

Department of Orthopaedics

News

Ara Nazarian, PhD, Elected to the American Institute for Medical and Bioengineering College of Fellows



The American Institute for Medical and Biological Engineering (AIMBE) has inducted Ara Nazarian, Dr. Sc., to its College of Fellows. Election to the AIMBE College of Fellows is among the highest professional distinctions accorded to medical and biological engineers, comprised of the top two percent of engineers in these fields. College membership honors those who have made outstanding contributions to "engineering and medicine research, practice, or education" and to "the pioneering of new and developing fields of technology, making major advancements in traditional fields of medical and biological engineering or developing/implementing innovative approaches to bioengineering education."

Dr. Nazarian was nominated, reviewed, and elected by peers and members of the College of Fellows for outstanding contributions to advancing basic science, diagnostic and predictive approaches for musculoskeletal diseases and injuries, and their translation for clinical use.

He is the inaugural holder of the Augustus White, III, MD, PhD Chair in Orthopaedic Surgery at BIDMC and an Associate Professor of Orthopaedic Surgery at the HMS. He also serves as the Vice Chair of Research at the Carl J. Shapiro Department of Orthopaedic Surgery.

To support the Augustus White, III, MD, PhD, Chair in Orthopaedic Surgery at BIDMC endowment and propel innovative, leading-edge clinical care, research, and education conducted in BIDMC's Carl J. Shapiro Department of Orthopaedics, please visit <https://www.bidmc.org/giving> and specify your support is being directed towards the Dr. Augustus A. White Chair in Orthopaedics.

Department of Orthopaedics News



Tamara Rozental, MD, hosted the 2025 IFSSH and IFSHT Triennial Congress, held in Washington, DC, in her role as president of the American Society for Surgery of the Hand.

Department of Orthopaedics Publications

Foot and Ankle

The Medial Mini-Open Supine Achilles Repair: Outcomes of a Medially Based Mini-Open Technique Compared With Prone Techniques. Miller CP, Stanwood K, Williams C, Zhao J, **Raduan F**. J Am Acad Orthop Surg Glob Res Rev. 2025 Mar 14;9(3):e24.00390. doi: 10.5435/JAAOSGlobal-D-24-00390. PMID: 40096573; PMCID: PMC11913408.

Radiological safety atlas of minimally invasive midfoot fusion: A cadaver study. Karaismailoglu B, Peiffer M, **Raduan F**, Hollander JJ, Knebel A, Kwon JY, Ashkani-Esfahani S, Miller CP. Foot Ankle Surg. 2025 Jan 25:S1268-7731(25)00026-8. doi: 10.1016/j.fas.2025.01.009. Epub ahead of print. PMID: 39875299.

Hand Surgery

Evaluation of a Multispecialty Mobile Health App: Pilot Study. Xiao R, Patel R, **Rozental T**, Schurko B, **Shoji M**, **Harper C**. J Hand Surg Glob Online. 2025 Jan 27;7(2):203-206. doi: 10.1016/j.jhsg.2024.12.003. PMID: 40182884; PMCID: PMC11963107.

Joints

Cefazolin Alone Versus Cefazolin With Tobramycin or Gentamicin as Intraoperative Antibiotic Prophylaxis for Total Joint Arthroplasty. Dhodapkar MM, Halperin SJ, Radford Z, Rubin LE, Grauer JN, **Li M**. Arthroplast Today. 2025 Jan 22;31:101613. doi: 10.1016/j.artd.2024.101613. PMID: 39911247; PMCID: PMC11794179.

Cementless fixation in total joint arthroplasty: Factors impacting osseointegration. Vajapey SP, Shah VM, **Li M**, Estok DM 2nd. J Clin Orthop Trauma. 2024 Dec 13;61:102871. doi: 10.1016/j.jcot.2024.102871. PMID: 39816715; PMCID: PMC11732076.

Musculoskeletal Research

Automated Segmentation of Trunk Musculature with a Deep CNN Trained from Sparse Annotations in Radiation Therapy Patients with Metastatic Spine Disease. Hong V, Pieper S, James J, **Anderson DE**, Pinter C, Chang YS, Aslan B, Kozono D, Doyle PF, Caplan S, Kang H, Balboni T, Spektor A, Huynh MA, Keko M, Kikinis R, Hackney DB, **Alkalay RN**. medRxiv [Preprint]. 2025 Jan 20:2025.01.13.25319967. doi: 10.1101/2025.01.13.25319967. PMID: 39974027; PMCID: PMC11838942.

Physiological and Anthropometric Factors Associated With Spine Loading Estimates From Imaging-Based Subject-Specific Musculoskeletal Models. Allaire BT, **Johannesdottir F**, **Bouxsein ML**, **Anderson DE**. JOR Spine. 2025 Apr 11;8(2):e70059. doi: 10.1002/jsp2.70059. PMID: 40225046; PMCID: PMC11987705.

Department of Orthopaedics Publications

Musculoskeletal Research

The relationship between baseline bone mineral density and fracture incidence in the placebo groups of randomized controlled trials using individual patient data from the FNIH-ASBMR-SABRE project. Schini M, Lui LY, Vilaca T, Ewing SK, Thompson A, Bauer DC, **Bouxsein ML**, Black DM, Eastell R. J Bone Miner Res. 2025 Mar 15;40(3):307-314. doi: 10.1093/jbmr/zjae201. PMID: 39680674; PMCID: PMC11909735.

A Meta-Analysis Study to Define Variations In Murine Long Bone Biomechanical Testing. Stewart I, Garcia M, Alluri N, Buzo M, Keko M, **Nazarian A**. J Biomech Eng. 2025 Apr 2:1-45. doi: 10.1115/1.4068318. Epub ahead of print. PMID: 40172045.

Advances in computational modeling of cytokine and growth factor dynamics in bone healing: a scoping review. Hedayatzadeh Razavi A, Nafisi N, Velasquez-Hammerle M, Shariyate MJ, Khak M, Mirahmadi A, McNichol M, **Rodriguez EK**, **Nazarian A**. Biomech Model Mechanobiol. 2025 Mar 14. doi: 10.1007/s10237-025-01938-7. Epub ahead of print. PMID: 40085288.

Bacteriophage Dosing and Its Effect on Bacterial Growth Suppression in a *Staphylococcus epidermidis* Model: An *In Vitro* Study. Young J, Shariyate MJ, Razavi AH, **Nazarian A**, **Rodriguez EK**. Phage (New Rochelle). 2024 Dec 18;5(4):223-229. doi: 10.1089/phage.2024.0001. PMID: 40045941; PMCID: PMC11876813.

Decoding fracture healing: A scoping review of mechanistic pathways derived from transcriptional analysis in murine studies. Nafisi N, Razavi AH, Shariyate MJ, Velasquez MV, Khak M, Manoukian D, Klujian A, Mirzamohammadi H, Cumiskey T, Rostami MR, Mirzamohammadi F, **Nazarian A**. Bone. 2025 May;194:117444. doi: 10.1016/j.bone.2025.117444. Epub 2025 Mar 1. PMID: 40032014.

Sports Surgery

Comparative analysis of unicortical vs. subchondral locking screws in osteoporotic proximal humerus fractures. Khak M, Olson JJ, Williamson P, Shariyate MJ, Razavi AH, Momenzadeh K, Abbasian M, Kheir N, **Rodriguez EK**, **Nazarian A**. Heliyon. 2025 Jan 28;11(3):e42165. doi: 10.1016/j.heliyon.2025.e42165. PMID: 39991246; PMCID: PMC11847220.

Efficacy and Safety of Chemical Venous Thromboembolism Prophylaxis in Spine Trauma Patients: A Systematic Review and Meta-analysis Comparing Anticoagulant Types. **Gandhi SD**, Mohanty S, von Riegen H, Akodu M, Oginni E, Yeritsyan D, Momenzadeh K, Fladger A, Keko M, McTague M, **Nazarian A**, White AP, **Pittman JL**. Clin Spine Surg. 2025 Mar 12. doi: 10.1097/BSD.0000000000001790. Epub ahead of print. PMID: 40071770.

Relationships Between PROMIS and Legacy Patient-Reported Outcome Measure (PROM) Scores in the MARS Cohort at 10-Year Follow-up. MARS Group (**Arun Ramappa**). J Bone Joint Surg Am. 2025 Feb 18. doi: 10.2106/JBJS.24.00196. Epub ahead of print. PMID: 39965036.

Department of Orthopaedics Publications

Trauma Surgery

The Transformative Impact and Persisting Challenges of Intramedullary Nailing in Low- and Middle-Income Countries: Commentary on an article by Aditya Subramanian, et al.: "Delayed Surgery Increases the Rate of Infection in Closed Diaphyseal Tibial and Femoral Fractures". **Agarwal-Harding KJ**. J Bone Joint Surg Am. 2025 Apr 2;107(7):e31. doi: 10.2106/JBJS.24.01282. Epub 2025 Apr 2. PMID: 40172568.

Access to Orthopaedic Devices in Low and Middle-Income Countries: Challenges and Opportunities. Dworkin M, Woolley PM, Shahab F, Noe MC, Barry R, Chomba D, Makasa E, Singh Pradhan NM, Byiringiro JC, **Agarwal-Harding KJ**. J Bone Joint Surg Am. 2025 Mar 27. doi: 10.2106/JBJS.24.00997. Epub ahead of print. PMID: 40146811.

Risk Factors for Amputation and Prolonged Hospitalization Among Children Who Received Traditional Bonesetting in Ethiopia. Adem EG, Morgan-Asiedu PK, Mengesha MG, Keko M, Mo C, Bussa S, Alemu E, Zerihun Y, Derilo HT, Areis M, Reda KT, Workneh WA, Shiferaw BA, Jira MC, Gula HB, Geneti MB, Martin C Jr, **Agarwal-Harding KJ**, Harrison WJ. J Bone Joint Surg Am. 2025 Feb 10. doi: 10.2106/JBJS.24.00359. Epub ahead of print. PMID: 39928712.