

Yongqiang Deng

Postdoctoral Associate, Ph.D., in Electrical and Computer Engineering

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Eligible to obtain a Professional Engineering license in Canada

Employment

Postdoctoral Associate	Jan. 2025–Present
University of Western Ontario, Canada Supervisor: Prof. Jin(Jing) Jiang	
Research Engineer	July 2014–May 2017
Chengdu Green Energy and Green Manufacturing Technology R&D Centre, China	

Education

University of Western Ontario	London, Canada
Ph.D. in Electrical and Computer Engineering (Supervisor: Prof. Jin Jiang)	Sept. 2017–Dec. 2024
University of Electronic Science and Technology of China	Chengdu, China
MASc. in Mechatronics	Sept. 2011–June 2014
Nanjing Agricultural University	Nanjing, China
B.Eng. in Agricultural Electrification and Automation	Sept. 2007–June 2011

Research Interests

- Optical fiber sensors with applications to energy
- Algorithms for optimal placement and implementations of optical fiber sensors in harsh environments
- Additive manufacturing

Publications

Journals:

- **Yongqiang Deng**, Jing Jiang, "An In-situ Multipoint Optical Fiber Temperature Sensor with Applications to Small Modular Reactors and Thermal Energy Storage Systems", Progress in Nuclear Energy, vol. 191, (2026) (IF: 3.2).
- **Yongqiang Deng**, Jing Jiang, "A High Spatial Resolution Multipoint Optical Fiber Temperature Sensor with an Interlaced Sheath—Design, Analysis, and Experimental Validation," IEEE Sensors Journal, vol. 25, no. 2, (2024): 2646-2657 (IF: 4.3)
- **Yongqiang Deng**, Jing Jiang. "Optical Fiber Sensors in Extreme Temperature and Radiation Environments: A review." IEEE Sensors Journal Vol. 22 no. 14 (2022): 13811-13834 (IF: 4.3)
- **Yongqiang Deng**, Jing Jiang, "Optimal path determination with obstacle avoidance and bounded bending angles for multipoint optical fiber sensor deployment", Submitted to Measurement, July 10th, 2024.
- Qiang Huang, Jing Jiang, and **Yongqiang Deng**, "Evaluation of Ionizing Radiation Effects on Device Modules Used in Wireless-Based Monitoring Systems" Journal of Electronic Testing Vol. 36 Iss. 4 (2020):499-508 (IF: 0.596)
- Qiang Huang, Jing Jiang, and **Yongqiang Deng**, "Comparative Evaluation of Six Wireless Sensor Devices in a High Ionizing Radiation Environment" IET Wireless Sensor Systems Vol. 10 Iss. 6 (2020): 276-282 (IF: 2.58)
- Qiang Huang, Jing Jiang, and **Yongqiang Deng**, "Comparative Evaluation of Three Wireless Sensor Network Transceivers in a High Radiation Environment" EPJ Web of Conferences Vol. 225 (2020): 08007-08011(IF: 0.184)

Patent:

- Jing Jiang, **Yongqiang Deng**, "System and method for a sensor cable for high spatial resolution multipoint temperature sensing", PCT Patent Acquired.

Conference:

- Yanqiu Chen, **Yongqiang Deng**, Yu Liu, Jin Jiang, How Precise Can Direct Ink Writing Move To _ Studied by A Latest System, The American Society of Mechanical Engineers Conferences (2019), Paper Number: 98445.
- Yu Liu, **Yongqiang Deng**, Yanqiu Chen, Peishi Yu, Junhua Zhao, Jin Jiang. New Digital Printing Process for Manufacturing of Conductive Patterns in Flexible Electronics, (2017), 33rd International Conference on Digital Printing Technologies.

Workshops:

- **Yongqiang Deng**, and Jing Jiang, "Optical Fiber Sensors (OFSs) Based Monitoring Applications in Small Modular Reactors (SMRs)", 15th Annual UNENE I&C Workshop, 2019, Toronto, ON, Canada
- **Yongqiang Deng**, and Jing Jiang, "Potential applications of Optical Fiber Sensors (OFSs) for monitoring applications in Small Modular Reactors (SMRs)", 14th Annual UNENE I&C Workshop, 2018, Toronto, ON, Canada

Before doctoral research

Journal:

- Xiong Jin, **Yongqiang Deng**, et al. Material design and process development of electrostatically patterning silver capsuled composite particle for preparing conductive tracks on a flexible substrate. Composites Part B: Engineering, 2016, 105: 111-115.
- Hao Wang, **Yongqiang Deng**, He J, et al. Subwavelength light focusing of plasmonic lens with dielectric filled nanoslits structures. Journal of Nanophotonics, 2014, 8(1): 083079.
- Xiaowei Zhu, Yanqiu Chen, Yu Liu, **Yongqiang Deng** et al. Additive manufacturing of elastomeric foam with cell unit design for broadening compressive stress plateau. Rapid Prototyping Journal, 2018, 24(9):1579-1585.
- Hailiang Yan, Yanqiu Chen, **Yongqiang Deng**, et al. Coaxial printing method for directly writing stretchable cable as strain sensor. Applied Physics Letters, 2016, 109(8): 083502.

Internships

- "Experimental investigation of using optical fiber sensors for monitoring pipe vibrations and potential applications in CANDU power plants", 1st May 2023 to Present, founded by Mitacs, Internship Ref.: IT35683.
- "Feasibility Study of using Fiber Optical Sensor Technologies for Detecting Flow-induced Vibrations on Feeder Pipes", 1st June 2022 to 30th September 2022, founded by Mitacs, Internship Ref.: IT30478.

Teaching Experience

Teaching Assistant

Jan. 2019–April 2021

ECE 4439B Conventional, Renewable, and Nuclear Energy, Western University

Jan. 2018–April 2019

MSE 2202 Introduction to Mechatronic Design, Western University

Award

- Hydro One Scholarship 2021, Canada
- A Canada's Distinguished Dissertation Award, 2025 (nominated by ECE, UWO)

Additional Information

- Programming: Matlab, Labview, Python
- Software: COMSOL, SolidWorks, Altium, Fusion 360, Blender