



December 10th, 2025

Yu Seon Kim

Washington University in St. Louis
Orthopaedic Surgery Research
660 S. Euclid
Campus Box 8233
St. Louis, MO 63110

**Re: Center for Musculoskeletal Engineering Faculty Position – Tenure Track
Purdue University School of Engineering**

Dear Members of the Faculty Search Committee,

I am writing to apply for the position of tenure-track Assistant Professor of Biomedical Engineering at Purdue University's newly established Center for Musculoskeletal Engineering. I have enclosed my curriculum vitae, statement of research interests, and statement of teaching philosophy. Dr. Antonios Mikos and Dr. K. Jane Grande-Allen at Rice University, and Dr. Farshid Guilak and Dr. Matthew Silva at Washington University in St. Louis have agreed to be my professional referees, and their contact information is also enclosed.

I am currently a postdoctoral research associate in the laboratory of Dr. Farshid Guilak at Washington University in St. Louis and Shriners Hospitals - St. Louis, where I am using biomaterial and synthetic biology tools to investigate chondrocyte mechanotransduction. I am particularly interested in the mechanosensory ion channel TRPV4, which plays a critical role in transducing physiologic levels of mechanical loads and promoting matrix anabolism. My most recent work involved the utilization of mechanoresponsive gene circuit to identify the effect of gain-of-function mutations in TRPV4 on the temporal dynamics of mechanoresponsive transcription in chondrocytes. I have also identified the role of matrix stiffness on chondrocyte mechanotransduction using agarose hydrogels of varying stiffness, manuscript for which is currently in preparation. Presently, I am using a degradable hydrogel system consisting of poly(ethylene glycol)-based synthetic network and hyaluronic acid-based biological network to understand the effect of matrix degradation on chondrocyte mechanotransduction and DNA methylation. I am working to conduct enzymatic methylation sequencing to identify early osteoarthritis (OA)-associated methylation patterns, using both the degradable hydrogel and injury-induced mouse model of OA. Data obtained from this study will form the foundation of my independent work.

My graduate work, under the supervision of Dr. Antonios Mikos at Rice University, focused on developing poly(N-isopropylacrylamide)-based injectable hydrogel for cartilage tissue engineering. I developed a crosslinking scheme that utilizes chondroitin sulfate modified via carbodiimide chemistry to fabricate a biosynthetic hydrogel mimicking the cartilage extracellular matrix. I utilized the hydrogel platform to investigate the effect of poly(L-lysine) and coculture with primary chondrocytes on encapsulated mesenchymal stromal cell chondrogenesis. I also developed protocols for studying the adhesive property of hydrogels using an *ex vivo* model of cartilage defect, and a rabbit cartilage defect model for osteochondral tissue engineering.

My core independent research program will focus on studying the interplay between chondrocyte mechanotransduction and formation of epigenetic memory, specifically in the form of DNA methylation. Using the degradable hydrogel platform, along with *in vivo* model of injury-induced OA, I will investigate the mechanotransduction-DNA methylation axis in chondrocytes and identify the "Chondrocyte



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Mechanical Memory," or methylation patterns that are altered in response to mechanical loading. These efforts will culminate in the development of a dead Cas9-mediated targeted methylation editing strategy as a gene therapy for OA. In parallel, I will also investigate the role of mechanotransduction in activating quiescent surface zone chondrocytes towards chondrocyte progenitor cells (CPCs) and explore strategies for activating CPCs in diseased cartilage. The two projects have strong potential for multiple collaborations with faculties in Purdue BME (Dr. Yeo), Indiana Center for Musculoskeletal Health (Drs. Robling, Sankar), and the Musculoskeletal Mechanobiology Core at Indiana University School of Medicine. These collaborations will investigate the interplay between cartilage stiffness and chondrocyte mechanobiology, engineer new tools for studying chondrocyte mechanotransduction, and develop new gene delivery vehicles and synthetic biology tools for targeted gene therapy.

I also have a strong interest in undergraduate education and mentorship, and am willing to teach classes in biomaterials, biomechanics, thermodynamics, and fluid mechanics. I would also like to eventually design a class in extracellular matrix, where students will gain a more in-depth understanding of the biomacromolecules that comprise various tissues of the human body. Students will also learn how dysregulated remodeling can result in various diseases, from the perspective of altered mechanotransduction and cell-matrix signaling. I believe in adapting my teaching each year based on the student population and will therefore emphasize maintaining a close relationship with students to continuously adjust and improve my teaching method and class material.

Purdue BME and IU Medicine's strong research program in tissue engineering and mechanobiology and highly collaborative environment will provide a strong foundation on which I can build a successful laboratory that specializes in mechanotransduction and epigenetic memory. With my current research expertise on investigating stiffness-induced mechanotransduction and future independent research focus on mechanotransduction-induced epigenetic modification and development of gene therapies for OA, I hope to provide new perspectives and avenues for new collaborations on mechanobiology research that are currently ongoing in the department. If you require any additional information regarding my application, please reach out to me at 832-538-5767 or yuseon@wustl.edu and I would be happy to assist. Thank you for considering my application for the faculty search.

Sincerely,

A handwritten signature in blue ink, reading "Yu Seon Kim".

Yu Seon Kim, Ph.D.
Postdoctoral Research Associate
Lab of Farshid Guilak, Ph.D.
Orthopaedic Surgery Research, Washington University in St. Louis
Shriners Children's St. Louis



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660 S. Euclid
Campus Box 8233
St. Louis, MO 63110

Yu Seon Kim, Ph.D.

Department of Orthopedic Surgery
660 S. Euclid Campus Box 8233
Saint Louis, MO 63110
yuseon@wustl.edu
832-538-5767

CURRENT POSITION

Washington University in St. Louis , St. Louis, MO Postdoctoral Research Associate	2021 – Present
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EDUCATION

Rice University , Houston, TX Doctor of Philosophy in Bioengineering Thesis title: Injectable Biomimetic Hydrogel Platforms for Cartilage Regeneration	2015 – 2021
Johns Hopkins University , Baltimore, MD Bachelor of Science in Chemical and Biomolecular Engineering Awards and Honors: General Honors, Departmental Honors	2008 – 2011

RESEARCH EXPERIENCES

Postdoctoral Research Associate Washington University in Saint Louis <i>Advisor: Farshid Guilak, Ph.D.</i> • Demonstrated the tunability of mechanogenetic circuit response via mutations in mechanosensory ion channel TRPV4 • Developed an <i>in vitro</i> system for studying stiffness-dependent gene expression and mechanotransduction of chondrocytes • Established a collaboration to study gene therapy approach for treating bone fractures using an <i>in vivo</i> mouse model	2021 – Present
Graduate Research Assistant Rice University <i>Advisor: Antonios G. Mikos, Ph.D.</i> • Developed an injectable, thermoresponsive, biosynthetic hydrogel for cartilage tissue engineering applications • Assessed the chondrogenesis of encapsulated mesenchymal stem cells in the presence of chondrocytes and poly(L-lysine) • Collaborated in an <i>in vivo</i> study using a rabbit osteochondral defect model	2015 – 2021
Undergraduate Research Assistant Johns Hopkins University <i>Advisor: L. Mario Amzel, Ph.D.</i> • Analyzed the crystal structure of Leishmania major farnesyl diphosphate synthase and created a library of possible site-directed mutations for controlling the enzyme's product specificity • Performed enzyme assays and protein crystallography to validate the activity of engineered enzymes	2010 – 2011

AWARDS AND HONORS

Finalist – Poster Award Musculoskeletal Research Center Annual Symposium, St. Louis, MO	2025
Student Award State of the Science Meeting, Shriners Children's, Chicago, IL	2025
Orthoregeneration Network Travel Award Orthopedic Research Society Annual Meeting, Phoenix, AZ	2025
Finalist – Poster Award Musculoskeletal Research Center Annual Symposium, St. Louis, MO	2024
Student Scientist Award TERMIS-AM Annual Conference, Charlotte, NC	2017
GenDepot Poster Award Korean-American Bio-Medical Scientists Symposium, Houston, TX	2016

CURRENT GRANTS

Regeneration Innovation Challenge Seed Grant, Junior Innovator Award Category

2025

"In Situ Degradable Tissue Engineered Cartilage as a Model of Early Osteoarthritis"

Center of Regenerative Medicine, Washington University in St. Louis, St. Louis, MO

\$15,000 over 1 year; 3/1/2025 – 2/28/2026

PUBLICATIONS

Full list of publications: <https://tinyurl.com/2bysv8yw>

1. Z Harissa, **Y Kim**, AR Dicks, N Steward, F Guilak, "Skeletal dysplasia-causing mutations in TRPV4 alter the chondrocyte transcriptomic response to mechanical loading," *Am J Physiol Cell Physiol* 328: C1135–C1149, 2025. PMC12288050
2. G.K. Marushack, A. Savadipour, R. Tang, J.M. Garcia-Castorena, N. Rashidi, R.J. Nims, N.S. Harasymowicz, **Y. Kim**, F. Guilak, "Polyunsaturated fatty acids suppress PIEZO ion channel mechanotransduction in articular chondrocytes," *FASEB J.* 2025 Jan 15;39(1):e70290. PMID: 39786170
3. **Y. Kim**, N. Steward, A. Kim, I. Fehle, and F. Guilak, "Tuning the Response of Synthetic Mechanogenetic Gene Circuits Using Mutations in TRPV4," *Tissue Engineering Part A*, 2024 Aug 2. PMC12394806
4. A. Savadipour, D. Palmer, E.V. Ely, K.H. Collins, J.M. Garcia-Castorena, Z. Harissa, **Y. Kim**, A. Oestreich, F. Qu, N. Rashidi, and F. Guilak, "The Role of PIEZO Ion Channels in the Musculoskeletal System," *American Journal of Physiology-Cell Physiology*, 324(3):C728–C740. PMC10027092
5. H.A Pearce, J.W.R. Swain, L.H. Victor, K.J. Hogan, E.Y. Jiang, M.L. Bedell, A.M. Navara, A. Farsheed, **Y. Kim**, J.L. Guo, J.D. Hartgerink, K.J. Grande-Allen, and A.G. Mikos, "Thermogelling hydrogel charge and lower critical solution temperature influence cellular infiltration and tissue integration in an ex vivo cartilage explant model," *Journal of Biomedical Materials Research Part A*, 111 (1), 15-34. PMID: 36053984
6. **Y. Kim** and F. Guilak, "Engineering Hyaluronic Acid for the Development of New Treatment Strategies for Osteoarthritis," *International Journal of Molecular Sciences*, 2022, 23(15), 8662. PMC9369020
7. A.M. Navara, Y. Kim, Y. Xu, C.L. Crafton, M. Diba, J.L. Guo, and A.G. Mikos, "A dual-gelling poly (N-isopropylacrylamide)-based ink and thermoreversible poloxamer support bath for high-resolution bioprinting," *Bioactive Materials*, 14, 302-312. PMC8897628
8. H.A. Pearce, E.Y. Jiang, J.W.R. Swain, A.M. Navara, J.L. Guo, **Y. Kim**, A. Woehr, J.D. Hartgerink, and A.G. Mikos, "Evaluating the physicochemical effects of conjugating peptides into thermogelling hydrogels for regenerative biomaterials applications," *Regenerative Biomaterials*, 8 (6), rbab073. PMC8684499
9. **Y. Kim**, S.M. Mehta, J.L. Guo, H.A. Pearce, B.T. Smith, E. Watson, G.L. Koons, A.M. Navara, J. Lam, K.J. Grande-Allen, and A.G. Mikos, "Evaluation of tissue integration of injectable, cell-laden hydrogels of cocultures of mesenchymal stem cells and articular chondrocytes with an ex vivo cartilage explant model," *Biotechnology and Bioengineering*, 118 (8), 2958-2966. PMID: 33913514
10. J.L. Guo, * **Y. Kim**, * G.L. Koons, J. Lam, A.M. Navara, S. Barrios, V.Y. Xie, E. Watson, B.T. Smith, H.A. Pearce, E.A. Orchard, J.J.J.P. van den Beucken, J.A. Jansen, M.E Wong, and A.G. Mikos, "Bilayered, peptide-biofunctionalized hydrogels for in vivo osteochondral tissue repair," *Acta Biomaterialia*, 128, 120-129 (2021) (* Co-first authors). PMC8222183
11. H.A. Pearce, **Y. Kim**, E. Watson, K. Bahrami M.M. Smoak, M. Elder, T. Shannon, and A.G. Mikos, "Development of a Modular, Biocompatible Thiolated Gelatin Microparticle Platform for Tissue Engineering Applications," *Regenerative Biomaterials*, 8 (3), rbab012. PMC8240604
12. **Y. Kim** and A.G. Mikos, "Emerging Strategies in Reprogramming and Enhancing the Fate of Mesenchymal Stem Cells for Bone and Cartilage Tissue Engineering," *Journal of Controlled Release*, 330, 565-574 (2021). PMC8812590

13. J.L. Guo,* **Y. Kim**,* E.A. Orchard, J.J.J.P. van den Beucken, J.A. Jansen, M.E. Wong, and A.G. Mikos, "A Rabbit Femoral Condyle Defect Model for Assessment of Osteochondral Tissue Regeneration," **Tissue Engineering, Part C: Methods**, 26 (11), 554-564 (*co-first authors). PMC7698983
14. **Y. Kim**, A.J. Chien, J.L. Guo, B.T. Smith, E. Watson, H.A. Pearce, G.L. Koons, A.M. Navara, J. Lam, D.W. Scott, K.J. Grande-Allen, and A.G. Mikos, "Chondrogenesis of Cocultures of Mesenchymal Stem Cells and Articular Chondrocytes in Poly(L-Lysine)-Loaded Hydrogels," **Journal of Controlled Release**, 328, 710-721 (2020). PMC7749039
15. S. Maheshwari, **Y. Kim**, S. Aripirala, M. Murphy, L.M. Amzel, and S.B. Gabelli, "Identifying Structural Determinants of Product Specificity in Leishmania major Farnesyl Diphosphate Synthase," **Biochemistry**, 2020, 59, 29, 2751-2759. PMC8049779
16. J.L. Guo, A. Li, **Y. Kim**, V.Y. Xie, B.T. Smith, E. Watson, G. Bao, and A.G. Mikos, "Click Functionalized, Tissue-Specific Hydrogels for Osteochondral Tissue Engineering," **Journal of Biomedical Materials Research, Part A**, 108A, 684-693 (2020). PMC7942178
17. B.T. Smith, S.M. Bittner, E. Watson, M.M. Smoak, L.A. Diaz-Gomez, E.R. Molina, **Y. Kim**, C.D. Hudgins, A.J. Melchiorri, D.W. Scott, K.J. Grande-Allen, J.J. Yoo, A. Atala, J.P. Fisher and A.G. Mikos, "Multimaterial Dual Gradient Three-Dimensional Printing for Osteogenic Differentiation and Spatial Segregation," **Tissue Engineering, Part A**, ten.TEA.2019.0204. (2019). PMC7133451
18. **Y. Kim**, J.L. Guo, J. Lam, K.J. Grande-Allen, P.S. Engel, and A.G. Mikos, "Synthesis of Injectable, Thermally Responsive, Chondroitin Sulfate-Cross-Linked Poly(N-Isopropylacrylamide) Hydrogels," **ACS Biomaterials Science & Engineering**, 5, 6405-6413 (2019). PMID: 33417793
19. J.L. Guo,* **Y. Kim**,* and A.G. Mikos, "Biomacromolecules for Tissue Engineering: Emerging Biomimetic Strategies," **Biomacromolecules**, 20, 2904-2912 (2019) (*co-first authors). PMID: 31282658
20. J.L. Guo, **Y. Kim**, V.Y. Xie, B.T. Smith, E. Watson, J. Lam, H.A. Pearce, P.S. Engel, and A.G. Mikos, "Modular, tissue-specific, and biodegradable hydrogel cross-linkers for tissue engineering," **Science Advances**, 5(6):1-11 (2019). PMC6551165
21. **Y. Kim**,* M. Majid,* A.J. Melchiorri, and A.G. Mikos, "Applications of decellularized extracellular matrix in bone and cartilage tissue engineering," **Bioengineering & Translational Medicine**, 4(1):83-95 (2019) (*co-first authors). PMC6336671
22. **Y. Kim**,* M.M. Smoak,* A.J. Melchiorri, and A.G. Mikos, "An Overview of the Tissue Engineering Market in the United States from 2011 to 2018," **Tissue Engineering, Part A**, 25(1-2):1-8 (2019) (*co-first authors). PMC6352506

Book Chapters

1. M. Majid, J.L. Guo, **Y. Kim**, A.J. Melchiorri, and A.G. Mikos, "Bioprinting Hydrogels and Tissue Engineering" in "Injectable Hydrogels for Bioprinting," Editors: I. Noh, X. Wang and S. van Vlierberghe. Royal Society of Chemistry, in submission.
2. H.A. Pearce, **Y. Kim**, L.A. Diaz-Gomez, and A.G. Mikos, "Tissue Engineering Scaffolds" in "Biomaterials Science, An Introduction to Materials in Medicine. 4th Edition," Editors: W. Wagner, S. Sakiyama-Elbert G. Zhang M. Yaszemski. Academic Press, 2020.

TEACHING EXPERIENCE

Guest Lectures

- | | |
|--|------|
| <ol style="list-style-type: none"> 1. Soft tissue mechanobiology
University of Washington (Virtual), 1 lecture
Instructor: Feini (Sylvia) Qu, Ph.D.
ME 416/576: Mechanobiology | 2025 |
|--|------|

2. **Tissue mechanics** 2019
Rice University, 2 lectures
Instructor: K. Jane Grande-Allen, Ph.D.
BIOE 372: Mechanics

3. **Glycosaminoglycans and Proteoglycans** 2019
Rice University, 1 lecture
Instructor: K. Jane Grande-Allen, Ph.D.
BIOE 524: Extracellular Matrix

Teaching Assistantship | Rice University

1. **BIOE 443: Bioprocessing Lab Module** 2016
Instructor: Bilal Ghosn, Ph.D.
Lab work guidance; 6 teaching hours
2. **BIOE 519: Biomaterials Synthesis** 2016
Instructor: Jordan Miller, Ph.D.
Exam and project grading; 3 teaching hours

Others

1. **Certificate in Teaching and Learning** 2020
Center for Teaching Excellence, Rice University
Two semesters of pedagogical training, One semester of teaching demonstration to fellow graduate students

MENTORSHIP

Washington University in St. Louis

1. **Satanik Mukherjee, Ph.D.**, Postdoctoral research fellow 2025 – Present
Primary project: Development of mechanically tunable circuit for delivery of pro-anabolic and pro-analgesic polypeptide Dynorphin
Current position: Guilak Lab
2. **Zainab Harissa, Ph.D.**, Ph.D. student 2021-2025
Primary project: Role of gain-of-function mutations in TRPV4 in altering chondrocyte transcriptomic response to mechanical loading
Co-authored publications: PMC12288050
Current position: Postdoctoral fellow (Mentor: Joerg Lahann, Ph.D.), University of Michigan (2025-)
3. **Autumn Kim, B.S.**, Undergraduate research assistant 2022-2025
Primary project: altered activation of mechanogenetic gene circuits in human iPSC-derived chondrocytes harboring gain-of-function mutations in TRPV4
Co-authored publications: PMC12394806
Current position: Research Technician, Guilak Lab (2025-)
4. **Isabella Fehle, B.S.**, Undergraduate research assistant 2023
Primary project: altered activation of mechanogenetic gene circuits in human iPSC-derived chondrocytes harboring gain-of-function mutations in TRPV4
Co-authored publications: PMC12394806

Rice University

1. **Adam Navara, Ph.D.**, Ph.D. student 2017-2021
Primary project: High-resolution bioprinting of poly(N-isopropylacrylamide)-based thermogelling macromer
Co-authored publications: PMC8897628
Current position: Policy Advisor, Alston & Bird (2024-)
2. **Hannah Pearce, Ph.D.**, Ph.D. student 2017-2021
Primary project: Fabrication and characterization of peptide-conjugated thermogelling hydrogel for cartilage tissue engineering
Co-authored publications: PMC8684499, PMID 36053984, PMC8240604
Current position: Scientist I, Asklepios BioPharmaceutical (2024-)

3. **Athena Chien, B.S.**, Undergraduate research assistant 2018-2019
Primary project: Fabrication and characterization of injectable dual-network hydrogel composed of a poly(N-isopropylacrylamide)-based synthetic thermogelling macromer and a chondroitin sulfate-based biological network
Co-authored publications: PMC7749039
Current position: Ph.D. candidate (Mentor: Craig Forest, Ph.D.), Georgia Institute of Technology (2021-)

INVITED TALKS

1. **Y. Kim**, "Can synthetic biology help with studying OA? Using Mechanoresponsive Gene Circuits with In Vitro Models of OA to Aid Our Search for OA Therapy" Orthopedic Research Society Annual Meeting. 2026 (accepted), Invited by Arin Oestreich, Ph.D.
2. **Y. Kim**, "Using *in vitro* models to study cartilage disorders: two ongoing works in the Guilak Laboratory," Board Meeting at Shriners Children's – St. Louis. Feb 2025, Invited by Farshid Guilak, Ph.D.

CONFERENCE PRESENTATIONS – Oral

1. **Y. Kim**, A. Kim, N. Steward, F. Guilak, "Synthetic mechanogenetic gene circuits reveal the role of TRPV4 in chondrocyte mechanosensing of matrix stiffness," 2025 Musculoskeletal Research Center Symposium, St. Louis, MO.
2. **Y. Kim**, A. Kim, N. Steward, F. Guilak, "Development of an *in vitro* tissue-engineered system as an early osteoarthritis model for studying matrix degradation-associated changes in chondrocyte mechanoresponse," 2025 Shriners Children's State of the Science Meeting, Chicago, IL.
3. **Y. Kim**, J.L. Guo, J. Lam, and A.G. Mikos, "Preparation of Chondroitin Sulfate Crosslinked, Thermally Responsive Hydrogels for Osteochondral Tissue Regeneration," 2017 Gulf Coast Consortia Regenerative Medicine Symposium, Houston, TX.

CONFERENCE PRESENTATIONS – Poster

1. **Y. Kim**, N. Steward, A. Kim, F. Guilak, "Synthetic mechanogenetic gene circuits reveal the role of TRPV4 in chondrocyte mechanosensing of matrix stiffness" 2025 Orthopedic Research Society Annual Meeting, Phoenix, AZ.
2. **Y. Kim**, N. Steward, A. Kim, I. Fehle, F. Guilak, "Gain-of-function mutations in the mechanosensory ion channel TRPV4 enhance the response of synthetic mechanogenetic gene circuits in human ipsc-derived chondrocytes," 2024 Tissue Engineering and Regenerative Medicine International Society – World Congress, Seattle, WA.
3. **Y. Kim**, N. Steward, A. Kim, I. Fehle, F. Guilak, "Gain-of-function mutations in the mechanosensory ion channel TRPV4 enhance the response of synthetic mechanogenetic gene circuits in human ipsc-derived chondrocytes," 2024 Musculoskeletal Research Center Annual Symposium, St. Louis, MO.
4. **Y. Kim**, N. Steward, A. Kim, I. Fehle, F. Guilak, "Tuning the Response of Synthetic Mechanogenetic Gene Circuits in Human iPSC-derived Chondrocytes using Mutations in the Mechanosensory Ion Channel TRPV4," 2024 Orthopedic Research Society Annual Meeting, Long Beach, CA.
5. **Y. Kim**, A.J. Chien, J.L. Guo, B.T. Smith, E. Watson, H.A. Pearce, G.L. Koons, A.M. Navara, J. Lam, K.J. Grande-Allen, A.G. Mikos, "Cell-Laden, Poly(L-Lysine)-Incorporated Injectable Hydrogels for Cartilage Tissue Engineering," 2019 Tissue Engineering and Regenerative Medicine International Society – Americas Annual Conference, Orlando, FL.
6. **Y. Kim**, A.M. Navara, A.J. Chien, and A.G. Mikos, "Shear-thinning, thermally responsive poly(N-isopropylacrylamide)-based bioink for 3D bioprinting applications," 2019 Society for Biomaterials Annual Meeting, Seattle, WA.
7. **Y. Kim**, J.L. Guo, J. Lam, and A.G. Mikos, "Preparation of Chondroitin Sulfate Crosslinked, Thermally Responsive Hydrogels for Osteochondral Tissue Regeneration," 2017 Tissue Engineering and Regenerative Medicine International Society – Americas Annual Conference, Charlotte, NC.

8. **Y. Kim**, J.L. Guo, J. Lam, and A.G. Mikos, "Synthesis and Characterization of Thermally Gelling, Cross-Linkable Macromers for Osteochondral Tissue Engineering," 10th Korean-American Scientists and Engineers Association West Gulf Coast Regional Conference, Houston, TX.
9. **Y. Kim**, S. Aripirala, S. Gabelli, and L.M. Amzel, "*Leishmania major* FPPS: Remodeling the Active Site by Site-Directed Mutagenesis for Selective GPP Production," 2011 Johns Hopkins University Institute for Biophysical Research Annual Retreat, Baltimore, MD.

PROFESSIONAL ASSOCIATIONS

Orthopedic Research Society	2021 – Present
Tissue Engineering and Regenerative Medicine International Society	2017 – Present

OUTREACH EXPERIENCES

National Biomechanics Day Washington University in Saint Louis	2023-2025
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- Organized by Washington University Physical Therapy
- Audience: Local high school students
- Participated in planning and demonstration of "Real-time force measurement of ground reaction force using loadsol® insole device" for three consecutive years

St. Louis Science Fair Academy of Science, St. Louis	2022
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- Poster judge, Grades K-2 and Grades 6-12 category

Tissue Engineering Workshop Rice University	2020
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- Organized by Rice University Biomaterials Lab
- Audience: high school students from a local international school
- Organized the visit schedule, presented a short introduction talk to tissue engineering, and demonstrated the fabrication of photo-crosslinked hydrogel

LEADERSHIP EXPERIENCES

Washington University Postdoc Society Washington University in Saint Louis	
<i>Co-chair, Outreach Committee</i>	2023 – 2025
<i>Member, Outreach Committee</i>	2022 – 2023

Rice Graduate Student Association Rice University	
<i>Vice President of Student Advocacy</i>	2018 – 2019
<i>International Student Outreach Director</i>	2017 – 2018

Rice Korean Graduate Student Association Rice University	
<i>President</i>	2016 – 2017

Rice Bioengineering Graduate Student Association Rice University	
<i>Internal Assistant Chair</i>	2016 – 2017

Kim, Yu Seon
8325385767 yuseon@wustl.edu

Application		Comments
Candidate Status	Review	There are no items in this section.
Candidate Ranking	No Selection	Interviewers
Supporting Documents (for hiring departments – not visible by candidate)	Documents 0 attached	No interviews
Teaching Statement	Documents 1 attached	Correspondence
Research Statement	Documents 1 attached	12/10/2025 System System Email Thanks for applying - Purdue University
Additional Documents (Academic Publications, Recommendation Letters, etc.)	Documents 1 attached	Offer Letter
Nickname		There are no items in this section.
I am a former Purdue employee.	No	Application Status Audit Trail
Current or most recent employer	Washington University in St. Louis	12/10/2025 System System New Application
May we contact your current employer?	No Selection	12/11/2025 Shan Chen Review
Highest Education	Ph.D. Please specify the source name below if other or referral.	Tags
Please list the employee that referred you, if applicable.		There are no items in this section.
Average Rating:	N/A	More Information
Are you legally authorized to work in the United States?	Yes	*Street Address 660 S Euclid Ave Campus Box 8233
Will you now require immigration sponsorship for employment?	No	*City Saint Louis
Will you in the future require immigration sponsorship for employment?	No	*State / Province Missouri
		*Postal Code 63110
		Country United States
		RIF Start Date MM/DD/YYYY
		RIF MM/DD/YYYY
		Person Authorizing
	Please list name, institution and email address of your references below.	
Reference Name	Antonios Mikos	
Reference Institution	Rice University	
Reference Email	mikos@rice.edu	
Reference Name 2	K. Jane Grande-Allen	
Reference Institution 2	Rlce University	
Reference Email 2	grande@rice.edu	
Reference Name 3	Farshid Guilak	
Reference Institution 3	Washington University in St. Louis	
Reference Email 3	guilak@wustl.edu	
Reference Name 4	Matthew Silva	
Reference Institution 4	Washington University in St. Louis	
Reference Email 4	silvam@wustl.edu	
Reference Name 5		
Reference Institution 5		

Reference Email 5**Screening Details**

There are no items in this section.

Previous Employment

There are no items in this section.

Education

Area of Study	Chemical Engineering
College/University	Johns Hopkins University
Degree	Bachelor's degree
From Date	09/01/2008
End Date	12/31/2011

Area of Study	Bioengineering
College/University	Rice University
Degree	Ph.D.
From Date	08/16/2015
End Date	05/14/2021

Language Skills

*Language	English
*Speaking Proficiency	Fluent
*Reading Proficiency	Fluent
*Writing Proficiency	Fluent

*Language	Korean
*Speaking Proficiency	Fluent
*Reading Proficiency	Fluent
*Writing Proficiency	Fluent

Certifications/Licenses

There are no items in this section.

Professional Memberships

There are no items in this section.

Ineligible

There are no items in this section.