BEOP-MIN KIM

Professor, School of Biomedical Engineering, Korea University, Seoul, Korea

Education

Ph.D., Bioengineering, Texas A&M University, College Station, USA

M.S., Bioengineering, Texas A&M University, College Station, USA

B.S., Mechanical Engineering, Korea University, Seoul, Korea

Technical Activities/Interests

Medical Optical Devices, functional Near Infra-Red Spectroscopy, Optical Coherence Tomography, Intraoperative optical imaging system

Services to the Technical Community

- CEO, Korea Medical Devices Development Fund (KMDF), 2020–Present
- Vice president, Optical Society of Korea (OSK), 2019–2021
- Associate Editor, Neurophotonics, SPIE, 2014–present
- Associate Editor, Current Optics and Photonics, 2011–present
- Guest editor, IEEE Journal of Selected Topics in Quantum Electronics, 2009–2014
- General chair, OSK-OSA-OSJ Joint Symposium, 2019
- Chair, Annual Biophotonics Conference (ABC), 2016
- Chair, International Biomedical Engineering Conference, 2016
- Chair, 4th Asian and Pacific Rim Symposium on Biophotonics (APBP 2009), 2009
- Chair, Biomedical Optics track, CLEO-PR, 2007
- Chair, Biomedical Optics track, World Congress on Medical Physics and Biomedical Engineering, 2006

Service to SPIE

- SPIE Publications Committee, 2020–2022
- SPIE Membership and Communities Committee, 2018–2020
- SPIE PW conference committee, “Neural Imaging and Sensing,” “Optical Interactions with Tissue and Cells,” “Advanced Biomedical and Clinical Diagnostic and Surgical Guidance Systems,” “Neurophotonics,” 2014–present
- Associate Editor, Neurophotonics, SPIE, 2014–present
- SPIE Community Champion, 2019 and 2020

Professional Honors

- Senior Member of SPIE, 2017
- Fellow of Optical Society of Korea (OSK), The Korean Society of Medical & Biological Engineering
- Commendation for Distinguished Service, Prime Minister of Korea, 2019
- Achievement Award, The Korean Society of Medical and Biological Engineering, 2019
- Commendation for Distinguished Service, Minister of Health and Welfare, 2014
- Best Paper Award, National Research Foundation of Korea, 2012

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Election Statement

The field of biophotonics has emerged as a crucial component of optical engineering. As one of the early researchers in this discipline, I have closely observed its exponential growth within SPIE. My expertise encompasses medical optical technologies such as laser therapies, tissue optics, second harmonic generation imaging, optical coherence tomography, and near-infrared spectroscopy. A distinctive aspect of my career is my extensive collaboration with medical professionals. My Ph.D. research was conducted at MD Anderson Cancer Center, and during my tenure as a staff researcher at Lawrence Livermore National Laboratory, I maintained affiliations with the UC Davis Medical Center. Currently, as a professor at the School of Biomedical Engineering, Korea University, I also serve as an adjunct professor at Korea University Medical Center. My research, focused on the development of medical optical devices, underscores my specialization in collaborative research across diverse sectors.

I have significantly contributed to the recognition and advancement of the biophotonics field within the Korean scientific community. The number of researchers in this area has surged from a handful in the late 1990s to several hundred today. Additionally, I have played a pivotal role in fostering international collaborations, particularly within the Asia-Pacific region. I have organized and participated in numerous academic conferences alongside peers from Japan, China, Taiwan, and Australia. Notably, I organized and chaired the 1st International Conference on Biophotonics in Korea (4th Asia-Pacific Rim Symposium on Biophotonics 2009) and initiated and chaired the 1st Korean Biophotonics Conference (Annual Biophotonics Conference, 2016), which is now sponsored by SPIE under the new name SPIE-ABC (SPIE-Advanced Biophotonics Conference).

My active involvement with SPIE includes presenting numerous papers at the Photonics West conference annually since 1995 without exception. I have also contributed as an active member of the Membership and Communications Committee and the Publications Committee, experiences that have been both fulfilling and exhilarating.

In 2020, the Korean government launched a national-scale R&D program aimed at the commercialization of medical devices, with a funding size nearing US$ 1 billion. I was appointed CEO to oversee the operation of this fund, a role in which I am actively engaged. This position has provided me with extensive experience in translating basic research into commercial applications within the medical field. Given the relatively small size of the Korean medical market, our new technologies are primarily targeted for global markets. I believe my experience in this area can be particularly beneficial to early career professionals (ECPs).

Serving on the board of directors of SPIE would present an excellent opportunity for me to contribute to the Society with my expertise, particularly in guiding ECPs interested in commercializing their innovations. If elected to the board of directors, I propose to:

1. Strengthen Global Collaboration: I will leverage my extensive network and experience to enhance international collaborations, particularly focusing on emerging regions with untapped potential in optical sciences and engineering.
2. Support Early Career Professionals (ECPs): I am passionate about mentoring and supporting ECPs. I will advocate for more programs and initiatives that provide ECPs with the resources, guidance, and opportunities they need to succeed and commercialize their innovations.
3. Promote Diversity and Inclusion: I will champion initiatives that promote diversity and inclusion within SPIE, ensuring that all members, regardless of their background, have a voice and opportunities to contribute and thrive.
4. Enhance Industry-Academia Partnerships: I will work to create stronger partnerships between academia and industry, facilitating the translation of research into real-world applications and fostering innovation that can benefit society at large.

I am deeply committed to advancing SPIE's mission and serving our community with dedication and integrity. I look forward to the opportunity to contribute to our collective success.