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CURRICULUM VITAE

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EDUCATION

University of Macau, Ph.D student 2022.09-present

- Major in Department of Electrical and Computer Engineering
- Research Focus: **Target radionuclide therapy dosimetry**
- Thesis: Precision ^{68}Ga/^{177}Lu PSMA Theranostics Dosimetry
- Supervisor: Prof. Greta Mok

Southern University of Science and Technology, B.Eng 2018.09-2022.06

- Major in Optoelectironic Information Science and Enginering GPA: 3.4/4
- Final year projection: Quantitative pathogen detection system based on FISH and microfluidic
- Supervisor: Prof. Perry Shum (IEEE fellow)

RESEARCH INTERESTS

Nuclear Medicine and Molecular Imaging

- Internal Dosimetry
- SPECT and PET Imaging Processing and Analysis

RESEARCH EXPERIENCE

Visiting Ph.D. Student, University of Bern, Inselspital, Switzerland Jun 2025 – Jan 2026

- Topic: AI-based voxel-level dosimetry prediction for ^{177}Lu-PSMA therapy
- Supervisor: Prof. Kuangyu Shi

Visiting Researcher, Department of Nuclear Medicine, Southwest Medical University, Luzhou, China Sep 2024 – Oct 2024

- Conducted phantom experiments for quantitative SPECT/CT imaging and dosimetry validation.
- Supervisor: Prof. Yue Chen

INTERNSHIP

SONT Technologies Co., Ltd. 2020.07-2020.09

- High speed communication optical module

FAIRSENSE (Beijing) Environmental Technology Co., Ltd. 2019.07-2019.09

- Motor vehicle exhaust smoke meter sensing equipment

PUBLICATIONS (2021-)

Journal papers (5 first/co-first author)

1. Wei J, **Liu Y**, Niu M, Lin W, Xue C, Hu J, Lv J, Hu J, Shao L, Wang G, Zhang Y. Advances in Fiber Optic Surface-Enhanced Raman Spectroscopy Sensors. ACS Photonics. 2025 Sep 25. (Q1, IF 6.7, **Co-first author**)
2. Wang H, Wang B, Huang W, **Liu Y**, Du Y, Hung G-U, Hu Z, Mok GSP. Deep-learning-based Partial Volume Correction in 99mTc-TRODAT-1 SPECT for Parkinson's Disease: A Preliminary Study on Clinical Translation. IEEE Journal of Biomedical and Health Informatics. 2025; PP:1–1. (Q1, IF 7.7)
3. **Liu Y**, Lu Z, Chen G, Shi K, Mok GSP. Partial Volume Correction for Lu-177-PSMA SPECT. EJNMMI Physics. 2024; 11(1):93. (Q2, IF 3.0)
4. Lin W, Liu Y, Sun J, Zhao F, Hu J, **Liu Y**, Zhang X, Vai MI, Shum PP, Shao LY. Ultrafast Salinity Interrogation Based on a Tapered Fiber Modal Interferometry and Time-Stretching Method. Journal of Lightwave Technology. 2024; 42(14):5025–5032. (Q2, IF 4.1)
5. Lin W, **Liu Y**, Liu Y, Yang X, Xu R, Zhang X, Shao L-y, Shum PP. High Accuracy Measurement of Salinity and Temperature Based on Tilted Grating Concatenated Sagnac Interferometer and ResNet Network. IEEE Sensors Journal. 2024; 1–1. (Q2, IF 4.3, **Co-first author**)
6. Liu Y, Lin W, Zhao F, **Liu Y**, Sun J, Hu J, Li J, Chen J, Zhang X, Vai MI, Shum PP. A Multimode Microfiber Specklegram Biosensor for Measurement of CEACAM5 Through AI Diagnosis. Biosensors. 2024; 14(1):57. (Q1, IF 5.6)
7. Lin W, **Liu Y**, Yu F, Zhao F, Liu S, Liu Y, Chen J, Vai MI, Shum PP, Shao LY. Temperature Fiber Sensor Based on 1-D CNN Incorporated Time-Stretch Method for Accurate Detection. IEEE Sensors Journal. 2023; 23(6):5773–5779. (Q2, IF 4.3, **Co-first author**)
8. Lin W, Liu Y, **Liu Y**, Shum PP, Vai MI. Fiber Temperature Sensor Based on Vernier Effect and Optical Time Stretching Method. Micromachines. 2022; 13(12):2215. (Q2, IF 3.0, **Co-first author**)
9. Wang G, Shao L, **Liu Y**, Xu W, Xiao D, Liu S, Hu J, Zhao F, Shum P, Wang W, Zhou Y, Min R, Wang C. Low-Cost Compressive Sensing Imaging Based on Spectrum-Encoded Time-Stretch Structure. Optics Express. 2021; 29(10):14931–14940. (Q2, IF 3.2)
10. **Liu Y**, Lin W, Vai MI, Shum PP, Shao L-Y, He W, Liu S, Zhao F, Wang W, Liu Y. Fiber Optic Electric Field Intensity Sensor Based on Liquid Crystal-Filled Photonic Crystal Fiber Incorporated Ring Laser. IEEE Photonics Journal. 2021; 14(1):1–5. (Q3, IF 2.4)
11. Lin W, Zhou S, **Liu Y**, Vai MI, Shao L. Liquid Crystal-Embedded Hollow Core Fiber Temperature Sensor in Fiber Ring Laser. Applied Sciences. 2021; 11(15):7103. (Q3, IF 1.97)
12. Lin W, Shao LY, **Liu Y**, Bandyopadhyay S, Liu Y, Xu W, Liu S, Hu J, Vai MI. Temperature Sensor Based on Fiber Ring Laser With Cascaded Fiber Optic Sagnac Interferometers. IEEE Photonics Journal. 2021; 13(2):1–12. (Q3, IF 1.97)

13. Lin W, Shao L-Y, Vai MI, Shum PP, Liu S, **Liu Y**, Zhao F, Xiao D, Liu Y, Tan Y, Wang W. In-Fiber Mach–Zehnder Interferometer Sensor Based on Er-Doped Fiber Peanut Structure in Fiber Ring Laser. Journal of Lightwave Technology. 2021; 39(10):3350–3357. (Q2, IF 4.1)
14. Lin W, **Liu Y**, Shao L, Vai MI. A Fiber Ring Laser Sensor With a Side Polished Evanescent Enhanced Fiber for Highly Sensitive Temperature Measurement. Micromachines. 2021; 12(5):586. (Q2, IF 3.0)
15. Zhao F, Xiao D, Lin W, Chen Y, Wang G, Hu J, Liu S, Yu F-H, Xu W, Yang X, **Liu Y**, Shao L, Shum PP, Wang W. Sensitivity Enhanced Refractive Index Sensor With In-line Fiber Mach–Zehnder Interferometer Based on Double-Peanut and Er-Doped Fiber Taper Structure. Journal of Lightwave Technology. 2021; 40(1):245–251. (Q2, IF 4.1)
16. Lin W, Zhou S, Shao LY, Vai MI, Shum PP, Xu W, Zhao F, Yu F, **Liu Y**, Liu Y. A Temperature-Independent Inclinometer Based on a Tapered Fiber Bragg Grating in a Fiber Ring Laser. Sensors. 2021; 21(9):2892. (Q2, IF 3.9)

Conference Presentations and Abstracts

1. Fang Z, Lu Z, Liu H, **Liu Y**, Mok GS. SAM+ nnUNet: Deep-learning-based Head and Neck Tumor Segmentation on FDG PET. Paper presented at: 2024 IEEE Nuclear Science Symposium, Medical Imaging Conference and International Symposium on Room-Temperature Semiconductor Detectors (NSS MIC RTSD); Oct 26 (pp. 1-2). IEEE.
2. **Liu Y**, Chen G, Lu Z, Shi K, Mok G. Artifact-free partial volume correction based on spatially variant point spread function with non-negativity constrain for Lu-177-PSMA SPECT. Paper presented at the Society of Nuclear Medicine and Molecular Imaging 2024 Annual Meeting, Toronto, Canada, June 8-11, 2024. (**Highlighted in the PIDS Image Generation Summary Session**)
3. **Liu Y**, Lu Z, Chen G, Shi K, Mok GSP. Partial volume correction for Lu-177-PSMA SPECT. Paper presented at: 2023 IEEE Nuclear Science Symposium, Medical Imaging Conference and International Symposium on Room-Temperature Semiconductor Detectors (NSS MIC RTSD); 4-11 Nov. 2023, 2023.
4. Wang H, Huang W, **Liu Y**, Du Y, Liang D, Zheng H, Hu Z and Mok GSP. Deep Learning-Based Prior- and Segmentation- Free Partial Volume Correction in 99mTc-TRODAT-1 SPECT for Parkinson's Disease. Paper presented at the Society of Nuclear Medicine and Molecular Imaging 2024 Annual Meeting, Toronto, Canada, June 8-11, 2024.
5. Lu Z, **Liu Y**, Chen G, Han J, Afshar-Oromieh A, Rominger A, Shi K and Mok GSP. Automatic image-based segmentation and partial volume correction for 177Lu-PSMA-617 bone marrow dosimetry. Paper presented for oral presentation at the Society of Nuclear Medicine and Molecular Imaging 2023 Annual Meeting, Chicago, USA, June 24-27, 2023. (International Best Abstract Award)
6. **Liu Y**, Lin WH, Chen G, Liu HH, Shum PP. Temperature Interrogation Based Peanut Shaped MZI Demodulated by 1D CNN Incorporated Time-stretch. Paper presented at: 2022 Asia Communications and Photonics Conference, Acp, 2022.
7. Lin WH, **Liu Y**, Zhao F, Liu SQ, Hu J, Sun SM, Li SR, Shum PP, Yu FH, Shao LY. Ultrafast Temperature Interrogation Using an In-Line Mach Zehnder Interferometer Based on Optical Time-Stretching. Paper presented at: 2022 Asia Communications and Photonics Conference, Acp, 2022.

8. **Liu Y**, Lin W, Shao L, Shum P, Niu M. Temperature-Insensitive Glucose sensor with Fiber Ring Laser inserted by 45° Tilted Fiber Bragg Grating. Paper presented at: Optoelectronics and Communications Conference, 2021.
9. Lin W, Shao L, **Liu Y**, Zhao F, Zhou S. Er Doped Fiber Mach-Zehnder Interferometer Based on Up-Taper Structure in Fiber Ring Laser System. Paper presented at: 2021 IEEE 6th Optoelectronics Global Conference (OGC), 2021.

PATENTS:

1. Guan Zuguang, An Shengbo, Lu Ruiqing, Jia Baosuo, **Liu Y**. Onboard Continuous Monitoring Device for Vehicle Exhaust [P]. Beijing, CN210803264U, 2020-06-19.
2. Guan Zuguang, An Shengbo, Jia Baosuo, **Liu Y**, Other Inventors Requesting Anonymity. Optical Calibration Mechanism for Onboard Continuous Monitoring Device for Vehicle Exhaust [P]. Beijing, CN210803278U, 2020-06-19.
3. Guan Zuguang, An Shengbo, Lu Ruiqing, Jia Baosuo, **Liu Y**. Onboard Continuous Monitoring Device for Vehicle Exhaust [P]. Beijing, CN110609001A, 2019-12-24.

HONORS:

1. UM PhD Assistantship
2. National University Students' Opt-Sci-Tech Competition——National Second Prize

PROFESSIONAL AFFILIATIONS:

1. **Vice President,** IEEE Student Branch, Southern University of Science and Technology, Shenzhen, China (2020–2021)
2. **Founder & Chair**, IEEE Photonics Society Student Branch Chapter, Southern University of Science and Technology, Shenzhen, China (established Nov 2019)
3. **Vice President**, Optical Society of America (OSA, now Optica) Student Chapter, Southern University of Science and Technology, Shenzhen, China (2020–2021)