientific Meeting.

Faculty for the 2002 Miller’s Colorado Orthopaedic Board Review Course. Course evaluation excellent. Invited to return in 2003.

**First Place Award** for 2002 Orthopaedic Radiology Case of the Week Program - Department of Orthopaedic Surgery University of Pittsburgh.

Faculty for the 17<sup>th</sup> Annual Smith and Nephew call for abstracts resident research competition  
Consultant for Omics Inc. – Information and Biotechnology company: San Diego, CA and Changchun, China.

Redeveloped the educational curriculum for training of Orthopaedic residents at the University of Pittsburgh. Educational Coordinator 2001-present.

Orthopaedic Surgery core curriculum lecturer to UPMC Emergency Department Residency Program

Designer of Orthopaedic Trauma Surgery logo for University of Pittsburgh

Founding member of Orthopaedic Resident Advisory Board to Smith and Nephew, Inc.

Principal Investigator for the grant supported research project “Molecular signaling directing chondrocyte re-differentiation (improvement of autologous chondrocyte transplantation)”. This project has received two competitive grant renewals. Principal Investigator for the grant supported research project “Skin temperatures generated during cast removal.”

**Research Fellow** of the Ferguson Laboratory for Orthopaedic Research

Historian for the development of the new Dr. Freddie Fu Orthopaedic Department logo

Elected to the Orthopaedic Education Committee

Established Orthopaedic Radiology Case of the Week Program

Team Doctor Albert Gallatin High School Football

**GRADUATE**

West Virginia University School of Medicine Morgantown, WV	M.D. Degree Ph.D. Degree (Biochemistry and Molecular Biology)	1996
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First student accepted to and graduated from West Virginia University’s M.D./Ph.D. Medical Scientist Program. Awarded M.D./Ph.D. scholarship (seven-year full academic scholarship)

Five-year **Doctor Doctor** state representative (representing West Virginia in this organization focusing on the dual degree approach to medicine)

Second place 1994 Van Liere Research Competition

WVU Nominee for the Young Scientists Training Program

Biochemistry Department graduate student representative

Directed the establishment of the George H. Wirtz Memorial Biochemistry Library

Founder’s Day Dinner Speaker

Medical School appointed biochemistry tutor for health professional students

Participant in 1993 National Youth Science Camp

Member Hospital-School of Medicine Liaison Committee, AMA, WVSMA

**UNDERGRADUATE**

Bethany College Bethany, WV	B.S. Degree with Honors Summa cum laude Biochemistry/Chemistry Valedictorian	1989
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**Oreon E. Scott Award** – Highest academic record in the Class of 1989. GPA \*4.06/4.0. \*Distinction on Comprehensive Examinations

Senior Chemistry Award (highest cumulative average including the record made on the Senior Comprehensive Examination)

**Senior Fellow** – Chemistry Department

**President** Gamma Sigma Kappa (scholastic honorary society)

**President** Bethany Kalon (leadership honorary society)

**President** Student Affiliate Chapter of the ACS

**President** Heritage House (Bethany's academically oriented dormitory)

Students Distinguished in Scholarship Award

CRC Press Freshman Chemistry Award

First Place ACS Regional Research Competition

National Dean's List

Who's Who

Outstanding Young Men in America

Beta Beta Beta (biological honorary society)

**MEDICAL LICENSURES**

State of West Virginia	22837	2007-present
State of Pennsylvania	MT-039684-T	1997
	MD-072936-L	2001-4
State of Arizona	31891	2005
State of Tennessee	38138	2004-07

**MEDICAL SOCIETIES**

Orthopaedic Trauma Association	Associate Member	2005-present
West Virginia Orthopaedic Society	Member	2007-present
Monongalia County Medical Society	Member	2007-present
Pennsylvania Orthopaedic Society	Resident/Fellow Member	1996-2002

**RESEARCH EXPERIENCE**

**West Virginia University** – Principal Investigator and/or Co-Investigator on multiple randomized prospective clinical trials.

- TRUST: Trial to evaluate UltraSound in the Treatment of tibial fractures. Prospective Randomized Multicenter Trial.
- Pfizer: A Randomized, Placebo-Controlled Study to Evaluate the Efficacy, Safety and Tolerability of CP-533.536 in Subjects with Closed Fracture of the Tibial Shaft. Prospective Randomized Multicenter Trial.
- Synthes: A Multicenter, Prospective, Randomized, Controlled Clinical Study Comparing the Synthes Tibial Nail-EX with Antibiotic Coating to the Synthes Tibial Nail-EX in Patients Requiring Treatment of Tibial Shaft Fractures.

- Quantification of Urine Collagen Type II C-Telopeptide in Patients with Fractures.
- Quantification of Urine Collagen Type II C-Telopeptide in a rabbit retro-patellar blunt impact cartilage damage model system.

**Vanderbilt University** – Principal Investigator and/or Co-Investigator on multiple randomized prospective clinical trials.

- SPRINT: Reamed vs. Unreamed Tibia Nails – Prospective Randomized Multicenter Trial of Reamed vs. Unreamed Tibia Nails.
- KCI Wound Vac: Prospective Randomized Trial for distal tibia pilon, tibial plateau and calcaneus fractures wound management.
- Cast vs. Intramedullary Fixation of Stable Tibia Fractures: Prospective Randomized Multi-Center Trial.
- Tibia Plafond (Pilon) Fractures: ORIF vs. Ex-Fix: Prospective Randomized Multi-Center Trial.
- Displaced Clavicle Fractures: ORIF vs. Conservative treatment: Prospective Randomized Multi-Center Trial.
- JAS Bracing: Intra-articular Fractures of Distal Humerus: Prospective Randomized Trial.
- Clinical Efficacy and Cost Implications of Acute BMP-2 Application in Grade IIIB Tibia Fractures: Prospective Randomized Multi-Center Trial.
- Quantification of Urine Collagen Type II C-Telopeptide in Patients with Fractures.

**Residency** -- Research Fellow in the Ferguson Laboratory for Orthopaedic Research – researcher on the NIH grant “Cartilage Regeneration Using Cell and Gene Therapy in OA.” Projects focused on development and characterization of gene therapy techniques to be used for improvement of cartilage healing. Also Principal Investigator for the grant supported research project “Molecular signaling directing chondrocyte re-differentiation (improvement of autologous chondrocyte transplantation)”. Advisor: Dr. Christopher Evans.

**PhD Research** -- Dissertation research “Analysis of Regulatory Regions Within the first Intron of the Estrogen-Inducible Chicken Very Low Density Apolipoprotein II Gene.” Advisor: Dr. Marilyn Evans.

**Undergraduate** -- 1989 Summer Researcher on the American Heart Association Grant entitled, “Molecular Mechanisms of Angiotensins in NG108-15 Cells.” Advisor: Dr. Ann Tallant – Cleveland Clinic Foundation

**Undergraduate** -- 1988 Summer Researcher on the NIH Grant entitled “Enzymatic Repair of Carcinogenic Damage to Human DNA” Advisor: Dr. Patricia E. Gallagher – West Virginia University

**Undergraduate** -- NASA’s 1987 Space Life Sciences Training Program. I participated in all phases of space flight experimentation and NASA life science research. Four experiments that I worked on were flown aboard the Space Shuttle. Also, one of my experimental designs was accepted for space flight – Kennedy Space Center

### **CURRENT GRANT FUNDING/PROPOSALS:**

- 2008 Co-PI submission \$100K Arthritis Foundation “The Effect of Melatonin on Chondrogenesis and Inflammation: A Potential Novel Treatment for Cartilage Injury and Degeneration”. Duration 1/1/2009-12/31/2009.
- 2008 Co-PI submission \$50K OTC Research Grant “Nanotechnology based IL-12 microcapsules for infection prevention in open fractures - A pilot study.” Duration 01/01/2009-12/31/2009
- 2008 Zimmer Competitive Research Grant “The Effect of Orthopaedic Implant Copper Coatings on Infection: In Vitro and In Vivo Analysis.” \$74K awarded.
- 2008 Stryker Competitive Research Grant “Compartment Syndrome: Are We Able to Detect Elevated Compartment Pressures with Physical Examination?” \$10K awarded.

### **INDEPENDENTLY FUNDED SELF-DIRECTED PROJECTS:**

**Residency** -- Initiated, obtained grant funding, and Principal Investigator on the project entitled “Skin temperatures generated during cast removal.” This project received grant funding through the Pittsburgh Foundation.

**Residency** -- Initiated, obtained grant funding, and Principal Investigator on the project entitled “Molecular signaling directing chondrocyte re-differentiation (improvement of autologous chondrocyte transplantation)”. This project received grant funding through the Pittsburgh Foundation. Competitive renewal was awarded for two years.

**Undergraduate** -- Initiated a project entitled “Further Purification and Crystallization of Stem Bromelain for X-Ray Diffraction Analysis.” The Gans Fund for scientific research funded this project and results were published in my senior thesis.

**Undergraduate** -- Initiated a Water Analysis project for Bethany College entitled “Development of a Program of Water Analysis for the Bethany College Swimming Pool.” The Gans Fund for scientific research funded this project, and presentation of my results at the 1988 regional ACS Meeting resulted in a First Place Award.

### **CURRENT IRB APPROVED STUDIES:**

**IRB# H-20899 West Virginia University** -- TRUST: Trial to evaluate UltraSound in the Treatment of tibial fractures. **Active.**

**IRB# H-20972 West Virginia University** -- Pfizer: A Randomized, Placebo-Controlled Study to Evaluate the Efficacy, Safety and Tolerability of CP-533,536 in Subjects with Closed Fracture of the Tibial Shaft. **Active.**

**IRB# 999-16958 West Virginia University** -- A Multicenter, Prospective, Randomized, Controlled Clinical Study Comparing the Synthes Tibial Nail-EX with Antibiotic Coating to the Synthes Tibial Nail-EX in Patients Requiring Treatment of Tibial Shaft Fractures. **Active.**

**IRB# H-20834 West Virginia University** -- Quantification of Urine Collagen Type II C-Telopeptide in Patients with Fractures. **Active.**

**IRB# 040280 Vanderbilt University** -- Quantification of Urine Collagen Type II C-Telopeptide in Patients with Fracture **July 27, 2004 – July 6, 2005 Renewal granted for 2006. Closed.**

### **PUBLICATIONS**

**Shuler, F.D.,** Dietz M. 2008. Under pressure: physician’s ability to manually detect isolated elevation in leg intra-compartmental pressure. Submitted for publication JBJS manuscript.

**Shuler, F.D.,** Grisafi, F., Whalen J. 2008. Skin temperatures generated with plaster splints. Submitted for publication JBJS manuscript.

**Shuler, F.D.,** Grisafi, F. 2008. Cast saw burns: evaluation of skin, cast, and blade temperatures generated during cast removal. J Bone Joint Surgery Am.

**Shuler, F.D.,** Pappas, N. 2008. Treatment of posterior sternoclavicular dislocations with locking plate osteosynthesis. Orthopaedics 31:273-.

Obremskey, W.T., Austin, T., Crosby, C., Driver, R., Kurtz, W., **Shuler, F.,** and Kregor, P. 2007. Detection of orthopaedic implants by airport metal detectors. J of Ortho Trauma Feb 21(2):129-32.

Ziran, B.H., Chamberlin, E., **Shuler, F.D.,** and Shah, M.A. 2005. Delays and difficulties in the diagnosis of lower urologic injuries in the context of pelvic fractures. J of Trauma Mar 58(3):533-7.

Zelle, B.A., Gerich, T.G., Bastian, L., **Shuler, F.D.,** Pape, H.C., Krettek, C. 2004 Total hip arthroplasty in young patients using the thrust plate prosthesis: clinical and radiographic results. Arch Orthop Trauma Surg. Apr 14

- Shuler, F.D.**, Conti, S.F., Gruen, G.S., and Abidi, N.A. 2001. Wound-healing risk factors after open reduction and internal fixation of calcaneal fractures: Does correction of Bohler's angle alter outcomes? *Ortho Clinics North America*. 32:187-192.
- Shuler, F.D.** Georgescu, H.I., Niyibizi, C., Studer, R.K., Mi, Z., Johnstone, B., Robbins, P.D., and Evans, C.H. 2000. Increased matrix synthesis following adenoviral transfer of a transforming growth factor beta-1 gene into articular chondrocytes. *J Ortho Res* 18:585-592.
- Evans CH, Ghivizzani SC, Smith P, **Shuler FD**, Mi Z, and Robbins PD. 2000. Using gene therapy to protect and restore cartilage. *Clin Orthop and Rel Res* 379:S214-219.
- Bosch, P., Musgrave, D.S., Lee, J.Y., Cumming, J., **Shuler, F.D.**, Ghivizzani, T.C., Evans, C.H., Robbins, P.D. and Huard, J. 2000. Osteoprogenitor cells within skeletal muscle. *J Orthop Res*. 18:933-944.
- Smith, P.N., **Shuler, F.D.**, Georgescu, H.I., Ghivizzani, S.C., Johnstone, B., Niyibizi, C., Robbins, P., and Evans, C.H. 2000. Genetic enhancement of matrix synthesis by articular chondrocytes: Comparison of different growth factor genes in the presence and absence of interleukin-1. *Arthritis & Rheumatism* Vol 43:1156-1164.
- Goto, H., **Shuler, F.D.**, Lamsam, C., Moller, H.D., Niyibizi, C., Fu, FH, Robbins, P.D., and Evans, C.H. 1999. Transfer of LacZ marker gene to the meniscus. *J Bone Joint Surg* Vol 81-A:918-925.
- Goto, H., **Shuler, F.D.**, Niyibizi, C., Fu, FH, Mi, Z., Robbins, P.D., and Evans, C.H. 1999. Gene therapy for meniscal injury: Enhanced synthesis of proteoglycan and collagen by meniscal cells transduced with a TGF- $\beta$ 1 gene. *Osteoarthritis and Cartilage*. 8(4):266-271.
- Shuler, F.D.**, Chu W.W., Wang, S. and Evans, M.I. 1998. A composite regulatory element in the first intron of the estrogen-responsive chicken very low density apolipoprotein II gene. *DNA and Cell Biology* 17(8):689-697.
- Shuler, F.D.** 1996. Analysis of Regulatory Regions Within the First Intron of the Estrogen-Inducible Chicken Very Low Density Apolipoprotein II Gene. Dissertation.
- Shuler, F.D.** and Evans, M.I. 1994. Analysis of protein binding sites within the first intron of the estrogen-inducible chicken very low density apolipoprotein II gene. *FASEB J*. 8(7):A808.

### **BOOK CHAPTERS**

- Shuler, F.D.** and Dietz, M. 2008. Chapter 167. Fractures of the Tibial Shaft in Essential Orthopaedics. Elsevier.
- Shuler, F.D.** and Davis, B. 2008. Chapter 166. Fractures of the Patella in Essential Orthopaedics. Elsevier.
- Shuler, F.D.** and Beimesch, C. 2008. Chapter 165. Fractures of the Distal Femur and Proximal Tibia in Essential Orthopaedics. Elsevier.
- Shuler, F.D.** 2008. Anatomy. Chapter 2 in Miller's Review of Orthopaedics Fourth Edition. M.D. Miller editor. W.B. Saunders Company.
- Shuler, F.D.** 2007. Embryology and Surgical Anatomy of the Musculoskeletal System. Chapter 4. Mercer's Textbook of Orthopaedics.
- Shuler, F.D.** and Obremskey W.T. 2007. Chapter 30. Fractures of the Tibial Shaft in Stannard/Kregor/Schmidt Surgical Treatment of Orthopaedic Trauma. Thieme

**Shuler, F.D.** 2004. Anatomy. Chapter 11 in Miller's Review of Orthopaedics Fourth Edition. M.D. Miller and M.R. Brinker editors. W.B. Saunders Company.

**Shuler, F.D.** and Ziran B.H. 1999. Ankle Fractures and Dislocations. Chapter 18 in Fractures: Current Diagnosis and Treatment, H. Moehring and A. Greenspan editors.

#### **NON-PEER REVIEWED PUBLICATIONS:**

**Shuler, F.D.** and Crossett, L.S. 2002. Determination of relative acetabular orientation using standard radiographs. *Pittsburgh Orthopaedic Journal* 13:94-95.

**Shuler, F.D.**, Gruen G.S., Whalen J., Shah M., and Prayson, M.J. 2001. Long-term follow-up of patients with pelvic fracture urethral injuries treated by immediate primary endoscopic realignment: Urological and sexual functioning outcomes. *Pittsburgh Orthopaedic Journal* 12:182.

**Shuler, F.D.**, Fluhme D., and Moreland, M.S. 2001. Bilateral proximal tibial physeal fractures due to trampoline rebound: Case report and literature review. *Pittsburgh Orthopaedic Journal* 12:180-181.

**Shuler, F.D.**, Gruen G.S., Whalen J., and Prayson M.J. 2001. Skin temperatures generated with plaster splints. *Pittsburgh Orthopaedic Journal* 12:178-179.

**Shuler, F.D.**, Gruen G.S., Whalen J., Deeney V., Schaefer L., Roberts N., and Prayson, M.J. 2001. Cast saw burns: preliminary evaluation of skin, cast, and blade temperatures generated during cast removal. *Pittsburgh Orthopaedic Journal* 12:176-177.

**Shuler, F.D.**, Zlotolow, D., and Ziran, B.H. 2000. Antegrade Femoral Nailing Using a New and True Percutaneous Technique. *Pittsburgh Orthopaedic Journal* 11:166-167.

**Shuler, F.D.** and Evans, C.H. 1999. TGF $\beta$ -1 and TGF $\beta$ -3 do not aid in the re-differentiation of passaged/differentiated articular chondrocytes. *Pittsburgh Orthopaedic Journal* 10:138-140.

Smith, P.N., **Shuler, F.D.**, Georgescu, H.I., Studer, R.K., Niyibizi, C., Robbins, P., and Evans, C.H. 1999. Adenoviral transfer of insulin-like growth factor-1 gene to articular chondrocytes: effects on proteoglycan and collagen synthesis. *Pittsburgh Orthopaedic Journal* 10:141-144.

**Shuler, F.D.**, Ziran, B.H., Chamberlin, E., Gruen, G.S., and Shah, M.A. 1998. Characteristics of missed lower urological injuries in pelvic fractures. *Pittsburgh Orthopaedic Journal* 9:33-37.

**Shuler, F.D.** and Evans, C.H. 1998. Gene Therapy for Cartilage Repair: Adenovirus mediated transfer of TGF $\beta$ -1 into chondrocytes upregulates production of proteoglycans and collagen. *Pittsburgh Orthopaedic Journal* 9:104-114.

Bosch, P., **Shuler, F.D.**, Evans, C.H., and Huard, J. 1998. Osteoprogenitor cells in skeletal muscle. *Pittsburgh Orthopaedic Journal* 9:98-101.

**Shuler, F.D.** 1989. Further purification of stem bromelain. Bethany College. Senior Thesis.

#### **ORAL PRESENTATIONS:**

**Shuler, F.D.** and Dietz M. 2009. Under Pressure: Physician's Ability to Manually Detect Elevations in Intra-Compartmental Pressures. AAOS Annual Meeting. Paper #177.

Southeast Fracture Consortium (contributor **Shuler, F.D.**). 2008. A prospective multicenter study of intramedullary nailing versus casting of stable tibial fractures. OTA 24<sup>th</sup> Annual Meeting. Paper #6.

- Southeast Fracture Consortium (contributor **Shuler, F.D.**). 2008. Prospective cohort trial of external fixation versus internal fixation of distal tibia plafond fractures. OTA 24<sup>th</sup> Annual Meeting. Paper #56.
- Stannard J.P. et. al (contributor **Shuler, F.D.**) 2007. Negative-pressure wound therapy following high-risk lower extremity fractures. OTA 23<sup>rd</sup> Annual Meeting. Paper #12.
- Obremesky, W.T., Kregor, P.J., **Shuler, F.D.**, Tressler, M.T., Vap, A.R., Comrie, F.K. 2006. Bone morphogenic proteins compared to iliac crest bone graft in long bone nonunions. OTA 22<sup>nd</sup> Annual Meeting. Paper #15.
- Shuler, F.D.** 2005. Skin temperatures following plaster splint application. OTA 21<sup>th</sup> Annual Meeting. Abst. 140 Basic Science Focus Forum.
- Shuler, F.D.** 2005. Cast saw burns, temperatures generated during cast removal. OTA 21<sup>th</sup> Annual Meeting. Abst. 141 Basic Science Focus Forum.
- Shuler, F.D.**, Busam, M, Block, J. 2004. Retrograde femoral nailing: CT angiography demonstrates no relative safe zone for proximal anteroposterior crosslocking. OTA 20<sup>th</sup> Annual Meeting. Abst. 78 Basic Science Focus Forum.
- Shuler, F.D.** 2000. Gene Therapy – New Frontiers for Cartilage Repair. Pennsylvania Orthopaedic Society Spring Scientific Meeting. Orlando, FL. Winner of **Second Place Award** for scientific merit.
- Shuler, F.D.**, Shah, M.A., Ziran, B.H., Chamberlin, E., and Gruen, G.S. 1999. Characteristics of missed lower urological injuries in pelvic fractures. 66<sup>th</sup> Annual AAOS Meeting, Aneheim, CA. Paper #159.
- Gruen, G.S., Shah, M.A., Ziran, B.H., Chamberlin, E., and **Shuler, F.D.**. 1999. Characteristics of missed lower urological injuries in pelvic fractures. 7<sup>th</sup> Annual Symposium on Critical Issues in Surgery: Avoiding Complications and Improving Outcomes in Orthopedic Surgery. Annual Meeting. St. Thomas, US Virgin Islands.
- Bosch, P., Musgrave D.S., **Shuler, F.D.**, Evans, C.H., and Huard, J. 1999. Osteoprogenitor cells in skeletal muscle. ORS 45<sup>th</sup> Annual Meeting, Aneheim, CA. Abst 90.
- Shuler, F.D.**, and Evans, C.H. 1998. Gene Therapy for Cartilage Repair. Smith & Nephew, Inc. 16<sup>th</sup> Annual Orthopaedic Residents' Conference. Memphis, TN. **First Place Award**.
- Shuler, F.D.**, Ziran, B.H., Chamberlin, E., Gruen, G.S., and Shah, M.A. 1998. Characteristics of missed lower urological injuries in pelvic fractures. Smith & Nephew, Inc. 16<sup>th</sup> Annual Orthopaedic Residents' Conference. Memphis, TN. Accepted as a finalist.
- Shuler, F.D.** 1998. Adenovirus mediated transfer of TGFβ-1 into chondrocytes upregulates production of proteoglycans and collagen. 6<sup>th</sup> Annual Resident's Research Day.
- Bosch, P., Musgrave D.S., **Shuler, F.D.**, Evans, C.H., and Huard, J. 1998. Osteoprogenitor cells in skeletal muscle. Podium presentation at the Tissue Engineering Society.
- Suh, J-K., Sechriest, V.F., Miao, Y.J., **Shuler, F.D.**, Manson T.T., Niyibizi, C., Evans C.H., Matthew H.W., and Fu, F.H. 1998. Glycosaminoglycan-Augmented Polysaccharide Hydrogel: A Potential Carrier for Chondrocyte Transplantation. Tissue Engineering Meeting, Orlando, FL. B1.
- Bosch, P., **Shuler, F.D.**, Evans, C.H., and Huard, J. 1998. Osteogenic precursor cells in skeletal muscle. Smith & Nephew, Inc. 16<sup>th</sup> Annual Orthopaedic Residents' Conference. **Second Place Award**.

**Shuler, F.D.** and Evans, M.I. 1994. DNase I footprinting of the first intron of the estrogen-inducible chicken very low density apolipoprotein II gene. The Annual Van Liere Research Competition – **Second Place Award.**

**Shuler, F.D.** 1988. Development of a Program of Water Analysis for the Bethany College Swimming Pool 1988 Regional ACS Meeting - **First Place Award.**

**PUBLISHED ABSTRACTS/POSTER PRESENTATIONS:**

Dietz, M.J., Lavender, C.D., Emery, S.E., **Shuler, F.D.**, Clovis, N.B., and Zuberi J.A. 2008. ATV-Related orthopaedic trauma in north central West Virginia: an 8-year review. Poster #62. OTA 24<sup>th</sup> Annual Meeting.

Obremskey, W.T, Driver, R., Jeray, K., Vap, A., **Shuler, F.D.**, Kregor, P.J. 2006. ORIF versus external fixation of distal tibia pilon fractures. Poster #46, OTA 22<sup>nd</sup> Annual Meeting.

Obremskey, W.T, Kregor, P.J., **Shuler, F.D.**, Tressler, M.A., Vap, A.R., and Comrie, F.K. 2006. Bone morphogenic proteins compared to iliac crest bone graft in long bone nonunions. OTA 22<sup>nd</sup> Annual Meeting. (podium)

**Shuler, F.D.** 2005. Skin temperatures following plaster splint application. OTA 21<sup>th</sup> Annual Meeting. Abst. 140 Basic Science Focus Forum. (podium)

**Shuler, F.D.** 2005. Cast saw burns, temperatures generated during cast removal. OTA 21<sup>th</sup> Annual Meeting. Abst. 141 Basic Science Focus Forum. (podium)

Obremskey, W.T, Austin, T., Crosby, C., Driver, R., **Shuler, F.D.**, and Kregor, P.J. 2005. Are orthopaedic implants detectable by airport metal detectors. OTA 21<sup>th</sup> Annual Meeting. Poster.

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