

Opening Positions for Ph.D. Students, Postdoctoral Fellows

Opening Positions

Fully funded positions of Ph.D. students, postdoctoral fellows (PDFs) starting from September 2024 are now available in the Microelectronics Thrust at HKUST (GZ) under the supervision of Dr. Wei Jiang. The prospective Ph.D. students and PDFs are expected to work on research topics including but not limited to

- CMOS image sensing circuits and systems
 - Sensing element (with focus on single-photon avalanche diode (SPAD)) structure design, optimization and modelling.
 - Readout and signal processing circuits such as biasing, quench and reset circuits, time-to-digital converters.
 - Integration of the sensing elements and the associated circuits with focus on the 3-dimensional structure (sensing elements and circuits are fabricated on different wafers, and then connected vertically through TSVs).
- Emerging applications of the sensing circuits and systems
 - Biomedical imaging instruments
 - Wearable sensing systems for health monitoring
 - Applications of CMOS SPADs in the field of light detection and ranging (LiDAR) and optical wireless communications (OWC)

Required Qualifications

For Ph.D. students

- Bachelor or master's degree in Microelectronics, Electrical and Computer Engineering, Optical Engineering, Telecommunication Engineering, Biomedical Engineering, or other relevant majors from a recognized institution.
- High motivation with research and/or industrial experience in at least one of the following fields:
 - Solid background in semiconductor physics/device with the expertise in silicon-based photodiode design, simulation and modelling.
 - Analog/mixed-signal integrated circuit design using CMOS technologies with tape-out experience.
 - Hands-on experience of the high-impact applications related to biomedical imaging systems, wearable sensing technologies, LiDAR and OWC.
 - Industry working or internship experience will be considered as an advantage.
 - Relevant experience in the conference/journal publications
- English language admission requirements:
 - Standard English proficiency test: TOFEL-iBT: 80; IELTS (Academic Module): Overall score: 6.5 and all sub-score: 5.5
 - Applicants are not required to present TOEFL or IELTS score if their first language is English, or they obtained the bachelor's degree (or equivalent) from an institution where the medium of instruction was English.

- For details: please refer to [this link](#).
- Students who miss the application date can join the team as Research Assistant first.
- Application deadline: **15 Jun 2024** for international students and **15 July 2024** for Chinese Students

For Postdocs

Apart from the above requirements regarding English proficiency, the applicant should have Ph.D. degree from a recognized institution and good publication records in the relevant field.

Remuneration

For Ph.D. students, the postgraduate studentship (PGS) is CNY 15,000 per month (180, 000 per year). For Postdocs, salary is highly competitive of international standard and will be commensurate with qualifications and experience.

Contact

Interested candidates are strongly encouraged to contact Dr. Wei Jiang through email weijiang2@hkust-gz.edu.cn, together with your resume, transcripts and at most 3 representative publications (if any). Please follow this rule (your name (First Name Last Name)-your major-year of graduation-your university-application category (PhD or PDF)) to name the email subject. For example, Wei Jiang-Biomedical Engineering-2021-McMaster University-PhD. Please note that you will be contacted within 4 weeks if you are on the short list of the candidates.

Notes to the students who are interested in the master program:

Please refer to [this link](#) for the details of the specially designed Red Bird MPhil Program which aims to achieve the goal of cultivating "Compound innovative and entrepreneurial talents". After getting the admission, you may choose me as the potential supervisor if you are interested in my research areas.

About the Supervisor

Dr. Wei Jiang joined the Microelectronics Thrust, Function Hub, Hong Kong University of Science and Technology (Guangzhou) as a tenure-track Assistant Professor in March 2024. He is also appointed as an Adjunct Assistant Professor in the Department of Electrical & Computer Engineering at McMaster University from February 2023 to June 2027. Before joining HKUST(GZ), he was a Staff Analog Designer at Synopsys to design analog and mixed-signal integrated circuits for high-speed interfaces. He has been worked a Mitacs Elevate Postdoctoral Fellow and a Sessional Instructor in the Department of Electrical & Computer Engineering, McMaster University from 2021 to 2022. He received his B.Sc. degree in Electronic Science and Technology from Xi'an Jiao Tong University, China, in 2006, M.A.Sc. degree in Circuits and Systems from Shanghai Jiao Tong University, China, in 2009 and Ph.D. degree in Biomedical Engineering from McMaster University, Canada, in 2021, respectively. He has more than 10 years industry working experience in the development of hardware, and the design of optical sensors and integrated circuits for the healthcare applications such as biomedical instruments and wearable sensing devices. His current research interests include high-performance optical sensors and high-speed integrated circuits for emerging applications. More information can be found at [his home page](#).