

Hyeonji Kim

Visiting Instructor/Lecturer, Ophthalmology

Bio

BIO

Dr. Kim is a translational bioprinting researcher specializing in tissue engineering and ocular regenerative medicine. She holds a Ph.D. in Mechanical Engineering. Her research focuses on developing innovative therapeutic platforms for ocular diseases using 3D bioprinting, biomanufacturing, and regenerative medicine.

She has developed 3D-bioprinted corneal stromal constructs that replicate native collagen alignment and achieve transparency, successfully restoring visual function in preclinical beagle models and subsequent veterinary clinical applications. She also advanced a simplified in situ corneal therapy that has completed veterinary clinical trials and is now licensed for anticipated human trials. Currently, she is developing ocular therapeutic implants using advanced 3D printing approaches.

Dr. Kim has collaborated with regulatory authorities and preclinical evaluation agencies to define guidelines for 3D-printed combination medical devices and to conduct safety testing of bioprinted corneas. Her work has been internationally recognized, contributing to her university's ranking as 12th in Reuters' 2019 "Top 100 Most Innovative Universities," and spans drug delivery, diagnostic and therapeutic devices, personalized medicine, and translational ophthalmology. Her long-term vision is to engineer personalized therapeutic implants and biofabrication technologies that bridge fundamental science and clinical translation, initially focusing on restoring vision and ultimately expanding to regenerative therapies for multiple organ systems.

ACADEMIC APPOINTMENTS

- Visiting Instructor/Lecturer, Ophthalmology

LINKS

- Google Scholar: https://scholar.google.com/citations?user=0_Ww3pEAAAAJ&hl=en

Publications

PUBLICATIONS

- **Implantable ocular therapeutic systems: an insight into their clinical potential in the long-term treatment of ocular diseases.** *Biofabrication*
Kim, H., Kang, N. W., Hong, W., Abdollahramezani, S., Ngo, G. H., Raja, D., Peters, O., Mahajan, V. B., Myung, D., DeBoer, C.
2026
- **Biomechanical Modification of the Sclera: An Ex Vivo Study on Porcine Eyes.** *Investigative ophthalmology & visual science*
Ross, A. K., Jang, K., Nahmou, M., Kim, H., DeBoer, C., Myung, D., Goldberg, J. L., Chiang, B.
2026; 67 (2): 51
- **3D Bioprinting of Cellular Therapeutic Systems in Ophthalmology: from Bioengineered Tissue to Personalized Drug Delivery.** *Current ophthalmology reports*
Kim, H., Ngo, G. H., Hong, W., Lee, S. H., Mahajan, V. B., DeBoer, C.

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- **Antifibrotic Nanoparticle for Corneal Regeneration Following Traumatic Injuries**
Jang, K., Kang, N., Kim, H., Jiang, L., Seo, Y., Song, E., Chen, F., Han, U., Liu, W., Myung, D.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Mechanical Stress and Geographic Atrophy: Investigating the Role of Retinal Pigment Epithelium Disruptions in Age-Related Macular Degeneration**
Raja, D., Kim, H., Moshfeghi, D., Deboer, C.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Evaluation of Refillable Drug-Eluting Intraocular Implant**
Kim, H., Kang, N., Myung, D., Deboer, C.
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2025
- **Refillable Intraocular Drug-Eluting Implant. *ACS applied materials & interfaces***
Kim, H., Kang, N. W., Wise, R., Feliz, A., Myung, D., DeBoer, C.
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- **Gelatin nanofibers coated with hyaluronic acid as a mesenchymal stromal cell scaffold for corneal regeneration. *International journal of pharmaceuticals***
da Silva, G. R., Song, E., Chen, K. M., Chen, F., Jiang, L., Kim, H., Kang, N. W., Myung, D.
2024: 125009