

DAEWOOK KIM

Associate Professor, Wyant College of Optical Sciences
University of Arizona, USA

Education

Ph.D. & MS, Optical Sciences, University of Arizona, Tucson, Arizona, USA
Bachelor's degree, Astronomy / Physics, Yonsei University, Seoul, South Korea

Technical Activities/Interests

Optical design, freeform metrology, AR/VR system development, interferometry using CGH, computer-controlled optics manufacturing, adaptive/active space optical systems, extremely large ground telescopes, astronomical instruments.

Services to the Technical Community

- National Academy of Science (NAS) Panel on Review of the Material Measurement Laboratory at the National Institute of Standards and Technology, USA, 2021
- UN (United Nations) World Space Week Invited Lecture, Ministry of Science, 2020
- NSF (National Science Foundation) Review Panel Committee, Division of Astronomical Sciences, USA, 2022
- European Optical Society (EOS) Conference Program Committee, European Optical Society Annual Meeting (EOSAM), 2018–Present
- Conference Co-chair, APCOM2023 (The 8th Asia Pacific Conference on Optics Manufacture), Shenzhen, China, 2023
- Scientific Committee of the International Conference on Laser Physics, Photonics, and Applications (LPPA), Arab Physical Society (ArPS), Hurgada, Egypt, 2023
- Conference Chair, “Optical Fabrication & Testing (OFT),” OPTICA, 2012–Present
- Conference Program Committee, ETOP 2023: Education and Training in Optics & Photonics, CREOL, University of Central Florida, USA, 2023
- NASA Postdoctoral Program Review Committee, USA, 2023
- Optical Sciences Winter School Committee Chair, Univ. of Arizona, 2020–2022 (sponsors: DeMund Foundation, Gretler Foundation, NSF, OPTICA, TRIF & SPIE)
- Associate Editor, Optics Express, OPTICA journal, 2013–2019

Service to SPIE

- SPIE Governance ESTeP (Engineering, Science and Technology Policy) Standing Committee, 2023–Present
- SPIE Chandra S. Vikram Award Review Committee, 2022
- SPIE Scholarship Committee, 2019–2022
- Guest Editor, Optical Engineering (Freeform Optics Special Section), 2015–2016
- SPIE Tribute Conference Chair, “Tribute to James C. Wyant: The Extraordinaire in Optical Metrology and Optics Education,” San Diego, 2021
- SPIE Conference Chair, “Optical Manufacturing and Testing,” International Symposium on SPIE Optical Engineering + Applications, 2012–Present
- SPIE Short Course Lecturer, “SC213: Interferometric Optical Testing” & “SC212: Modern Optical Testing,” 2021–Present

Professional Honors

- Fellow of SPIE, 2021
- SPIE Community Champion, 2019 and 2021
- Fellow of “International Research Program”, Korea Science and Engineering Foundation, 2005–2006
- OPTIMAX Grant for Research Award, 2013 and 2020
- SPIE Optics & Photonics Scholarship in Optical Science and Engineering, 2009
- Valedictorian, Ph.D. commencement, Optical Sciences, Univ. of Arizona, 2009

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Election Statement

I am delighted to put forward my candidacy for a position on the SPIE Board of Directors, which serves our esteemed international optical science society. As a faculty member of optical sciences and astronomy at the University of Arizona, I specialize in precision freeform optics design, fabrication, various metrology topics, and extremely large astronomical optics applications. My expertise spans a wide range of the wavelength spectrum from radio to x-ray, and I have contributed to numerous space and ground astronomical optical engineering projects, including designing and assembling the NASA Aspera UV space telescope, fabricating and testing the 25 m diameter Giant Magellan Telescope primary mirror segments, designing the South Pole Telescope's SLIM instrument for wide field of view radio signal detection, and developing technology for next generation very large array radio telescopes' antenna panel thermoforming, among many others.

As a passionate professional in the field of optics, I believe that my diverse experience and enthusiasm for academic and industrial technologies and policies will enable me to make a valuable contribution to our colorful international society. Throughout my career, I have been dedicated to advancing the field of optical engineering and promoting the importance of scientific research with my students, colleagues, peers, and industrial partners.

Apart from my academic and industrial experience, I have also been actively involved in various conference programs and short courses related to optics for over a decade. I have chaired the Optical Fabrication and Testing conference (OPTICA), the Optical Manufacturing and Testing conference (SPIE), and the Astronomical Optics: Design, Manufacture, and Test of Space and Ground Systems conference (SPIE). Additionally, I have published over 240 journal/conference papers and served as an associate editor for the Optics Express journal for seven years. Indeed, I am deeply enthusiastic about reading, learning, thinking, writing, and sharing. Our scientific community is full of good and kind minds to learn and share through our publications and conference presentations. Providing such a venue is one of the most important functions of the SPIE. I am committed to fostering collaboration and communication within the optics community, and I strongly believe that by working together, we can achieve greater results than by working in isolation.

Finally, I am determined to promote and uphold diversity and inclusivity within the optics community. As a board member, I would strive to foster a welcoming and colorful environment for all SPIE members, and to encourage diversity and inclusivity in all aspects of our conferences, events, and gatherings. I firmly believe that a diverse and inclusive culture is essential for advancing the field of optics and for ensuring that everyone has the accessible and unlimited opportunity to contribute to our caring community. I am thrilled at the prospect of collaborating with all of you as good friends, peers, and colleagues, to promote the beautiful mission and vision of SPIE.

Thank you for your consideration, and I eagerly anticipate the opportunity to serve as an SPIE Board Member. Let's work together, take care of each other, and make it happen.