

A photograph of a man with short, light-colored hair, wearing a light blue t-shirt and a green backpack, walking across a wooden bridge. The bridge is set in a lush green forest with a pond and lily pads visible in the background. Sunlight filters through the trees, creating a warm, golden glow. The image is partially covered by a blue gradient overlay at the bottom.

# GRANTS AWARDED 2022

# GRANT AND AWARD RECIPIENTS | 2022

## OREF CLINICAL RESEARCH AWARD

**PI: Martha M. Murray, MD, FAAOS**

Boston University Medical Center,  
Harvard Medical Center

*Bridge-Enhanced ACL Restoration:*

*Translation from Academic Lab to FDA Approval*

## OREF LIFETIME SERVICE AWARDS

**John W. Brown**

Stryker

**John J. Callaghan, MD**

University of Iowa

## ORS/OREF DISTINGUISHED INVESTIGATOR AWARDS

**Gunnar B.J. Andersson, MD, PhD**

Rush University Medical Center

**John J. Callaghan, MD**

University of Iowa

## RESEARCH GRANTS

**AMERICAN ORTHOPAEDIC SOCIETY FOR  
SPORTS MEDICINE IN COLLABORATION WITH  
OREF AND THE AAOS SPORTS MEDICINE  
MULTICENTER RESEARCH GRANT**

**PI: Beth Shubin Stein, MD**

**Co-PI: Shital N. Parikh, MD**

The Hospital for Special Surgery

*JUPITER 4.0: Risk Factors for Failure of Isolated*

*MPFL Reconstruction*

**OREF/AAOS INJECTABLE ORTHOBIOLOGICS  
OF KNEE OSTEOARTHRITIS RESEARCH GRANT**

**PI: Kyle Duchman, MD**

**Co-PI: Joseph A. Buckwalter, IV, MD**

University of Iowa

*Platelet Rich Plasma for Osteoarthritis:*

*Role of Exosomes in Effectiveness*

Funding made possible by the American Academy  
of Orthopaedic Surgeons

**OREF OSTEOARTHRITIS RESEARCH GRANT**

**PI: Muhammad Farooq Rai, PhD, DVM**

**Co-PI: Regis J. O'Keefe, MD, PhD**

Washington University in St. Louis

*KLF10 as a Novel Therapeutic Target in Osteoarthritis*

Funding made possible by the American Arthritis Society

**OREF ETIOLOGY OF HIP  
OSTEOARTHRITIS GRANT**

**In Honor of William H. Harris, MD**

**PI: Cecilia Pascual Garrido, MD, PhD**

Washington University in St. Louis

*Epigenetic Regulation of Key Molecular Players in the*

*Progression of Hip OA*

**THE IMPACT OF REGULATORY POLICIES ON  
PATIENT-PHYSICIAN RELATIONSHIP RESEARCH  
GRANT IN HONOR OF SIGVARD HANSEN, MD**

**PI: Paul Courtney, MD**

**Co-PI: Graham Goh, MD**

Thomas Jefferson University

Rothman Institute

*Impact of Prior Authorization of Patient Care and Outcomes in  
Orthopaedics*

**OREF/OTA TRAUMA RESEARCH GRANT**

**PI: Scott Rodeo, MD**

**Co-PI: Laura Moore, MD, PhD**

The Hospital for Special Surgery

*Modulating Pro-Fibrotic Signaling After Ligamentous Knee Injury*

Funding made possible by Arthrex

## OREF SKELETAL METASTASES AND PATHOLOGICAL FRACTURE RESEARCH GRANT IN COLLABORATION WITH MSTs

**PI: Kurt Weiss, MD, PhD**

University of Pittsburgh

*Musculoskeletal Oncology Virtual Evaluation Study (MOVES)*

## MENTORED CLINICIAN SCIENTIST GRANTS

**PI: David Brogan, MD**

Washington University in St. Louis

*Identification & Imaging of Skeletal Muscle Response to Graded Nerve Crush*

Funding made possible by the

Dr. Zachary B. and Mrs. Kathleen Friedenberg Endowment Fund

**PI: Aidin Eslam-Pour, MD**

Yale University

*Personal Surgical Planning to Avoid THA Dislocation: Concept of Safe Zone*

## OREF RESIDENT CLINICIAN SCIENTIST TRAINING GRANTS

**PI: Lynn Ann Forrester, MD**

Columbia University Medical Center

*The Role of Tendinopathy and Tissue Crosstalk in Osteoarthritis Progression*

Funding provided by the Ira A. Roschelle Family Foundation

**PI: Cory Mayfield, MD**

**Co-PI: Jennifer Alter Bell, MD**

University of Southern California (USC)

*scRNA-seq of Corticosteroid-Induced Osteonecrosis of the Femoral Head*

Funding provided by the Ira A. Roschelle Family Foundation

**PI: Vincentius Suhardi, MD, PhD**

**Co-PI: Xu Yang, MD**

**Co-PI: Mathias Bostrom, MD**

The Hospital for Special Surgery

*Inhibition of Gremlin 1 for Prevention and Treatment of Aseptic Loosening*

Funding made possible by Thomas P. Sculco, MD

**PI: Joash Suryavanshi, MD**

Indiana University

*A Novel Antibiotic to Reduce Fracture Related Infection in a Murine Model*

Funding made possible by the John T. Hocker Charitable Foundation

In Memory of John T. Hocker, MD

## RESIDENT RESEARCH PROJECT GRANTS

### OREF RESIDENT RESEARCH PROJECT GRANTS

**PI: Ryan Halvorson, MD**

**Co-PI: Jeannie Bailey, MD**

The Regents of the University of California, San Francisco

*Phenotyping Post-Operative ACL Recovery Trajectories*

Funding in Honor of Bernard R. Bach Jr., MD

**PI: Aaron Hoyt, MD**

**Co-PI: Ashley Levack, MD**

Loyola University of Chicago

*In Vitro Thermal Stability of Dalbavancin in PMMA Cement*

Funding made possible by The American Arthritis Society

**PI: Christa LiBrizzi, MD**

**Co-PI: Carol Morris, MD**

**Co-PI: Aaron James, MD**

**Co-PI: Jeremais Sulam, MD**

Johns Hopkins University School of Medicine

*Use of Deep Learning for Necrosis Assessment in Patients with Osteosarcoma*

**PI: David Liu, MD**

**Co-PI: Brian Snyder, MD**

Boston Children's Hospital

*Value of Vitamin D in Prevention and Treatment of Pediatric Fractures*

Funding made possible by Brown University

In Memory of Dr. Michael Ehrlich

**PI: Michael Livesey, MD**

**Co-PI: Mohit Gilotra, MD**

University of Maryland, Baltimore

*Perioperative Patient Education and Sling Compliance after Shoulder Surgery*

In Honor of Jack C. Hughston, MD and James R. Andrews, MD

Funding made possible by Michael J. Axe, MD and Jeremie M. Axe, MD

**PI: Daniel Meeker, MD**  
**Co-PI: Jacob Elkins, MD**  
**Co-PI: Eric Nuxoll, MD**  
The University of Iowa

*Effects of Heating on Biofilm-Associated Orthopedic Infections*

**PI: Daniel Portney, MD**  
**Co-PI: Jason Strelzow, MD**  
**Co-PI: Jeffrey Stepan, MD**  
The University of Chicago

*Identification of Peripheral Nerve Pathology Using 3D Ultrasound*

Funding made possible by the Ira A. Roschelle Family Foundation

**PI: Mariel Rickert, MD**  
**Co-PI: Jonathan Schoenecker, MD**  
Vanderbilt University Medical Center

*Immunocoagulopathy: The Cause of the Third Wave of Death in Level-1 Trauma?*

Funding made possible by the Ira A. Roschelle Family Foundation

**PI: Edward Rojas, MD**  
**Co-PI: de Cesar Netto Cesar, MD, PhD**  
The University of Iowa

*Lateral Ankle Ligaments' Role in Distal Tibiofibular Syndesmosis Stability*

**PI: Michael Seward, MD**  
**Co-PI: Matthew Abdel, MD**  
Mayo Clinic Rochester

*What is the Amount of Clinically Significant Preop Weight Loss Before TJA?*

**PI: Christopher Stewart, MD**  
**Co-PI: Saam Morshed, MD**  
The Regents of the University of California, San Francisco

*Limb Optimization: Factors that Influence Limb Reconstruction or Amputation*

**PI: Rishi Trikha, MD**  
**Co-PI: Nicholas Bernthal, MD**  
The Regents of the University of California, Los Angeles

*Periprosthetic Infection Risk in Medically Treated Rheumatoid Arthritis*

Funding made possible by the Western Orthopaedic Association/WOF

**PI: Jesse Wang, MD**  
**Co-PI: Xudong Li, MD**  
University of Virginia

*Modulation of Macrophages on Pathogenesis of Degenerative Disc Disease*

Funding made possible by the Ira A. Roschelle Family Foundation

**PI: Arakua Welbeck, MD**  
**Co-PI: Christopher Dy, MD**  
Washington University, School of Medicine  
*Wearable Sensors to Measure Function after Brachial Plexus Reconstruction*

Funding made possible by Dr. Adam and Julie Harris in Memory of Eugene Harris, MD

**PI: Brian Yang, MD**  
**Co-PI: Duretti Fufa, MD**  
The Hospital for Special Surgery  
*Tenodesis Effect as a Diagnostic Test to Detect Occult Dorsal Ganglion Cyst*

Funding made possible by the Ira A. Roschelle Family Foundation

**PI: Jie Yao, MD**  
**Co-PI: Jason Hsu, MD**  
University of Washington Medical Center- Orthopaedics  
*Effect of Reverse Shoulder Component Positioning on Subacromial Impingement*

Funding made possible by the Ira A. Roschelle Family Foundation

## SHIMOMURA/OREF/INTERNATIONAL SOCIETY OF ORTHOPAEDIC SURGERY AND TRAUMATOLOGY (SICOT) TRAVEL AWARDS

**Muhammad Arsalan Ghazi, MD**  
Liaquat National Hospital & Medical College  
*Multiligamentous Knee Injury Treated with Autologous Graft Our Novel Technique*

**Saurabh Gupta, MS**  
All India Institute of Medical Sciences Jodhpur  
*Comparison of Impact of Joint Line Orientation on Patient Reported Outcome*



## REGIONAL NEW INVESTIGATOR AWARDS

### EASTERN ORTHOPAEDIC ASSOCIATION OREF RESIDENT TRAVEL GRANT AWARDS

**Daniel E. Goltz, MD, MBA**

Duke University

*2-Stage Revision for Periprosthetic Infection in Shoulder Arthroplasty: An Institutional Experience*

**Tara Gaston Moncman, DO**

Thomas Jefferson University / The Rothman Institute

*Improved Pain and Function after TTC Fusion with a Custom Cage*

**Adam J. Santoro, DO**

Rowan SOM - Inspira Health

*Patient Specific Emailed Discharge Instructions Improve Patient Satisfaction after Arthroscopy*

### SOUTHERN ORTHOPAEDIC ASSOCIATION OREF RESIDENT AWARDS

**Daniel Pereira, MD**

Washington University Orthopaedics

*Outcomes of Close Reduction and Casting of Pediatric Tibia Shaft Fractures: Report from Two Large Trauma Centers*

**Eric Taris, DO**

East Tennessee State University

*Effects of Metacarpophalangeal Arthrodesis on Thumb Ligament Reconstruction Tendon Interposition*

**Kevin C. Wall, MD, MPH**

University of Alabama at Birmingham

*Liposomal Bupivacaine Provides Better Comfort than Interscalene Catheter following Arthroscopic Shoulder Surgery*

### WESTERN ORTHOPAEDIC ASSOCIATION OREF YOUNG INVESTIGATOR AWARDS

**Ananth Eleswarapu, MD**

Montefiore Medical Center

*Intraoperative 3D Navigation and Post-Operative Infection in Thoracolumbar Fusion*

**Justin Haller, MD**

University of Utah

*Articular Fragment Restoration is Critical to Mitigate Post-Traumatic Osteoarthritis*

**Richard Michelin, DO**

Riverside University Health System Medical Center

*Adolescent Shoulder Instability Arthroscopic Management: Knotless versus Knotted Suture Anchors*

## OREF/CURRENT CONCEPTS IN JOINT REPLACEMENT CLINICAL PRACTICE POSTER AWARDS

**Ki nam Bae**

Asan Medical Center

*Long-Term Survivorship of Varus Aligned Total Knee Arthroplasty can be Affected by the Degree of Joint Line Obliquity: Postoperative Phenotype Analysis*

Funding made possible by Thomas Sculco, MD and Cynthia Sculco

**Mohammed Hammad, MD**

Hospital for Special Surgery

*Povidone-Iodine and Hydrogen Peroxide Irrigation Solutions do not Compromise Osseointegration*

Funding made possible by Thomas Sculco, MD and Cynthia Sculco

**Linsen T. Samuel, MD, MBA**

Carilion Clinic

*A Reduction in Body Mass Index from  $\geq 40$  to  $< 40$  May Increase All-cause Readmissions after Primary Total Hip Arthroplasty*

Funding made possible by Thomas Sculco, MD and Cynthia Sculco

**Tony S. Shen, MD**

Hospital for Special Surgery

*Characterization of Genetic Risk of End-Stage Knee Osteoarthritis Treated with Total Knee Arthroplasty*

Funding made possible by Thomas Sculco, MD and Cynthia Sculco

**Michael N Sirignano, MD**

University of Louisville

*Incidence of Instability Following Primary THA Continues to Decline in the Medicare Population*

Funding made possible by Thomas Sculco, MD and Cynthia Sculco

**Adam A. Rizk, BA**

Cleveland Clinic Foundation

*Are Trends in Revision Total Joint Arthroplasty Sustainable? Declining Inflation-Adjusted Medicare Reimbursement for Hospitalizations*

Funding made possible by Thomas Sculco, MD and Cynthia Sculco

## 2022 RESIDENT RESEARCH SYMPOSIA WINNERS

### NATIONAL

#### **2022 Richard Kyle, MD OREF National Resident Research Symposium Grand Champion**

**Kyle W. Morse, MD**

The Hospital for Special Surgery

*A Vertebral Stem Cell Mediating Spine Fusion*

#### **Top Scoring Residents**

**Michael Davies, MD**

University of California, San Francisco

*Defining Endogenous Mitochondrial Transfer in Muscle Following Rotator Cuff Injury*

**Steven Garcia, MD**

University of California, San Francisco

*Heterogeneous Human Fibroadipogenic Cells Subpopulations are Altered in Injury*

**Eoghan T. Hurley, MD**

Duke University

*Buccally Absorbed Cannabidiol Shows Promise in Treating Pain and Improving Satisfaction Immediately Following Arthroscopic Rotator Cuff Repair: A Placebo-Controlled, Double-Blinded, Randomized Trial*

**Andrew Luzzi, MD**

Columbia University Irving Medical Center

*Enhanced Tendon-to-Bone Attachment Healing Through Hedgehog Activation*

#### **Presenters' Choice**

**Katya Eve Strage, MD**

University of Colorado

*Is a History of Pelvic Fracture an Indication for a Primary Elective Caesarean Section?*

### MIDWEST REGION

#### **1st Place Award**

**Kameron Shams, MD**

University of Michigan

*Serum Titanium Levels Remain Persistently Elevated but Urine Titanium is Undetectable in Children with Early-Onset Scoliosis (EOS) Undergoing Growth-Friendly Surgical Treatment: A Prospective Study*

#### **2nd Place Awards**

**Paul M. Inclan, MD**

Washington University in St. Louis

*Risk for Total Knee Arthroplasty Following Anterior Cruciate Ligament Reconstruction*

**Stacia Marie Ruse, MD**

University of Michigan

*Pregnancy in Orthopedic Residents: Peripartum Barrier Identified*

#### **3rd Place Awards**

**Farhan Ahmad, MD**

Rush University Medical Center

*Elective Orthopaedic Procedures Before and During the COVID-19 Pandemic: Complications and Delays from 146,430 American Seniors*

**Michael Fice, MD**

Rush University Medical Center

*Does Synovial Sarcoma Grade Predict Oncologic Outcomes, and Does a Low-Grade Variant Exist*

**Michael Murphy, MD**

Loyola University Medical Center

*Artificial Intelligence More Accurately Measures Acetabular Component Orientation Than Hand Measurements*

#### **Presenters' Choice**

**Daniel Portney, MD**

University of Colorado

*The Ballistic Articular Structure Injury Classification (BASIC) System: Clarifying Ballistic Articular Injuries*

## CENTRAL WEST REGION

### 1st Place Award

**Katya Eve Strage, MD**

University of Colorado

*Is a History of Pelvic Fracture an Indication for a Primary Elective Caesarean Section?*

### 2nd Place Awards

**Zachary Clarke, MD**

University of Colorado

*The Importance of Patient Resilience on Outcomes Following Hip and Knee Arthroplasty*

**Kylie Shaw, MD**

University of Colorado

*Patient-Reported Outcomes of Pain and Related Quality of Life One-Year Following Osseointegration in Patients with Lower-Extremity Amputations*

### 3rd Place Awards

**Ryan Price, MD**

University of New Mexico

*Benefits of Dual Attending Surgeons During Three- and Four-Ligament Reconstruction Knee Surgery*

**Dylan Rakowski, MD**

University of Colorado

*Outcomes of Extra-Articular Distal Femur Fracture Fixation: A Network Meta-Analysis and Probability-Based Projected Costs Comparing Different Intramedullary Nailing and Plating Techniques*

**Tyler Scott, MD**

University of Colorado

*A Randomized Trial Comparing Barbed to Traditional Sutures in TKA Closure*

### Presenters' Choice

**Katya Eve Strage, MD**

University of Colorado

*Is a History of Pelvic Fracture an Indication for a Primary Elective Caesarean Section?*

## SOUTHWEST REGION

### 1st Place Awards

**Michael Davies, MD**

University of California, San Francisco

*Defining Endogenous Mitochondrial Transfer in Muscle Following Rotator Cuff Injury*

**Steven Garcia, MD**

University of California, San Francisco

*Heterogeneous Human Fibroadipogenic Cells Subpopulations are Altered in Injury*

### 2nd Place Awards

**Alicia Asturias, MD**

University of California, San Francisco

*Breaking the Glass: Gender Differences in Endowed Chair Positions and NIH Funding in Musculoskeletal Research*

**Brendon Mitchell, MD**

University of California, San Diego

*Can Laser-Assisted Indocyanine Green Angiography Be Used to Quantify Perfusion Changes by Anatomical Location During Staged Fixation of Pilon Fractures? A Pilot Study*

### 3rd Place Awards

**Jennifer M. O'Donnell, MD**

University of California, San Francisco

*Impact of Social Determinants of Health on Preoperative Opioid Utilization in Patients with Lumbar Degeneration*

**Sarah Stroud, MD**

University of California, San Francisco

*An Analysis of the Prognostic Factors for Adult Patients with High-Grade Extremity Sarcomas in the California Cancer Registry, 1988-2017*

**Joseph Wick, MD**

University of California, Davis

*Patient Characteristics, Injury Types, and Costs Associated with Secondary Over-Triage of Isolated Cervical Spine Fractures*

### Presenters' Choice

**Grant Schroeder, MD**

Stanford Health Care

*ACL Injuries Among Pac-12 Athletes: A 5-Year Epidemiologic Study*

## EASTERN REGION

### 1st Place Award

**Eoghan T. Hurley, MD**

Duke University

*Buccally Absorbed Cannabidiol Shows Promise in Treating Pain and Improving Satisfaction Immediately Following Arthroscopic Rotator Cuff Repair: A Placebo-Controlled, Double-Blinded, Randomized Trial*

### 2nd Place Awards

**Samuel Cohen-Tanugi, MD**

Atrium Health Carolinas Medical Center

*The Prevalence of Depression and PTSD in Adults with Surgically Managed Traumatic Upper-Extremity Amputations*

**Zaamin B. Hussain, MD**

Emory University

*Artificial Intelligence Automated Analysis of Scapula Dynamics Using Dynamic Digital Radiography: Initial Reliability Study*

### 3rd Place Awards

**Matthew Akelman, MD**

Atrium Health Wake Forest Baptist

*Costs and Predictors of 90-Day Readmissions After Shoulder Arthroplasty with a Hospitalist Comanagement Model*

**Richard Danilkowicz, MD**

Duke University

*Association of Synovial Fluid and Plasma Tryptophan-Kynurenine Pathway Metabolites with Osteoarthritis Pain and Severity*

**Julia Mastracci, MD**

Atrium Health Carolinas Medical Center

*Tibial Nonunion Exchange Nailing Fails More Than One Third of the Time*

**Elaine Shing, MD, PhD**

Atrium Health Carolinas Medical Center

*Health Literacy Awareness Amongst Orthopedic Surgery Residents*

### Presenters' Choice

**Zaamin B. Hussain, MD**

Emory University

*Artificial Intelligence Automated Analysis of Scapula Dynamics Using Dynamic Digital Radiography: Initial Reliability Study*

## NORTHEAST REGION

### 1st Place Award

**Kyle W. Morse, MD**

The Hospital for Special Surgery

*A Vertebral Stem Cell Mediating Spine Fusion*

### 2nd Place Awards

**Andrew Luzzi, MD**

Columbia University Irving Medical Center

*Enhanced Tendon-to-Bone Attachment Healing Through Hedgehog Activation*

**Hemant Reddy, MD**

Montefiore Medical Center/Albert Einstein

College of Medicine

*Factors Predicting Failed Same Day Discharge for Ambulatory Total Hip and Knee Arthroplasty*

### 3rd Place Awards

**Troy Amen, MD**

The Hospital for Special Surgery

*Evaluating the Impact of Case-Based Unconscious Bias and Racial Equity Training on Orthopaedic Surgery Trainees*

**William K. Crockatt, MD**

New York Presbyterian/Columbia University

*Comparing Skill Acquisition and Validity of Immersive Virtual Reality to Cadaver Laboratory Sessions in Training for Reverse Total Shoulder Arthroplasty*

**Steven Henick, MD**

Montefiore Medical Center/Albert Einstein

College of Medicine

*Non-Operative Management of First-Time Patellar Dislocation in the Pediatric Population: Risk of Recurrence and Functional Outcomes*

**Kevin Wang, MD**

Mount Sinai

*Risk Factors and Rate of Conversion to Total Hip Arthroplasty Within 2 years After Hip Arthroscopy Utilizing a Large National Cohort of Commercially Insured Patients*



**Presenters' Choice**

**Josephine Coury, MD**

Columbia University Irving Medical Center

*UIV Within 3 Levels of the Thoracic Apex is the Most Significant Risk Factor for Proximal Junctional Kyphosis in Lenke Type 5 and 6 Adolescent Idiopathic Scoliosis Patients*

**CALIFORNIA ORTHOPAEDIC ASSOCIATION**

**OREF Resident Award Winner**

**Christopher Hart, MD**

University of California, Los Angeles

*Novel Antibody Disrupts Biofilm in Spinal Implant Infection Model*

**MINNESOTA ORTHOPAEDIC SOCIETY**

**OREF Resident Award Winners**

**Harold I. Salmons IV, MD**

Mayo Clinic, Rochester

*Implementation of Machine Learning to Predict Cost of Care Associated with Ambulatory Single Level Lumbar Decompression*

**Samuel Davidson, MD**

University of Minnesota

*Discrepancy between DXA and CT Based Assessment of Spine Bone Mineral Density*

The Orthopaedic Research and Education Foundation (OREF) is an independent 501(c)(3) non-profit organization committed to improving clinical practice and patient outcomes by funding outstanding research and mentoring new investigators to improve the lives of patients with musculoskeletal conditions.

Since its founding, OREF has provided nearly \$150 million in orthopaedic research grants and awards. Our active grant portfolio totals 107 research grants with a value of \$8.3 million. Current funding opportunities and a list of awarded grants may be accessed at [\*\*www.oref.org/grants\*\*](http://www.oref.org/grants).



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