Myeongsu Seong (成明洙), Ph.D.

Incoming Assistant Professor

DOB: March 18, 1990
Citizenship: Republic of Korea
+86-188-2125-8680
+82-10-4737-7408
mysms0318@gmail.com

EDUCATION

Doctor of Philosophy, Department of Biomedical Science and Engineering, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2018.08

- Supervisor: Dr. Jae Gwan Kim
- Dissertation: Development of combined diffuse optical and diffuse correlation spectroscopic systems and its application in Alzheimer's disease
- Specialized in biophotonics
- Awarded *Excellent Research Award* by the institute due to academic excellence

Master of Science, Department of Medical System Engineering, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2014.08

- Supervisor: Dr. Jae Gwan Kim
- Thesis: Application of Raman spectroscopy in diagnosis and observation of chemotherapeutic efficacy of breast cancer in small animal
- Specialized in biophotonics

Bachelor of Engineering, Department of Medical Engineering, Jungwon University, Goesan, Chungbuk, Republic of Korea, 2012.08

- Graduated one semester earlier due to academic excellence

RESEARCH EXPERIENCE

Incoming Assistant Professor, Department of Mechatronics and Robotics, School of Advanced Technology, Xi'an Jiaotong-Liverpool University, Suzhou, Jiangsu, China, expected to start in 2023.08

Associate Professor (校聘副教授), Research Center for Intelligent Information Technology, Nantong University, Nantong, Jiangsu, China, 2020.12 – 2023.06

Postdoctoral Research Fellow (博士后研究员、助理研究员), University of Michigan-Shanghai Jiao Tong University Joint Institute, Shanghai Jiao Tong University, Shanghai, China, 2018.10 – 2020.09

- Worked as a postdoctoral research fellow at the Optical Imaging Laboratory, University of Michigan-Shanghai Jiao Tong University Joint Institute
- Supervisor: Dr. Sung-Liang Chen

- Gained skills in photoacoustics including relevant hands-on skills in optical and acoustic systems, signal and image processing, and hardware control
- Worked on the development of acoustic-resolution and optical-resolution photoacoustic microscopy, nonlinear photoacoustic microscopy, and deep learning-based optimization of plasmonic simulation

Visiting Scholar, Department of Biomedical Engineering, University of Kentucky, Lexington, Kentucky, US., 2015.07 – 2015.12

- Worked as a visiting scholar at the Biomedical Optics Laboratory, Department of Biomedical Engineering, University of Kentucky
- Supervisor: Prof. Guoqiang Yu
- Contributed to building a low-cost bare charge-coupled device (CCD) camera-based blood flow measurement system. Experienced research involving human subjects, and learned working principles of diffuse correlation spectroscopy, an optical technique to monitor deep tissue blood flow in a non-invasive manner

Professional Research Personnel, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2015.02 – 2018.02

- Worked as technical research personnel to substitute mandatory military service in Korea, only selected people or people at specific institutions are eligible to serve in this type of military service.

Research Assistant, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2012.09 – 2018.08

- Worked as a research assistant during master's and Ph.D. courses at Biophotonics Laboratory, Department of Biomedical Science and Engineering (and Medical System Engineering at the previous time), Gwangju Institute of Science and Technology.
- Techniques including optical systems, electronic systems, animal experiments, signal processing, simple machine learning, and programming were acquired and used.
- Developed various low-cost diffuse optical/speckle/correlation spectroscopic techniques for deep tissue blood flow/oxygenation measurements and performed animal experiments including breast cancer and Alzheimer’s animal models.

TEACHING EXPERIENCE

Lecturing-related experiences

医学信息学英语 (**English in Biomedical Informatics**, undergraduate course, 48 hours), Department of Biomedical Informatics, School of Medicine, Nantong University, Nantong, China, 2023.02 – 2023.04 (participates as one of the instructors)

- This course covers various topics in bioinformatics including electronic health records, telemedicine, medical information retrieval, article translation, and abstract writing. I teach 24 hours (half) of the course.

Medical Imaging (graduate course), Department of Biomedical Science and Engineering, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2016.03 – 2016.06 (participated as a teaching assistant)

- This course covers basic medical imaging techniques including ultrasound imaging, magnetic resonance imaging, planar X-ray imaging, X-ray computed tomography, single photon emission computed tomography, positron emission tomography, and optical imaging.

Laser-Tissue Interaction (graduate course), Department of Medical System Engineering, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2015.03 – 2015.06 (participated as a teaching assistant)

- This course covers the basics of laser and optics, mechanisms of interaction between laser and tissue, applications of the mechanisms, and laser safety.

Digital Design (undergraduate course), Gwangju Institute of Science and Technology Undergraduate College, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2013.03 – 2013.06 (participated as a teaching assistant)

- This course covers the basics of digital circuits including logic gates, simplification methods, flip-flops, counters, registers, and more.

Mentoring-related experiences

Mentoring three high school students from Gwangju Science Academy for the Gifted, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2018.03 – 2018.06

- I guided them to learn the basics of near-infrared spectroscopy (NIRS), a spectroscopic system that can non-invasively monitor hemoglobin concentration, to design the probe of a miniature NIRS system, and to write and make relevant scripts and GUI programs.

Mentoring several master's students in the Biophotonics Labotarory during the Ph.D. study, Gwangju Institute of Science and Technology, Gwangju, Republic of Korea, 2014.09 – 2018.08

- I guided them to learn the basics of diffuse correlation spectroscopy (DCS) and diffuse speckle contrast flowmetry (DSCF) including system design and signal processing methods and worked with them to develop parts of their master's thesis topics.

Part-time lecturer, Dong-in Elementary School, Goesan, Chungbuk, Republic of Korea, 2009 – 2010

- Helped elementary school students from different grades for reviewing subjects (among Korean, Math, and English) in which each student was weak.

GRANTS

As principal investigator

- Province-funded, BK20220603, Jiangsu Young Scientist Fund (江苏省基础研究计划自然科学基金-青年基金项目), 36 months, 2022.07 – 2025.06, 200,000 RMB, ongoing, **Principal investigator**
- Country-funded, NRF-2015H1A2A1032268, Development of an optical hemodynamic measurement system and monitoring acute and chronic brain diseases using the developed system (Global Ph.D. Fellowship, 同等国家自然科学基金项目的“优青”), 36 months, 2015.03 – 2018.02 (worked on the project: 2015.03 – 2018.02), approximately 540,000 RMB (90,000,000 Korean Won), completed, **Principal investigator**

As participant

- School (government)-funded, GK09630, Monitoring of hemodynamic variations in menopause animal model using a diffuse optical spectroscopic method, 10 months, 2018.03 – 2018.12 (worked on the project: 2018.03 – 2018.08), approximately 214,000 RMB (35,700,000 Korean Won), completed, assistant researcher
- School (government)-funded, GK09100, Validation of monitoring and modulation of brain functional connectivity for treatment of Alzheimer's animal model using a combined system of optical brain imager and ultrasound brain stimulator, 12 months, 2018.01 – 2018.12 (worked on the project: 2018.03 – 2018.08), approximately 420,000 RMB (70,000,000 Korean Won), completed, assistant researcher
- Partially company- and country-funded, GM08710, Development of portable smart skin diagnostic system and solution for anti-aging and skin improvement using a pulsed LED light source, 24 months, 2015.06 – 2017.06 (worked on the project: 2015.06 – 2016.06), approximately 690,000 RMB (115,000,000 Korean Won), completed, assistant researcher
- School (government)-funded, GK04807, Prediction of the depth of anesthesia in an invasive animal model using functional NIRS and EEG, 12 months, 2015.01 – 2015.12 (worked on the project: 2015.01 – 2015.08), approximately 240,000 RMB (40,000,000 Korean Won), completed, assistant researcher
- School (government)-funded, GR03462, Development of a combined system of multi-channel diffuse optical spectroscopy and diffuse speckle contrast flowmetry for diagnosis of male sexual dysfunction, 12 months, 2014.06 – 2014.12 (worked on the project: 2014.10 – 2014.12), approximately 580,000 RMB (97,500,000 Korean Won), completed, assistant researcher
- Country-funded, 2013R1A1A2013625, Breast cancer diagnosis and early prediction of treatment using Raman and near-infrared spectroscopic devices, 36 months, 2013.06 – 2016.06 (worked on the project: 2013.06 – 2015.05), approximately 860,000 RMB (143,898,000 Korean Won), completed, assistant researcher
- School (government)-funded, GK04160, Development and applications of multi-functional optical sensor, 12 months, 2014.01 – 2014.12 (worked on the project: 2014.01 – 2014.08), approximately 832,000 RMB (141,639,304 Korean Won), completed, assistant researcher
- School (government)-funded, GK03630, Development and applications of multi-functional optical sensor, 12 months, 2013.01 – 2013.12 (worked on the project: 2013.01 – 2013.08), approximately 940,000 RMB (160,000,000 Korean Won), completed, assistant researcher
- Country-funded, 2012K1A2B1A03000757, Korea-China Collaborative work_Prediction of the efficacy of chemotherapeutic agent using chemotherapy-sensitive mRNA and optical imaging technique, 12 months, 2013.07 – 2014.06 (worked on the project: 2014.03 – 2014.06), approximately 88,200 RMB (15,000,000 Korean Won), completed, assistant researcher
- School (government)-funded, GK02718, Development of a hyperspectral imaging system for diagnosis of infantile hemangioma, 8 months, 2012.05 – 2012.12 (worked on the project: 2012.09 – 2012.12), approximately 147,000 RMB (25,000,000 Korean Won), completed, assistant researcher

AWARDS / DISTINCTIONS

- Jiangsu Foreign Expert Workshop (江苏省外国专家工作室, provincial-level platform project (省级科研平台项目), **secured it as the leader (领衔外国专家)** of foreign scholars at the Research Center for Intelligent Information Technology, Nantong University), started from 2022.12 and officially announced in 2023.02, left Nantong University in 2023.06

- Young Foreign Talent Plan of National Foreign Expert Project (国家外国专家项目中“外国青年人才计划”), Ministry of Science and Technology (MOST) of China (中国科学技术部), supported till 2022.12
- Excellent Research Presentation Award (as a second author), Optical Society of Korea Summer Meeting, Republic of Korea, 2018.08
- Excellent Research Award (**awarded for research excellence during the Ph.D. study, only one student in the department**), Gwangju Institute of Science and Technology, Republic of Korea, 2018.08
- Best Presentation Award, The 3rd IEEE EMBS International Summer School of Neural Engineering held by the Department of Biomedical Engineering, Shanghai Jiao Tong University, China, 2017.08
- IT Innovative Idea Award (2016 Qualcomm-GIST Innovation Award), School of Electrical Engineering and Computer Science, Gwangju Institute of Science and Technology (Supported by Qualcomm Korea), Republic of Korea, 2016.12
- iMSE (Institute of Medical System Engineering) Scholarship (**Only three students in the department based on academic performance**), Department of Biomedical Science and Engineering, Gwangju Institute of Science and Technology, Republic of Korea, 2016.12
- Global Ph.D. Fellowship (**One of the most prestigious fellowships for Ph.D. students with high potential in Korea, only applicable once in a lifetime, similar to 中国自然科学基金项目的“优青”**), KRW 90,000,000 (around 540,000 RMB), National Research Foundation of Korea, Republic of Korea, 2015.03 – 2018.02
- Outstanding Research Award (Conference Presentation), The Korean Society of Medical and Biological Engineering, Republic of Korea, 2014.05
- Best Research Award (as a second author), Optical Society of Korea Summer Meeting, Republic of Korea, 2013.07
- Government Supported Full Tuition Fee Waiver, Gwangju Institute of Science and Technology, Republic of Korea, 2012.09 – 2018.08
- Scholarships Awarded Six Times for Excellent Academic Achievements, Jungwon University, Republic of Korea, 2009.03 – 2012.08

PROFESSIONAL MEMBERSHIPS / ORGANIZATIONS

- Certified scientific research expert, Korean National Assembly Library, 2021 – present
- Reviewer: Neurophotonic, APL Photonics, Journal of Biomedical Optics
- Lab. Manager, Biophotonics Laboratory, Department of Biomedical Science and Engineering, Gwangju Institute of Science and Technology, 2016.03 – 2017.03
- Student Member, The International Society of Optics and Photonics (SPIE), 2015
- Department Student Representative, Department of Medical System Engineering, Gwangju Institute of Science and Technology, 2015.03 – 2016.03
- Student Member, Korean Society of Medical and Biological Engineering, 2013 – 2016
- Student Member, Optical Society of Korea, 2012 – 2018

PUBLICATIONS

Peer-reviewed journal articles

- **Myeongsu Seong**[#] and Dasol Lee[#] “Investigation of ultra-short-separation diffuse correlation spectroscopy (tentative title),” (in preparation), 2023
- Yoonho Oh, **Myeongsu Seong***, Sungchul Kim, Seonghyun Kim, Jaeyoung Bae, and Jae Gwan Kim[#] “Monitoring cerebral hemodynamics and metabolism using a combined DRS-DCS system with Monitoring of cerebral blood flow, oxygenation and metabolism in a rat model during change of anesthetic depth using a combined DRS-DCS system (tentative title),” (in preparation), 2023
- **Myeongsu Seong**[#] “Comparison of numerical-integration-based methods for blood flow estimation in diffuse correlation spectroscopy,” Computer Methods and Programs in Biomedicine (under review), 2023
- Nan Wan, Zhe Li, **Myeongsu Seong**, Wei Niu, Rong Wu, and Sung-Liang Chen# “Sensing of triglyceride concentration in blood solution using photoacoustic microscopy,” Optics Letters 48(14), 3769-3772, 2023
- Nan Wan, Pengcheng Zhang*, Zuheng Liu, Zhe Li, Wei Niu, Xiuye Rui, Shibo Wang, **Myeongsu Seong**, Pengbo He, Siqi Liang, Jiasheng Zhou, Rui Yang[#], Sung-Liang Chen[#] “Implantable QR code subcutaneous microchip using photoacoustic and ultrasound microscopy for secure and convenient individual identification and authentication,” Photoacoustics 31, 100504, 2023 [IF: 9.656] (JCR rank 1/64 (1.56%) in instruments & instrumentation in JCR 2021)
- **Myeongsu Seong**, Yoonho Oh, Hyung Joon Park, Won-Seok Choi[#], and Jae Gwan Kim[#] “Use of hypoxic respiratory challenge for differentiating Alzheimer’s disease and wild-type mice non-invasively: A diffuse optical spectroscopy study,” Biosensors 12(11), 1019, 2022 [IF: 5.743] (JCR rank 8/64 (12.5%) in instruments & instrumentation in JCR 2021)
- **Myeongsu Seong**, Yoonho Oh*, Kijoon Lee[#], and Jae Gwan Kim[#] “Blood flow estimation via numerical integration of temporal autocorrelation function in diffuse correlation spectroscopy,” Computer Methods and Programs in Biomedicine 222, 106933, 2022 [IF: 7.027] (JCR rank 12/110 (10.9%) in computer science, theory & methods in JCR 2021)
- Heming Bai[#], Yuli Shi, **Myeongsu Seong**, Wenkang Gao, and Yuanhui Li “Influence of spatial resolution on satellite-based PM2.5 estimation: implications for health assessment.” Remote Sensing 14(12), 2933, 2022
- Heming Bai[#], Rusha Yan, Wenkang Gao, Jing Wei, and **Myeongsu Seong** “Spatial representativeness of PM2.5 monitoring stations and its implication for health assessment,” Air Quality, Atmosphere & Health 15, 1571-1581, 2022
- **Myeongsu Seong**, Wenzhao Yang, Yujie Han, Jiasheng Zhou, Lili Jing, and Sung-Liang Chen[#] “Investigation of nonlinear photoacoustic microscopy using a low-cost infrared lamp,” Journal of Biophotonics 15(4), e20210301222, 2022 [IF: 3.390] (JCR rank 35/101 (34.7%) in optics in JCR 2021)
- Wenzhao Yang, Jiasheng Zhou, Weihao Shao, **Myeongsu Seong**, Pengbo He, Zhanhong Ye, Zhendong Guo, Lili Jing, and Sung-Liang Chen[#] “Photoacoustic-fluorescence microendoscopy *in vivo*.” Optics Letters 46(10), 2340-2343, 2021
- Hyeryun Jeong, Hyun-Suk Lee, **Myeongsu Seong**, Jaewoo Baek, Kwangsung Park, and Jae Gwan Kim[#] “Changes of apomorphine-induced vaginal hemodynamics in an ovariectomized rat model using near-infrared spectroscopic probe.” The Journal of Sexual Medicine 18(8), 1328-1336, 2021
- Nan Wan, **Myeongsu Seong**, and Sung-Liang Chen[#] “Theoretical Investigation of photoacoustics from cancer cells: modified models” IEEE Journal of Selected Topics in Quantum Electronics 27(5), 1-10, 2021 [IF: 4.653] (JCR rank 21/101 (20.8%) in optics in JCR 2021)
- Heming Bai, Lei Jiang*, Ting Li*, …, **Myeongsu Seong**,…, Huji Xu[#] “Acute effects of air pollution on lupus nephritis in patients with systemic lupus erythematosus: A multicenter panel study in China,” Environmental Research 195, 110875, 2021

- **Myeongsu Seong** and Sung-Liang Chen[#] "Recent advances toward clinical applications of photoacoustic microscopy: a review." Science China: Life Sciences 63, 1-15, 2020 [IF: 10.384] (JCR rank 4/94 (4.3%) in biology in JCR 2021)
- Hyeryun Jeong, **Myeongsu Seong**, Kwangsung Park, and Jae Gwan Kim[#] "Monitoring differences of vaginal hemodynamic and temperature response for sexual arousal by different anesthetic agents using an optical probe." Current Optics and Photonics 4(1), 57-62, 2020
- Hyeryun Jeong, **Myeongsu Seong**, Hyun-Suk Lee, Kwangsung Park, Sucbei Moon, and Jae G. Kim[#] "Design of an optical probe to monitor vaginal hemodynamics during sexual arousal." Sensors 19(9), 2129, 2019
- **Myeongsu Seong**, Phuong Minh Mai, Kijoon Lee, and Jae G. Kim[#] "Simultaneous blood flow and oxygenation measurements using an off-the-shelf spectrometer." Chinese Optics Letters 16(7), 071701, 2018
- Songhyun Lee, Hyeryun Jeong, **Myeongsu Seong**, and Jae G. Kim[#] "Change of tumor vascular reactivity during tumor growth and postchemotherapy observed by near-infrared spectroscopy." Journal of Biomedical Optics 22(12), 121603, 2017
- **Myeongsu Seong**, NoSoung Myoung*, Songhyun Lee, Hyeryun Jeong, Sang-Youp Yim[#], and Jae G. Kim[#] "Longitudinal Raman spectroscopic observation of skin biochemical changes due to chemotherapeutic treatment for breast cancer in small animal model." Journal of Spectroscopy 2017(4), 1-9, 2017
- Chong Huang, **Myeongsu Seong**, Joshua Paul Morgen, Siavash Mazdeyasna, Jae G. Kim, Jeffrey Todd Hastings, and Guoqiang Yu[#] "Low-cost compact diffuse speckle contrast flowmeter using small laser diode and bare charge-coupled-device." Journal of Biomedical Optics (Letters) 21(8), 080501, 2016
- **Myeongsu Seong**, Zephaniah Phillips V*, Phuong Minh Mai, Chaebeom Yeo, Cheol Song, Kijoon Lee, and Jae G. Kim[#] "Simultaneous blood flow and oxygenation measurements using a combination of diffuse speckle contrast analysis and near-infrared spectroscopy." Journal of Biomedical Optics 21(2), 027001, 2016 [IF: 3.582] (JCR rank 30/101 (29.7%) in optics in JCR 2021)

  *: co-first; [#]: corresponding author(s)

EI-indexed conference proceedings

- **Myeongsu Seong***, Zephaniah Phillips*, Phuong Minh Mai, Chaebeom Yeo, Cheol Song, Kijoon Lee, and Jae G. Kim "A fiber optic probe coupled low-cost CMOS camera-based system for simultaneous measurement of oxy-, deoxyhemoglobin, and blood flow." Proceedings of SPIE, In International Conference on Nano-Bio Sensing, Imaging, and Spectroscopy 2015, vol. 9523, p. 95230E. International Society for Optics and Photonics, 2015. *: co-first.
- Songhyun Lee, **Myeongsu Seong**, Hyeryun Jeong, and Jae G. Kim "Tumor vascular reactivity as a marker to predict tumor response to chemotherapy." Proceedings of SPIE, In Optical Tomography and Spectroscopy of Tissue XI, vol. 9319, p. 93190E. International Society for Optics and Photonics, 2015.
- **Myeongsu Seong**, Myoung NoSoung, Sang-Youp Yim, and Jae G. Kim "Longitudinal in vivo transcutaneous observation of Raman signals from breast cancer during chemotherapy in small animal model." Proceeding of SPIE, In Photonic Therapeutics and Diagnostics XI, vol. 9303, p.93032U. International Society for Optics and Photonics, 2015.

*: co-first; #: corresponding author(s)

PATENT

- Jae Gwan Kim, Songhyun Lee, Hoonsup Kim, **Myeongsu Seong**, and Kwangsung Park, Device for diagnosis and treatment of erectile dysfunction. Country: Republic of Korea. Since 2016.02.25

INVITED TALK

- **Myeongsu Seong** “Diffuse-optics based flow measurement: towards simplified systems”, Date: November 16, 2021. Invited by Prof. Dasol Lee. Organizer: Department of Biomedical Engineering, Yonsei University, Korea
- **Myeongsu Seong** “Spatial frequency domain imaging”, Date: January 31, 2023. Invited by Prof. Dasol Lee. Organizer: Bio-Nanophotonics System Laboratory, Department of Biomedical Engineering, Yonsei University, Korea

PRESENTATIONS

Oral presentations

- SPIE Photonics West. Yoonho Oh, **Myeongsu Seong**, Sungchul Kim, Sunghyun Kim, and Jae G. Kim “Optimization of DRS-DCS system for measurement of tissue metabolism.” Organizer: International Society for Optics and Photonics, 2020
- The Conference of the Optical Society of Korea Summer Session. Yoonho Oh, **Myeongsu Seong**, and Jae G. Kim “Simultaneous measurement of cerebral blood flow and oxygenation depending on depths of isoflurane anesthesia in a rat model.” Organizer: Optical Society of Korea, 2018
- The Conference of the Optical Society of Korea Summer Session. Yoonho Oh, **Myeongsu Seong**, and Jae G. Kim “Cerebral hemodynamic measurement by software correlator based diffuse correlation spectroscopy.” Organizer: Optical Society of Korea, 2017
- The Conference of the Optical Society of Korea Summer Session. Hyeryun Jeong, **Myeongsu Seong**, Hyun-Suk Lee, Kwangsung Park, Sucbei Moon, and Jae G. Kim “Differential response of vaginal hemodynamics in a rat model depending on anesthetic agents.” Organizer: Optical Society of Korea, 2017
- Global Ph.D. Fellowship Conference. **Myeongsu Seong**, Phuong Minh Mai, Kijoon Lee, and Jae G. Kim “The simultaneous measurement of blood oxygenation and blood flow based on a commercial spectrometer and two lasers system.” Organizer: National Research Foundation of Korea, 2016
- Global Ph.D. Fellowship Conference. **Myeongsu Seong**, Zephaniah Phillips V, Phuong Minh Mai, Chaebeom Yeo, Cheol Song, Kijoon Lee, and Jae G. Kim. “Simultaneous blood flow and blood oxygenation measurements using a combination of diffuse speckle contrast analysis and near-infrared spectroscopy.” Organizer: National Research Foundation of Korea, 2015

- International Conference on SPIE 2015 Nano-Bio Sensing, Imaging, and Spectroscopy. **Myeongsu Seong***, Zephaniah Phillips V*, Phuong Minh Mai, Chaebeom Yeo, Cheol Song, Kijoon Lee, and Jae G. Kim "A fiber-optic probe coupled low-cost CMOS camera-based system for simultaneous measurement of oxy-, deoxyhemoglobin, and blood flow." Organizer: International Society for Optics and Photonics, 2015 *: co-first
- SPIE Photonics West. Songhyun Lee, **Myeongsu Seong**, Hyeryun Jeong, and Jae G. Kim "Tumor vascular reactivity as a marker to predict tumor response to chemotherapy." Organizer: International Society for Optics and Photonics, 2015
- The Conference of the Korean Society of Medical and Biological Engineering Spring Session. **Myeongsu Seong**, NoSoung Myoung, Sang-Youp Yim, and Jae G. Kim "In vivo observation of biochemical composition changes from breast tumor caused by chemotherapeutic agent using Raman spectroscopy." Organizer: Korean Society of Medical and Biological Engineering, 2014
- The 3rd Conference of Korean Society of Optoelectronics. **Myeongsu Seong**, Hyeryun Jeong, Songhyun Lee, NoSoung Myoung, Sang-Youp Yim, and Jae G. Kim "Observation of chemotherapeutic effect on breast cancer in vivo by using Raman spectroscopy." Organizer: Korean Society of Optoelectronics, 2013

Poster presentations

- ISSWSH Annual Meeting. Hyeryun Jeong, **Myeongsu Seong**, Hyun-Suk Lee, Kwangsung Park, and Jae G. Kim "Development of a multi-channel sensor based on optical fibers for measurement of female genital sexual arousal response." Organizer: International Society for the Study of Women's Sexual Health, 2018.
- Annual Biophotonics Conference. Hyeryun Jeong, **Myeongsu Seong**, Hyun-Suk Lee, Kwangsung Park, Sucbei Moon, and Jae G. Kim "A multichannel probe to study female sexual dysfunction in a rat model." Organizer: Optical Society of Korea, 2017.
- Annual Biophotonics Conference. **Myeongsu Seong**, Yoonho Oh, and Jae G. Kim "Investigation of how much diffuse correlation spectroscopy signal is affected when it is combined with broadband diffuse optical spectroscopy system." Organizer: Optical Society of Korea, 2017.
- The Optical Society of Korea Winter Meeting. Hyeryun Jeong, **Myeongsu Seong**, Hyun-Suk Lee, Kwangsung Park, Sucbei Moon, and Jae G. Kim "Study on a female sexual dysfunction in a rat model using a multifunctional probe." Organizer: Optical Society of Korea, 2017.
- SPIE Photonics West. Hyeryun Jeong, **Myeongsu Seong**, Hyun-Suk Lee, Kwangsung Park, and Jae G. Kim "Vaginal hemodynamic changes during sexual arousal in a rat model by diffuse optical spectroscopy." Organizer: International Society for Optics and Photonics, 2017.
- The Conference of the Korean Society of Medical and Biological Engineering Spring Session. **Myeongsu Seong**, Phuong Minh Mai, Kijoon Lee, and Jae G. Kim "Simultaneous measurement of blood flow and oxygenation from deep tissue using an off-the-shelf spectrometer: a preliminary study." Organizer: Korean Society of Medical and Biological Engineering, 2016.
- The Conference of the Korean Society of Medical and Biological Engineering Spring Session. Zephaniah Phillips V*, **Myeongsu Seong***, Phuong Minh Mai, Chaebeom Yeo, Cheol Song, Kijoon Lee, and Jae G. Kim "Non-contact diffuse speckle contrast analysis-diffuse optical spectroscopy combined system development for simultaneous blood oxygenation and flow monitoring." Organizer: Korean Society of Medical and Biological Engineering, 2015. *: co-first.
- SPIE Photonics West. **Myeongsu Seong**, NoSoung Myoung, Sang-Youp Yim, and Jae G. Kim "Longitudinal in vivo transcutaneous observation of Raman signals from breast cancer during chemotherapy in small animal model." Organizer: International Society for Optics and Photonics, 2015.

- The Optical Society of Korea Summer Meeting. Hoonsup Kim, **Myeongsu Seong**, Evgenii Kim, Tae J. Eom, and Jae G. Kim “3 dimensional angiogenesis imaging in the vicinity of rat breast cancer by using a Doppler OCT.” Organizer: Optical Society of Korea, 2013.
- The Optical Society of Korea Summer Meeting. Songhyun Lee, **Myeongsu Seong**, Hyeryun Jeong, and Jae G. Kim “Observation of breast cancer treatment efficacy in small animals by using near-infrared spectroscopy.” Organizer: Optical Society of Korea, 2013.
- The Conference of the Korean Society of Medical and Biological Engineering Spring Session. **Myeongsu Seong**, Hyeryun Jeong, NoSoung Myoung, Sang-Youp Yim, and Jae G. Kim “Observation of breast cancer treatment efficacy in small animals using Raman spectroscopy.” Organizer: Korean Society of Medical and Biological Engineering, 2013.
- International Conference on SPIE 2013 Nano-Bio Sensing, Imaging, and Spectroscopy. NoSoung Myeong, **Myeongsu Seong**, Jae G. Kim, and Sang-Youp Yim “Noninvasive prospective cancer detection by Raman spectroscope.” Organizer: International Society for Optics and Photonics, 2013.
- International Conference on uHealthcare. Songhyun Lee, Evgenii Kim, Hoonsup Kim, **Myeongsu Seong**, Kyoungwon Kim, Yongmin Chung, Hyun Choung, and Jae G. Kim “A mini optical hemodynamic sensor development for ubiquitous healthcare.” Organizer: Seoul National University, 2012.
- The 2nd Conference of Korean Society of Optoelectronics. **Myeongsu Seong**, Songhyun Lee, Evgenii Kim, Hoon-Sup Kim, Seok Hwan Jang, Jee Bum Lee, and Jae G. Kim “Development of a wide range spectroscopic device for diagnosis of skin disease using 2-channel light probe.” Organizer: Korean Society of Optoelectronics, 2012.

References

Prof. Jae Gwan Kim (Gwangju Institute of Science and Technology)
E-mail: jaekim@gist.ac.kr

Associate Prof. Sung-Liang Chen (Shanghai Jiao Tong University)
E-mail: sungliang.chen@sjtu.edu.cn

Prof. Guoqiang Yu (University of Kentucky)
E-mail: gyu2@uky.edu or guoqiang.yu@uky.edu

Prof. Kijoon Lee (Daegu Gyeongbuk Institute of Science and Technology)
E-mail**:** kjlee@dgist.ac.kr

Assistant Prof. Dasol Lee (Yonsei University)
E-mail: dasol@yonsei.ac.kr