

CURRICULUM VITAE

Ling FU



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Research interests

- Endomicroscopic imaging and clinical applications
- Neuron activity recording with behaving animals
- Multicolor imaging for tumor microenvironment
- Translational research for high-resolution optical imaging

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1. Education

- 06/2003 - 11/2006 PhD, *Fiber-optic nonlinear optical microscopy/endoscopy*,
Centre for Micro-Photonics, Swinburne University of Technology, Australia
- 09/1999 - 06/2002 MEn, Physical Electronics, Ministry of Education Key Laboratory for Biomedical
Photonics, HUST, China
- 09/1995 - 06/1999 BEn, Optoelectronic Engineering, Optoelectronic Department, HUST, China

2. Academic and Professional Appointments

- 11/2023 - present Dean, School of Physics and Optoelectronic Engineering, Hainan University
- 01/2010 - 10/2023 Professor, Britton Chance Center for Biomedical Photonics, WNLO, HUST
- 05/2007 - 12/2009 Associate Professor, Britton Chance Center for Biomedical Photonics, WNLO, HUST
- 12/2006 - 05/2007 Postdoctoral Fellow, Swinburne University of Technology, Australia
- 10/2017 - 07/2021 Executive Dean, School of Engineering Sciences, WNLO
- 10/2013 - 10/2017 Deputy Dean, School of Engineering Sciences, WNLO
- 06/2012 - 10/2013 Assistant Director for graduate education, WNLO
- 10/2011 - 06/2012 Assistant Dean, School of Optoelectronic Science and Engineering, HUST
- 01/2009 - 10/2011 Deputy Chair, Department of Measurement and Control, School of Optoelectronic Science
and Engineering, HUST
- 03/2008 - 01/2009 Chair, Department of Optoelectronic Medical Engineering, School of Optoelectronic
Science and Engineering, HUST

3. Honors and Awards

- 2021 Fellow of SPIE
- 2017 Technology Talents of Ezhou City
- 2019 Fellow of OPTICA (Formerly OSA)
- 2015 Winner of National Science Fund for Excellent Young Scholars
- 2013 Innovation Talents for Wuhan Optics Valley
- 2008 New Century Excellent Talents of Ministry of Education of China
- 2016 Excellent Educator of HUST

4. Selected Peer-Reviewed Journal Articles (reverse chronicle order, # as first author, * as corresponding author)

1. Xinyuan Huang, Xiujuan Gao, **Ling Fu***, BINGO: a blind unmixing algorithm for ultra-multiplexing fluorescence images, *Bioinformatics*, 2024, 40(2): btae052
2. Lu He, Xijie Li, Jie Yang, Longjie Jiang, Qian Liu, **Ling Fu***, Super-simplified fiber scanner for cellular-resolution endoscopic imaging, *Photonics Research*, 2023, 11(12): 2020-2032
3. Yunfei Li, Fuzhou Shen, Lantian Hu, Ziyue Lang, Qian Liu, Fuhong Cai*, **Ling Fu***, A stare-down video-rate high-throughput hyperspectral imaging system and its applications in biological sample sensing, *IEEE Sensors Journal*, 2023, 23(19): 23629-23637
4. Zhengwei Yuan[#], Zhongyang Qi[#], Ruiyu Wang, Yuting Cui, Sile An, Guoli Wu, Qiru Feng, Rui Lin, Ruicheng Dai, Anan Li, Hui Gong, Qingming Luo, **Ling Fu**, Minmin Luo*, A Corticoamygdalar pathway controls reward devaluation and depression using dynamic inhibition code. *Neuron*, 2023, 111: 1-17

5. Zhongyun Chen, Jiangfeng Huang, Xinyuan Huang, Xiujuan Gao, Yifu Zhou, **Ling Fu***, Two-photon fluorescence imaging using tunable spectral window based on fiber supercontinuum, *Optics Letters*, 2023, 48(6): 1518-1521
6. Tingting Lu, Hua Li, Wenyi Zhang, Yong Deng, Qian Liu, **Ling Fu***, A handheld confocal microendoscope compatible with laparoscopy for histology in situ, *Optics and Lasers in Engineering*, 2023, 164: 107532
7. Zhenfei Jiao, Zhou Zhou, Zhongyun Chen, Jinze Xie, Yu Mu, Jiulin Du, **Ling Fu***, SIMPLE-LSFM: Simultaneous Multi-PLanE imaging Light-Sheet Fluorescence Microscopy for simultaneously acquiring neuronal activities at varying depths, *Optica*, 2023, 10(2): 239-247
8. Han Qin^{#,*}, **Ling Fu[#]**, Tingliang Jian, Wejun Jin, Mengru Liang, Jin Li, Qianwei Chen, Xinyu Yang, Haoran Du, Xiang Liao, Kuan Zhang, Rui Wang, Shanshan Liang, Jiwei Yao, Bo Hu, Shuancheng Ren, Chunqing Zhang, Yanjiang Wang, Zhian Hu, Hongbo Jia, Arthur Konnerth, Xiaowei Chen*, REM sleep-active hypothalamic neurons may contribute to hippocampal social-memory consolidation, *Neuron*, 2022, 110: 1-15
9. Zhou Zhou, Jiangfeng Huang, Xiang Li, Xiujuan Gao, Zhongyun Chen, Zhenfei Jiao, Zhihong Zhang, Qingming Luo, **Ling Fu***, Adaptive optical microscopy via virtual-imaging-assisted wavefront sensing for high-resolution tissue imaging, *Photonix*, 2022, 3:13
10. Zhongyang Qi[#], Qingchun Guo[#], Shu Wang, Mingyue Jia, Xinwei Gao, Minmin Luo*, **Ling Fu***, All-fiber-transmission photometry for simultaneous optogenetic stimulation and multi-color neuronal activity recording. *Opto-Electronic Advances*, 2022, 5, 210081
11. Hua Li, Zhengyi Hao, Jiangfeng Huang, Tingting Lu, Qian Liu, **Ling Fu***, 500 um field-of-view probe-based confocal microendoscope for large-area visualization in the gastrointestinal tract, *Photonics Research*, 2021, 9(9): 1829-1840
12. **Ling Fu**, Qingming Luo*, Progress and prospect of biomedical optical imaging, *Scientia Sinica Vitae*, 2020, 50(11): 1222-1236
13. Han Qin, Jian Lu, Wenjun Jin, Xiaowei Chen, **Ling Fu***, Multichannel fiber photometry for mapping axonal terminal activity in a restricted brain region in freely moving mice, *Neurophotonics*, 2019, 6(3): 035011
14. Hua Li, Xiaohua Hou, Rong Lin, Mengke Fan, Suyu Pang, Longjie Jiang, Qian Liu, **Ling Fu***, Advanced endoscopic methods in gastrointestinal diseases: a systematic review, *Quantitative Imaging in Medicine and Surgery*, 2019, 9(5): 905-920
15. Zhenfei Jiao[#], Chunfeng Shang^{#,*}, Yufan Wang[#], Zhe Yang, Chen Yang, Funing Li, Jinze Xie, Jingwei Pan, **Ling Fu***, Jiulin Du*, All-optical imaging and manipulation of whole-brain neuronal activities in behaving larval zebrafish, *Biomedical Optics Express*, 2018, 9(12): 6154-6169
16. Jiafu Wang, Hua Li, Geng Tian, Yong Deng, Qian Liu, **Ling Fu***, Near-infrared probe-based confocal microendoscope for deep-tissue imaging, *Biomedical Optics Express*, 2018, 9(10): 5011-5025
17. Han Qin[#], **Ling Fu^{#,*}**, Bo Hu[#], Xiang Liao, Jian Lu, Wenjing He, Shanshan Liang, Kuan Zhang, Ruijie Li, Jiwei Yao, Junan Yan, Hao Chen, Hongbo Jia, Benedikt Zott, Arthur Konnerth*, and Xiaowei Chen*, A Visual-Cue-Dependent Memory Circuit for Place Navigation, *Neuron*, 2018, 99:1-9

18. Quan Cui, Zhongyun Chen, Qian Liu, Zhihong Zhang, Qingming Luo, **Ling Fu***, Visible continuum pulses based on enhanced dispersive wave generation for endogenous fluorescence imaging, *Biomedical Optics Express*, 2017, 8(9): 4026-4036
19. Yi Li, Weixin Zhong, Daqing Wang, Qiru Feng, Zhixiang Liu, Jingfeng Zhou, Chunying Jia, Fei Hu, Jiawei Zeng, Qingchun Guo, **Ling Fu**, Minmin Luo*, Serotonin neurons in the dorsal raphe nucleus encode reward signals, *Nature Communications*, 2016, 7: 10503
20. Ying Wang[#], Zhi Li[#], Xiaobao Liang, **Ling Fu***, Four-plate piezoelectric actuator driving a large-diameter special optical fiber for nonlinear optical microendoscopy, *Optics Express*, 2016, 24(17): 19949-19960
21. Li Yang, Jiafu Wang, Geng Tian, Jing Yuan, Qian Liu, **Ling Fu***, Five-lens, easy-to-implement miniature objective for a fluorescence confocal microendoscope, *Optics Express*, 2016, 24(1): 473-484
22. Jiafu Wang, Min Yang, Li Yang, Yun Zhang, Jing Yuan, Qian Liu, Xiaohua Hou, **Ling Fu***, A confocal endoscope for cellular imaging, *Engineering*, 2015, 1(3): 351-360
23. Qingchun Guo, Jingfeng Zhou, Qiru Feng, Rui Lin, Hui Gong, Qingming Luo, Shaoqun Zeng, Minmin Luo, **Ling Fu***, Multi-channel fiber photometry for population neuronal activity recording, *Biomedical Optics Express*, 2015, 6(10): 3919-3931
24. Hui Li[#], Shuhong Qi[#], Honglin Jin, Zhongyang Qi, Zhihong Zhang, **Ling Fu***, Qingming Luo*, Zigzag generalized Lévy walk: the in vivo search strategy of immunocytes, *Theranostics*, 2015, 5(11): 1275-1290
25. Xiaobao Liang, **Ling Fu***, Enhanced self-phase modulation enables a 700-900 nm linear compressible continuum for multicolor two-photon microscopy, *IEEE Journal of Selected Topics in Quantum Electronics*, 2014, 20(2): 6800108
26. Wenyan Hu, **Ling Fu***, Simultaneous characterization of pancreatic stellate cells and other pancreatic components within three-dimensional tissue environment during chronic pancreatitis, *Journal of Biomedical Optics*, 2013, 18(5): 056002
27. Daozhu Hua, Shuhong Qi, Hui Li, Zhihong Zhang, **Ling Fu***, Monitoring the process of pulmonary melanoma metastasis using large area and label-free nonlinear optical microscopy, *Journal of Biomedical Optics*, 2012, 17(6): 066002
28. Wenyan Hu, Gang Zhao, Chunyou Wang, Jungang Zhang, **Ling Fu***, Nonlinear optical microscopy for histology of fresh normal and cancerous pancreatic tissues, *PLoS ONE*, 2012, 7(5): e37962
29. Nian Tian, Qingchun Guo, Anle Wang, **Ling Fu***, Fluorescence ghost imaging with pseudothermal light, *Optics Letters*, 2011, 36(16): 3302-3304
30. Zhi Li, Zhe Yang, **Ling Fu***, Scanning properties of a resonant fiber-optic piezoelectric scanner, *Review of Scientific Instruments*, 2011, 82(12): 123707
31. Xiaobao Liang, Wenyan Hu, **Ling Fu***, Pulse compression in two-photon excitation fluorescence microscopy, *Optics Express*, 2010, 18(14): 14893-14904
32. **Ling Fu**, Anker Jain, Huikai Xie, Charles Cranfield, Min Gu*, Nonlinear optical endoscopy based on a double-clad photonic crystal fiber and a MEMS mirror, *Optics Express*, 2006, 14(3): 1027-1032

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33. **Ling Fu**, Xiaosong Gan, Min Gu*, Use of a single-mode fiber coupler for second-harmonic-generation microscopy, *Optics Letters*, 2005, 30(4): 385-387

5. Intelligent Property Transfer

IP Name: Imaging for confocal endoscopy
 Company: Endo Vision Medical Limited
 Products: Confocal Microendoscope CLE1000;
 Translation of optical microscopy to clinical diagnosis, the second probe-based
 Microendoscope worldwide;
 Approved by NMPA (National Medical Products Administration) in 2019 and 2021;
 Adopted by more than 40 hospitals, including Shanghai Changhai Hospital, Qilu Hospital,
 Wuhan Union Hospital et al;
 Provide real-time information equivalent to pathological sections, effectively distinguish
 between cancer and non-cancer, early cancer and advanced cancer.

6. Activities of Professional Societies

1. 2008 - 2016, Group leader, Young scholars of Biomedical Photonics Committee, Chinese Optical Society
2. 2019 - present, Deputy Director, Biomedical Photonics Committee, Chinese Optical Society
3. 2019 - present, Deputy Director, Engineering Accreditation Council, Chinese Society of Biomedical Engineering
4. 2011 - 2017, supervisor of SPIE/OPTICA student chapters in HUST
5. 2012 - 2014, Council member, International Council of OPTICA
6. 2019, Fellow of OPTICA (Formerly OSA)
7. 2020 - present, member of the Michael S. Feld Biophotonics Award Committee
8. 2021, Faces of OPTICA (Formerly OSA)
9. 2021, Cover of Optics and Photonics News (OPTICA journal)
10. 2023-2026, OPTICA representative on CLEO/Pacific Rim Steering Committee for CLEO-PR Conference series
11. 2014, SPIE Women in Optics Planner
12. 2016, Cover of Women in the Optics and Photonics Workplace (SPIE brochure)
13. 2019, SPIE Community Champion for outstanding volunteerism
14. 2020, SPIE Community Champion for outstanding volunteerism
15. 2021, Senior Member of SPIE
16. 2021, Fellow of SPIE

7. Organizer of Professional Conferences

1. 2019 - present, Co-Chair, Neural Imaging and Sensing, Photonics West, San Francisco, USA
2. 2018 - present, Member of Program Committee, Dynamics and Fluctuations in Biomedical Photonics, Photonics West, San Francisco, USA
3. 2017 - present, Program Chair of International Conference on Photonics and Imaging in Biology and Medicine (PIBM), China
4. Program Chair of the Frontiers in Optics, 100th Annual Meeting of OSA, Oct. 17-21, 2016, Rochester, USA

8. Editor of Professional Journals

1. 2007 - present, Assistant Chief Editor, Journal of Innovative Optical Health Sciences, service since the first Issue of the Journal, IF=2.5, the only peer-reviewed biophotonics journal in Asia Pacific Rim

2. 2023 - present, Senior editor, PhotoniX
3. 2022, Outstanding editor for PhotoniX
4. 2023 - present, Associate editor, APL Photonics (AIP journal)
5. 2021 - present, Associate editor, Biomedical Engineering Frontiers (Science partner journal)
6. 2019 - present, Associate editor, Neuophotonics (SPIE journal)
7. 2019 - 2021, Topical editor, Chinese Optics Letters
8. 2019 - 2022, Topical editor, PhotoniX
9. 2016 - 2018, Editorial board member for Electronics, Photonics and Device Physics, Scientific Reports
10. 2007 - present, Editorial board member, Acta Laser Biology Sinica (Chinese Journal)
11. 2020 - present, Editorial board member, Journal of Biomedical Engineering (Chinese Journal)
12. 2024 - present, Editorial board member, npj Imaging

9. Courses Taught and Developed

1. Fundamentals of Biophotonics, Fall 2008 - 2022, Key Professor, ~1800 undergraduates, bilingual course
2. Introductory Engineering, Spring 2016 - 2023, ~1060 undergraduates
3. Critical Thinking, Spring 2015 - 2018, Key Professor, ~120 undergraduates, bilingual course
4. Fourier Optics, Spring 2011 - 2013, Key Professor, 186 undergraduates, bilingual course
5. Optical Microscopy, Spring 2010 - 2013, Key Professor, ~120 graduates, bilingual course
6. Optical molecular imaging, Fall 2007, 34 graduates

10. Education Services

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| 11/2023 - present | Dean, School of Physics and Optoelectronic Engineering, Hainan University |
| 11/2013 - 06/2021 | Foundation for the School of Engineering Sciences in HUST |
| 05/2020 - 06/2021 | Foundation Proposal for School of Future Technology in HUST |
| 04/2019 - present | Member of Teaching Steering Committee, HUST |
| 10/2012 - 05/2019 | Member of Dissertation Committee, WNLO |
| 10/2018 - present | Secretary general, National Higher Education Steering Committee of BME |