**CU Institute for Engaged Aging Faculty Associates and Graduate Students**

Recent Grants/Funding

**Caine, K. PI.** HomeSHARE – Home based Smart Health Applications across Research Environments. Development of community infrastructure for conducting research around aging in place. NSF, Division of Computer and Network Systems, number 1629437. $14,455. 8-1-2016 to 7-31-2019.


**Dye, C. Site PI.** M. Bailey, PI, Prisma Health System. Evaluation of Memory Health Service Expansion-Anderson/Oconee/Pickens. The Duke Endowment Foundation. I will mentor a doctoral student to: Assist in data analysis and program evaluation; Support program dissemination via scholarly publications; Evaluate program implementation and support program fidelity: Support program planning. $60,000. 2018 – 2020


**Dye, C. Co-PI with M. Van Puymbroeck.** Ready for STEADI? A Fall Prevention Initiative. K. Kemper (CU), S. Sasser (GHS), Co-Investigators. Goal of the project is to facilitate the environmental and system level changes needed to institutionalize a fall prevention screening, referral and intervention process in a small rural hospital (Oconee Memorial Hospital). Pete and Sally Smith Foundation. $25,000. 1-1-2018 to 12-31-2018, no-cost extension 1-2019 to 12-2019.

**Davis, N. Co-PI with Bailey-Taylor, Melissa, Prisma Health-Upstate.** “Understanding the Perspectives and Needs of African-American and Latino Caregivers of Persons with Alzheimer’s Disease and Related Dementias in Upstate South Carolina”, GHS Health Science Center $18,240 (2019-2020).


**Davis, N. PI.** “Development of a Web-based Telehealth Program to Support Family Caregivers of Older Adults with Urinary Incontinence”, Clemson University, College of Behavioral Social and Health Sciences, ($26,244). (2017-2019)


**DesJardins, J. PI.** Translational Partnerships in Biomedical Capstone Design, Principal Investigator, $213,300, 05/1/2014 - 04/30/2019
DesJardins, J., PI. NIH: South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC BioCRAFT), Principal Investigator: Naren Vyavahare, Key Collaborator, 5%, $11,076,492, 7/1/14-6/30/19

DesJardins, J., PI. NIH: South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC BioCRAFT), Targeted Project 1: Developing Luminescent Strain Sensors to Evaluate and Monitor Osteoinductive Therapies, Jeffery Anker, Co-PI: John DesJardins, 25%, $750,218, 7/1/14-6/30/19

DesJardins, J., PI. NIH: South Carolina Bioengineering Center of Regeneration and Formation of Tissues (SC BioCRAFT), Targeted Project 1: Developing Luminescent Strain Sensors to Evaluate and Monitor Osteoinductive Therapies, Jeffery Anker, Co-PI: John DesJardins, 25%, $750,218, 7/1/14-6/30/19

DesJardins, J., PI. NIH, R01, Detecting and Monitoring Implant Infection with X-ray Excited Luminescence Chemical Imaging (XELCI), Dr. Jeff Anker, Co-Investigator 20%, $1,789,611, 7/1/2016-6/30/2021


DesJardins, J. Miliken Healthcare: Pressure Measurements of Compression Wrappings, Phase I, $34,824, 01/25/2018-04/30/2018

DesJardins, J. Reify, LLC., Analysis of Socket Strength Testing 3D Printed Trans-Tibial Prosthetic Sockets, Principal Investigator, Part 1, $1,500, 4/23/2018

DesJardins, J. Reify, LLC., Analysis of Socket Strength Testing 3D Printed Trans-Tibial Prosthetic Sockets, Principal Investigator, Part 2, $1,627, 6/15/2018


DesJardins, J. PI. GHS Health Sciences Center, Transformative Seed Grant Program, The Use of Patient-Specific 3D Printed Anatomic Models in Pre-Operative Planning and Patient Engagement to Improve Hip Arthroscopy Outcomes, $19,958, 04/1/19 to 03/31/20


DesJardins, J. Co-PI. U.S. Economic Development Adminstration, U.S. Department of Commerce, Through the South Carolina Regional Authority (SCRA), South Carolina Medical Device Alliance, $1,814,846, 03/01/19 to 02/28/22

McCubbin, J., PI., National Institutes of Health, 1 R13 CA216984 ($15, 580) Academy of Behavioral Medicine Research Annual Conference. This small conference grant focused on cutting-edge research in cancer, coronary heart disease, diabetes, and other top chronic disease killers. 2017-2018

Taylor, M.A., PI. Co-I Bisson, J. Shifts in Information Processing and Cognitive Abilities and Implications for Training Older Learners. Funded by the AARP Foundation. 2018

Recent Presentations


S. Hall, D. Baxley, M. Kissenberth, J. Karnes, N. Metcalfe, J. DesJardins, Micromotion and strength of the glenoid component in reverse total shoulder arthroplasty: the effect of malpositioning vs optimum VIP positioning in the simulated B2 glenoid, Greenville Health System Health Sciences Center Research Showcase, Poster #27, April 13, 2018, Greenville, SC

A.M. Holter, J. Gates, J. DesJardins, K. Vernon, M. Van Puymbroek Biomechanical effects of therapeutic horseriding on balance and gait confidence in elderly, Greenville Health System Health Sciences Center Research Showcase, Poster #31, April 13, 2018, Greenville, SC


**J.D. DesJardins**, Catedra Industria 4.0, Jornada y workshop: Oportunidades en impresión aditiva. Sector Salud, “3D Printing In Orthopaedics And Rehabilitation Research”, May 18, 2018, Pamplona, Spain

S.B. Behbahani, S. Helms, **J.D. DesJardins**, M.S. Kennedy, T. Bruce, J. Tzeng, *Characterization of Surface Modified Orthopedic Implants for their Antimicrobial Properties*, The American Society for Microbiology, June 7-11, 2018, Atlanta, GA.


M.K. Owen, **J.D. DesJardins**, *Transtibial Prosthetic Socket Strength: Comparison of Standard and 3D Printing Fabrication Methods*, Biomedical Engineering Society, October 17-20, 2018. Atlanta, GA.


C.E. Bales, S.M. Helms, **J.D. DesJardins**, *Surface Characterization of Metallic Implants Created with a Novel Biofilm-Resistant Surface Modification Process*, Poster, Biomedical Engineering Society, October 17-20, 2018. Atlanta, GA.

A. Bina, A. Balthaser, N. Wright, G.S. Batt, **J.D. DesJardins**, *The Relationship Between Structural Stiffness and Impact Performance of the American Football Faceguard*, Oral Presentation, Biomedical Engineering Society, October 17-20, 2018. Atlanta, GA.

D. Dean, **J.D. DesJardins**, *Demonstrating the Viability of Using Zinc-Air Batteries in Oxygen Sensors for Low-Resource Settings*, Biomedical Engineering Society, October 17-20, 2018. Atlanta, GA.


M.K. Owen, B.D. Kaluf, J.D. DesJardins, Development of Multi-hardness Socket Inlay, American Academy of Orthotists and Prosthetists (AAOP) 2019 Academy Annual Meeting & Scientific Symposium, Podium Presentation, March 06 - 09, 2019, Orlando, Florida


K.J. Walker, B. Montano, J.D. DesJardins, Quantifying the Shear Modulus of 3D Printed Materials for Use in Foot Orthotics, American Academy of Orthotists and Prosthetists (AAOP) 2019 Academy Annual Meeting & Scientific Symposium, Podium Presentation, March 06 - 09, 2019, Orlando, Florida

C.E. Bales, S.M. Helms, L. O’Neill, J.D. DesJardins, Metallic Implant Surface Modification Process for Enhanced Biofilm Resistance, Society for Biomaterials, April 3-6, 2019, Seattle, WA.


Natarajan O, **Cao M, Dong Y.** "p38 MAPK, insulin signaling and Wnt signaling pathway are required for royal jelly mediated response to immunosenescence in *C. elegans* against *S.aureus*." C. elegans topics meeting: Stress Pathogenesis Ageing Metabolism Small RNA (SPAMS), Madison, WI (June 2018)


Natarajan O, **Cao M, Dong Y.** "Royal jelly retards immunosenescence in *C. elegans* against *S. aureus* infection through p38 MAPK, insulin signaling and Wnt signaling pathway." Nathan Shock Symposium on basic biology of aging, UAB, Birmingham, AL (April 2018).


Recent Publications


E. Walker, B. Przestrzelski, J. DesJardins. Re-designing the senior design classroom experience with game-based learning, Advances in Engineering Education, (AEE-06-767), Accepted for publication, May 22, 2018


M.K. Owen, J.D. DesJardins. Transtibial Prosthetic Socket Strength: The Use of ISO 10328 in the Comparison of Standard and 3D Printed Socket Fabrication Methods, JPO14-571, Journal of Prosthetics and Orthotics, Accepted for publication, 12/13/18

R.E. Hutchison, E.M. Lucas, J.A. Marro, T.M. Gambon, K.N. Bruneau, J.D DesJardins. The effects of acclimation to simulated knee arthrodesis on gait kinematics and kinetics, Accepted for publication, JOEIM-17-0217.R3, Journal of Engineering in Medicine, 01/21/19


Book:

Book Chapter: