

Grants, Contracts and Foundation Support since 1990 (Total all categories = \$ 7,319,776.-)

Date	Agency and Project Title	Role
2018 - 23	DoD/ CDMRP A Novel Biomimetic Scaffold Design that Accelerates Long Bone Segment Defect Regeneration	PI
2018	NSF/WAESO Total of 8 WAESO student support grants awarded to study various aspects of tissue engineering cartilage, bone and in vivo load measurement	PI
2017	NSF/WAESO Total of 8 WAESO student support grants awarded to study various aspects of tissue engineering cartilage, bone and in vivo load measurement	PI
2017	NSF/WAESO WAESO Research Presentation Travel (RPT) grant awarded to support travel to National Roles Conference, Washington DC.	PI
2016	NSF/WAESO Total of 9 WAESO student support grants awarded to study various aspects of tissue engineering cartilage, bone and in vivo load measurement	PI
2016	NSF/WAESO WAESO Research Presentation Travel (RPT) grant awarded to support travel to National Roles Conference, Washington DC.	PI
15 to 18	NIH- NIAMS 1R21AR065732-01A1 Ultrasound Elasticity Imaging for Gauging Severity of Posterior Tibial Tendon Disorder, Co-PI's Russ Witte and Dan Latt	Co-investigator
10 to 15	NSF/WAESO Total of 63 WAESO student support grants awarded to study various aspects of tissue engineering cartilage, bone and in vivo load measurement	PI
12 to 14	NSF/ MGE@MSA-AGEP Postdoc & Bridge Doctoral Support 1 BME GIDP student supported with award to work on PhD Maria Teresa Velez – PI	Co-Investigator
11 to 13	NIH- NIAMS: National Institutes of Health New Hip Fracture Risk Prediction Tool Based on Common Predictors and Hip Geometry Zhao Chen - PI	Co-Investigator
09 to 13	NSF:(National Science Foundation) SENSORS: In Vivo Joint Regeneration Monitoring System to be Able to Establish Rehabilitation Approaches during Healing	PI

06 to 07	BIO/5 Seed Grant Program The Application of Stem Cells to Joint Reconstruction	Co-PI
04 to 08	NSF: SENSORS: An Implantable Joint-Load Sensor, Transmitter and a Portable Reader REU Supplement also awarded in 2004	PI
03 to 09	NSF/WAESO Total of 69 WAESO student support grants awarded to study various aspects of scaffold development and in vivo load measurement and various aspects of of tissue engineering cartilage and cell loading and various aspects of of tissue engineering cartilage and in vivo load measurement	PI
02 to 07	NIH- NIBIB: National Institutes of Health, National Institute of Biomedical Imaging and Bioengineering Sensate Scaffolds for Orthopaedic Tissue Repair RSUM Supplement awarded 2003-04, and 2004-05 and 2005-06	PI PI
00 to 01	NASA Development of a System for Quantifying in Vivo Bone Strain in Normal and Altered Gravity, Grant - NCC 2 5375 tech Officer J Schonfeld	PI
98 to 02	NSF: Development and Use of a Telemetrized, CPC Coated Strain Gauge System for Advancing Fundamental Knowledge of Bone Strain in Animals and Humans REU Supplement 1998, 1999, 2000	PI PI
96-02	NSF/WAESO Total of 36 WAESO student support grants awarded to study various aspects of wear and artificial joint design and of various aspects of CPC coated strain gauges and cell culture and cell loading studies	PI
92 to 96	NSF: Bone Bonding to HA Coated Strain Gauges: Development of a faster bonding coating	PI
95	UROP:(University Research Opportunities Program) Analysis of the effect of HA on Bone, VIII	Mentor/Co-PI
93	College of Medicine/ NIH Biomedical Research Support Grant: HA coated strain gauge bonding to rodent femora with additional support	PI
93	NASA (National Aeronautics & Space Administration): Directors Discretionary Fund for Space Research HA coated strain gauge bonding to rodent femora and in vivo bone strain measurement	PI
91-95	NSF/CIMD: Total of 11 student support grants Analysis of Bone Strain & Histomorphometry Near Strain Gauges Biomechanics of allografts and Bone Bonding to HA Backed Strain gauges	PI
90 to 91	NSF (National Science Foundation): Development of a Strain Gauge Bonding Process Using an HA Coating:	PI

Industry Support

14 to 15	Tissue Genesis; UA07-020 disclosure funding Calcium Phosphate Surfaces to Support Adipose Tissue Derived Cell Proliferation and Differentiation	Co-Inventor
12 to 2013	Regencor: Repair & remodeling augmentation of fracture healing using vibration	Co-PI
08 to 09	Tissue Genesis; UA07-020 disclosure funding Calcium Phosphate Surfaces to Support Adipose Tissue Derived Cell Proliferation and Differentiation	Co-Inventor
05 to 2006	Genis: Evaluation of a Novel Bone filler with Osteoinductive Characteristics	PI
02 to 2003	Arthrocare: A Comparison of the Effects of Ablative Therapy with Shaving on Meniscal Tears	Co-PI
00 to 2002	Advanced Ceramics Research [NAVY STTR phase II subcontract]	Co-Invest
99 to 2000	Depuy/Acromed/Johnson and Johnson Monitoring Spine Fusion in patients	Co-PI
99 to 2000	Depuy/Johnson and Johnson Evaluation of Linear and Volumetric Wear of Retrieved UMWPE Inserts using Laser Scanning	Co-PI
99 to 2001	Depuy: Wear Particle Analysis	PI
98 to 99	Johnson and Johnson Implant Stiffness and Strain Redistribution for two Hip Designs	Co-PI
97 to 98	Johnson and Johnson Implant Stiffness and Strain Redistribution for two Hip Designs	Co-PI
96 to 97	Zimmer The Effect of Implant Stiffness on Strain Redistribution at the Implant Distal Tip	Co-PI
94 to 99	Depuy: Measurement of Clinically Imposed Loading on a Tibial Tray in Conjunction with the Development of Sensate Artificial Knees	PI
93 to 94	Depuy: The Patella-Femoral joint in Artificial Knee Systems	PI
91 to 92	Depuy: A Study of Artificial Knee Contact Areas:	PI
90 to 91	Osteonics: The Effect of Implant Stiffness on Strain Redistribution of Implant Tip:	
90 to 91	Biomet: Biomechanical effect of allograft placement on femoral perforations:	PI

Private Foundations and Major Individual Support

(Foundations - peer reviewed funding)

16 to 17	Estate of Irene Hubbel – ORL support grant	PI
15 to 16	The JW Kieckhefer Foundation – 5 th continuation of support for hASC study	PI
15 to 16	The M.T. Morris Foundation – 4 th continuation of support for hASC study	PI
14 to 15	The JW Kieckhefer Foundation – 4 th continuation of support for hASC study	PI
14 to 15	The M.T. Morris Foundation – 3 rd continuation of support for hASC study	PI
13 to 14	The Barry and Janet Lang Fund	PI
13 to 14	The JW Kieckhefer Foundation – support for 3 rd stage of hASC study	PI
13 to 14	The M.T. Morris Foundation – support for 2 nd stage of hASC study	PI
13 to 14	The Bess Spiva Timmons Foundation: Scholarship funding for Tissue Engineering Student	PI
12 to 13	Irene Lawver - Support for Cartilage Research	PI
12 to 13	Grace Berg - Support for Cartilage Research	PI
12 to 13	Caroline Lott Jessen Foundation – support for cartilage research	PI
12 to 13	The JW Kieckhefer Foundation – 2 nd support to start hASC study	PI
12 to 13	The M.T. Morris Foundation – 1 st support to start hASC study	PI
12 to 13	The Abramski Fund	PI
11 to 12	Caroline Lott Jessen Foundation – support for cartilage research	PI
11 to 12	The JW Kieckhefer Foundation – 1 st support for hASC facility conversion	PI
11 to 12	The Bess Spiva Timmons Foundation: Scholarship funding for Tissue Engineering Student	PI
10 to 11	Caroline Lott Jessen Foundation – support for cartilage research	PI
10 to 11	The Bess Spiva Timmons Foundation: Scholarship funding for Tissue Engineering Student	PI
09 to 10	The Bess Spiva Timmons Foundation: Scholarship funding for Tissue Engineering Student	PI
09 to 10	MTF (Musculoskeletal Transplant Foundation) Cartilage Tissue Engineered to Resurface Osteochondral Allografts	PI

00 to 01	The Bess Spiva Timmons Foundation: Testing Implantable Bioactive Polymer-based Bone Grafts Manufactured using Computer-Aided Molding Tools	PI
99 to 00	The Bess Spiva Timmons Foundation: Developing Implantable Bone Scaffolding Systems with Sensors	PI
98 to 00	Scoliosis Research Society: Monitoring Spinal Fusion in Scoliosis Patients; A biomechanical and <i>in vivo</i> study	PI
98 to 99	The Bess Spiva Timmons Foundation: A Comparison of the Extent of Polyethylene Wear of Standard and Hylamer Inserts	PI
97 to 2000	Whitaker Foundation: Special Opportunity Award Biomedical Engineering Program in Imaging, Modeling and Evaluation of Medical Implants: Co-operative Academic - Industrial Program	faculty co-invest
97	Alberta Heritage Foundation; Visiting Scientist Grant Quantification of Influence of Tibial Tubercle Realignment on patellar tracking and joint forces	Co-PI
97 to 98	The Bess Spiva Timmons Foundation: Comparison of the Extent of Polyethylene Wear to Wear Debris Derived from Patient Fluids	PI
96 to 97	The Bess Spiva Timmons Foundation: A Second Generation Radio Monitored Artificial Knee	PI
95 to 96	The Bess Spiva Timmons Foundation: Development of an Artificial Knee with Sensors, which can Monitor Patient Activity by Radio	PI
95	Orthopaedic Education and Research Foundation: Resident Res. Grant; Characterization of UHMPE Debris	Mentor/Co-PI
94 to 95	Gordon Research Allergy Grant/ Arizona Arthritis Center Morphologic Characterization of Inflammation causing UHMPE Wear Debris in Synovial Fluids in Patients with Total Knee Replacements	Co-PI
94 to 95	The Bess Spiva Timmons Foundation: A Computer Simulation of Loading of Plastic Inserts in Artificial Knees	PI
94	Hewlett Packard Foundation Grants: Grant for Communications hardware for Workstation	PI
93 to 94	The Bess Spiva Timmons Foundation: A Contact Pressure Analysis of the Natural Patella Femoral Joint,	PI

