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个人简介

2016 年博士毕业于湖南大学，现为温州大学瑞安研究生学院学术副院长（挂职），副教授、硕士生导师、新湖青年学者，IEEE 高级会员（IEEE Senior Member）、Optica 会员和浙江省光学学会会员，担任 Photonics 期刊客座编辑、Frontiers in Sensors 期刊编委、第七届智能医学与图像处理国际会议（IMIP 2025）技术委员会委员。

先后主持了国家自然科学基金、浙江省自然科学基金等项目 3 项，参与国家自然科学基金、浙江省重点研发计划、浙江省自然科学基金等项目 8 项。近年来在 Optics Letters、Optics Express、Journal of Lightwave Technology、Measurement、IEEE Journal of Selected Topics in Quantum Electronics、Applied Physics Letters 等期刊发表 SCI 论文 50 余篇，受邀在《光学学报》专题“光纤传感技术及应用”发表特邀论文 1 篇，以第一发明人申请发明专利 16 项（已获授权 13 项，含 PCT 美国专利 1 项），受邀在第二十二届 ICOCN、第三届光电、能源与新材料大会等会议作邀请报告。相关研究成果获中国商业联合会服务业科技创新奖一等奖等。

目前依托浙江省光电功能器件与数字化检测国际科技合作基地、浙江省激光与光电智能制造协同创新中心、微纳光电子器件温州市重点实验室、温州大学微纳结构与光电器件研究所等科研平台，主要开展光纤传感、光电信息检测、激光与光场调控等方向的研究。

指导研究生获浙江省优秀毕业生，指导学生获第十七届中国研究生电子设计竞赛全国总决赛三等奖、第十七届“挑战杯”大学生课外学术科技作品竞赛二等奖、第八届浙江省“互联网+”大学生创新创业大赛铜奖、浙江省新苗人才计划等多项育人成果，多次获温州大学优秀毕业论文指导教师。

工作经历

[1] 2024.10 -- 至今，温州大学瑞安研究生学院，学术副院长；

[2] 2019.12 -- 至今，电子系/电气与电子工程学院，副教授，新湖青年学者

[3] 2016.07 -- 2019.11，电子系/物理与电子信息工程学院，讲师

研究方向

- 光纤传感技术；
- 光电信息检测；
- 激光与光电子技术；

主持/参与科研项目

[1] 国家自然科学基金青年项目，61905180，基于氧化石墨烯增强倾斜光纤光栅泄漏模谐振的生物传感研究，主持。

[2] 浙江省自然科学基金探索项目，LY22F050006，基于正交偏振光纤表面波导模谐振的体/面参量多元传感技术，主持。

[3] 温州市基础性工业科技项目，2019G0005，面向储能设备在线状态监测的倾斜光纤光栅传感技术，主持。

[4] 国家自然科学基金面上项目，62275200，调 Q 自拉曼涡旋激光：产生、调控及腔内变频，参与。

[5] 国家自然科学基金面上项目，61775169，光源的相关色温和 Duv 的计算方法及其在 LED 光谱优化中的应用研究，参与。

[6] 国家自然科学基金面上项目，61775170，3D 打印物体表面外貌和视觉感知色差表征方法研究，参与。

[7] 国家自然科学基金青年项目，61805179，微纳阵列复合表面结构的制备及其在光电子器件中应用研究，参与。

[8] 浙江省科技重点研发计划项目，2019C05010，面向星地下行链路高速大容量信息传输的模式分集数字相干激光通信技术，参与。

[9] 浙江省自然科学基金一般项目，LY19F050013，光学环形谐振腔中的孤子及光频梳的特性研究，参与。

[10] 温州市基础性工业科技项目，G20210010，基于 FMF-OTDR 的少模光纤损伤参数同步测量关键技术研究，参与。

[11] 温州市基础性工业科技项目，S20180015，双面晶硅太阳能电池陷光结构的设计和制备，参与。

教学科研荣誉/奖项

[1] 中国商业联合会服务业科技创新奖/一等奖，9/13，2023.12.

[2] 第八届浙江省国际“互联网+”大学生创新创业大赛/铜奖，1/3(指导教师)，2022.07.

[3] 2023“新湖杯”温州大学“互联网+”大学生创新创业大赛/铜奖，1/3(指导教师)，2023.05.

[4] 第十七届中国研究生电子设计竞赛/全国总决赛三等奖，2/2(指导教师)，2022.09.

[5] 第十七届中国研究生电子设计竞赛/商业计划书专项赛初赛一等奖，2/2(指导教师)，2022.09.

[6] 第十七届“挑战杯”交通银行大学生课外学术科技作品竞赛/二等奖，2/3(指导教师)，2021.06.

[7] “第九届浙江省大学生工程实践与创新能力大赛”智能+赛道智能物流搬运机器人赛项/三等奖，2/2(指导教师)，2023.04.

[8] 温州大学“新湖青年学者”，1/1，2021.11.

[9] 温州大学本科优秀毕业设计（论文）指导教师，1/1，2019.06、2020.06、2024.06 等.

部分学术论文

1. 期刊论文

[1] **Zhihong Li**, Xinxin Jin, Yongchang Zhang, Jiayin Zhu, Feng Liu, Changyu Shen, Yanmin Duan, Haiyong Zhu. Single mode fiber-tip leaky mode resonance: New opportunity for unveiling bulk and surface characteristics, Optics & Laser Technology, 2025, 183: 112238. （SCI/EI，中科院 2 区，TOP）

[2] **Zhihong Li**, Yongchang Zhang, Xinxin Jin, Feng Liu, Yanmin Duan, Haiyong Zhu. Generation of leaky mode resonance and lossy mode resonance with the same optical platform, Optics Express, 2025, 33 (1): 475-487.

[3] Haiyong Zhu, Zihan Zhang, Jie Liu, Yongchang Zhang, Xinxin Jin, **Zhihong Li**, Lifen Yan, Yanmin Duan. Purity and composite petal-like mode laser emission with tunable topological charge from 1 to 35, Optics Express, 2025, 33 (4): 7592-7600. （SCI/EI，中科院 2 区，TOP）

[4] Ya’nan Wang, Bangkun Yue, Xiaofang Li, Fei Wang, Weijun Huang, Yongchang Zhang, Xinxin Jin, Feng Liu, Yanmin Duan, Haiyong Zhu, **Zhihong Li**. In situ monitoring and unveiling of K+ ions transmembrane process via sensitive fiber-optic plasmonic spectral combs, Measurement, 2024, 237: 115252. （SCI/EI，中科院 2 区，TOP）

[5] Zhencheng Li, Xudong Xia, Changhai Lu, Zhiyong Yang, Xiangyu Yan, Daotong You, **Zhihong Li**, Tuan Guo. Ultrafast and Repeatable Optical Fiber Hydrogen Sensor with Urchin-like Nanospheres Functionalization, IEEE Transactions on Instrumentation and Measurement, 2024, 73: 7004910. （SCI/EI，中科院 2 区，TOP）

[6] Zihan Zhang, Jie Liu, Yanmin Duan, Yongchang Zhang, Xinxin Jin, **Zhihong Li**, Haiyong Zhu. Robust high-order petal-mode laser with tunable topological charge pumped by an axicon-based annular beam, Applied Physics Letters, 2024, 124(15): 151102. （SCI/EI，中科院 2 区，Nature Index）

[7] Xinxin Jin, Ruiyan Liu, Yongchang Zhang, **Zhihong Li**, Yanmin Duan, Haiyong Zhu. Mode-locking dynamics of triple attractors in a wavelength-multiplexing fiber laser, Optics Express, 2024, 32 (24): 43290-43299. （SCI/EI，中科院 2 区，TOP）

[8] Xinxin Jin, Ruiyan Liu, Jiayu Zhou, **Zhihong Li**, Yanmin Duan, Haiyong Zhu. Simultaneous generation of wavelength multiplexing and polarization multiplexing from a wavelength-tunable ultrafast fiber laser, Optical Fiber Technology, 2024, 84, 103719. （SCI/EI，中科院 3 区）

[9] Yanmin Duan, Jing Xu, Yong Wei, Xinxin Jin, **Zhihong Li**, Haiyong Zhu. Yellow-orange wavelength-switchable laser emission generated from c-cut Nd: YVO4 self-Raman with 890 and 259 cm−1 shifts, Journal of Luminescence, 2024, 267, 120402. （SCI/EI，中科院 2 区）

[10] **Zhihong Li**, Xianxin Yang, Fei Wang, Haiyong Zhu, Xinxin Jin, Yanmin Duan, Francesco Chiavaioli. Discriminating Bulk and Surface Refractive Index Changes With Fiber-Tip Leaky Mode Resonance, Journal of Lightwave Technology, Journal of Lightwave Technology, 2023, 41(13), 4341 - 4351. （SCI/EI，中科院 1 区，TOP）

[11] **Zhihong Li**, Fei Wang, Yanan Wang, Xinxin Jin, Yanmin Duan, Haiyong Zhu. Decoupling bulk and surface characteristics with a bare tilted fiber Bragg grating, Optics Express, 2023, 31(12), 20150-20159. （SCI/EI，中科院 2 区，TOP）

[12] **Zhihong Li**, Fei Wang, Xinxin Jin, Yanmin Duan, and Haiyong Zhu. Fiber-optic surface waveguide resonance in gaseous medium: Tunable generation with all fiber modes, Optics & Laser Technology, 2023, 158: 108814. （SCI/EI，中科院 2 区）

[13] Fei Wang, Xianxin Yang, **Zhihong Li**, XinXin Jin, Yanmin Duan, and Haiyong Zhu. Optimizing Bulk and Surface Sensitivity with Fiber-Tip Leaky Mode Resonances Excited by Low Refractive Index Overlay, IEEE Sensors Journal, 2023, 23(2): 1197-1205. （SCI/EI，中科院 2 区）

[14] Yanmin Duan, Jing Xu, Yahong Li, **Zhihong Li**, Xinxin Jin, Haiyong Zhu. Generation of 1216 nm and 608 nm laser emission using cascaded Raman shifts in Nd: YVO4, Optics & Laser Technology, 2023, 157: 108716. （SCI/EI，中科院 2 区）

[15] Wenjie Mao, Dong Zhang, Huangqia Lu, Xiaolong Zhu, **Zhihong Li**, Hongyan Wang, Yanmin Duan, Haiyong Zhu. Compact passively Q-switched KTA self-frequency doubled Raman laser with 671 cm-1 shift, Optics & Laser Technology, 2022, 156:

108619. （SCI/EI，中科院 2 区）

[16] Youyi Zhuang, Wenjie Mao, **Zhihong Li**, Yingdong Huang, Yanmin Duan. Diode-pumped actively Q-switched Nd, La: CaNb 2 O 6 self-Raman laser at 1174 nm, Frontiers in Physics, 2022, 10: 884. （SCI/EI，中科院 3 区）

[17] Dingyi Feng, **Zhihong Li**, Hongrong Zheng, Biqiang Jiang, Jacques Albert, Jianlin Zhao. Strong cladding mode excitation in ultrathin fiber inscribed Bragg grating with ultraviolet photosensitivity, Optics Express, 2022, 30(14): 25936-25945. （SCI/EI，中科院 2 区）

[18] Yanmin Duan, Yuming Zhou, Haiyong Zhu, **Zhihong Li**, Xinxin Jin, Dingyuan Tang. Selective frequency mixing in a cascaded self-Raman laser with a critical phase-matched LBO crystal, Journal of Luminescence, 2022, 244: 118698. （SCI/EI，中科院 2 区）

[19] Jie Liu, Yanmin Duan, **Zhihong Li**, Ge Zhang, Haiyong Zhu. Recent Progress in Nonlinear Frequency Conversion of Optical Vortex Lasers, Frontiers in Physics, 2022, 10: 86502. （SCI/EI，中科院 3 区）

[20] **Zhihong Li**, and Haiyong Zhu. Fiber-Optic Surface Waveguide Modes Excited by Inter/Intra Mode Transition for Refractometric Sensitivity Enhancement, IEEE Journal of Selected Topics in Quantum Electronics, 2021, 27(5): 5600308. （SCI/EI，中科院 2 区）

[21] **Zhihong Li**, and Haiyong Zhu. Sensing performance of surface waveguide modes excited in long-period fiber grating with gold-silicon nanocoatings, Optics Letters, 2021, 46(2): 266-269. （SCI/EI，中科院 2 区，TOP）

[22] **Zhihong Li**, and, Francesco Chiavaioli. In-fiber comb-like linear polarizer with leaky mode resonances, Optics and Laser Technology, 2021, 133: 106518. （SCI/EI，中科院 2 区）

[23] **Zhihong Li**, Haiyong Zhu, and Chaolong Fang. Flexibly Tunable Surface Waveguide Resonances in Cylindrical Waveguide-Metal-Waveguide Configuration Assisted by Tilted Fiber Grating, Journal of Lightwave Technology, 2021, 39(6): 1814-1822. （SCI/EI，中科院 1 区，TOP）

[24] **Zhihong Li**, Xianxin Yang, Haiyong Zhu, and Fancesco Chiavaioli. Sensing performance of fiber-optic combs tuned by nanometric films: new insights and limits, IEEE Sensors Journal, 2021, 21(12): 13305-13315. （SCI/EI，中科院 2 区）

[25] **李志红**，杨现鑫，郭团. 薄膜调控光纤模式转换与偏振控制方法研究，光学学报，2021, 41(13): 1306018. (特邀论文，EI)

[26] Runlin Wang, **Zhihong Li**, Xia Chen, Nan Hu, Yongguang Xiao, Kaiwei Li, Tuan Guo. Mode splitting in ITO-nanocoated tilted fiber Bragg gratings for vector twist measurement, Journal of Lightwave Technology, 2021, 39(12): 4151-4157. （SCI/EI，中科院 1 区，TOP）

[27] Xinxue Wu, Chaolong Fang, **Zhihong Li**, and Yaoju Zhang. Simple and High-Efficiency Preparation Method of Biometric 3D Artificial Compound Eyes for Wide-Field Imaging, Laser and Optoelectronics Progress, 2021, 58(12): 1236001. （SCI/EI，中科院 4 区）

[28] Zhi Xie, Senhao Lou, Yanmin Duan, **Zhihong Li**, Limin Chen, Hongyan Wang, Yaoju Zhang, and Haiyong Zhu. Passively Q-Switched KTA Cascaded Raman Laser with 234 and 671 cm-1 Shifts, Applied Sciences, 2021, 11(15): 6895. （SCI/EI，中科院 3 区）

[29] Li Zhang, Yanmin Duan, Xuanhe Mao, **Zhihong Li**, Yuxuan Chen, Yaoju Zhang, and Haiyong Zhu. Passively Q-switched YVO 4 Raman operation with 816 and 890 cm-1 shifts by respective Raman configurations, Optical Materials Express, 2021, 11(6): 1815-1823. （SCI/EI，中科院 3 区）

[30] Yanmin Duan, Yinglu Sun, Haiyong Zhu, **Zhihong Li**, Li Zhang, Ge Zhang. Polarization-dependent YVO4 crystal Raman laser operation with 816 and 890 cm-1 shifts, Optics & Laser Technology, 2021, 144: 107429. （SCI/EI，中科院 2 区）

[31] **Zhihong Li**, Qikai Bao, Jiayin Zhu, Xiukai Ruan, and Yuxing Dai, Generation of leaky mode resonance by metallic oxide nanocoating in tilted fiber-optic gratings, Optics Express, 2020, 28(7): 9123-9135. （SCI/EI，中科院 2 区,TOP）

[32] Li Zhang, Yanmin Duan, Yinglu Sun, Yijun Chen, **Zhihong Li**, Haiyong Zhu, Ge Zhang, Dingyuan Tang. Passively Q-switched multiple visible wavelengths switchable YVO4 Raman laser, Journal of Luminescence, 2020, 228: 117650. （SCI/EI，中科院 2 区）

[33] **Zhihong Li**, Xiukai Ruan and Yuxing Dai. Leaky Mode Combs in Tilted Fiber Bragg Grating, Journal of Lightwave Technology, 2019, 37(24): 6165-6173. （SCI/EI，中科院 2 区）

[34] **Zhihong Li**, Xiukai Ruan and Yuxing Dai. Simultaneous excitation of leaky mode resonance and surface plasmon resonance in tilted fiber Bragg grating, Applied Physics Express, 2019, 12(11): 112005. （SCI/EI，中科院 3 区）

[35] **Zhihong Li**, Yubing Shen, Zhuying Yu, Xiukai Ruan, Yaoju Zhang, and Yuxing Dai. Polarization-Dependent Tuning Property of Graphene Integrated Tilted Fiber Bragg Grating for Sensitivity Optimization: A Numerical Study, Journal of Lightwave Technology, 2019, 37(9): 2023-2035. （SCI/EI，中科院 2 区）

[36] **Zhihong Li**, Zhuying Yu, Yubing Shen, Xiukai Ruan, and Yuxing Dai. Graphene Enhanced Leaky Mode Resonance in Tilted Fiber Bragg Grating: A New Opportunity for Highly Sensitive Fiber Optic Sensor, IEEE Access, 2019, 7: 26641-26651. （SCI/EI，中科院 2 区）

[37] **Zhihong Li**, Zhuying Yu, Boteng Yan, Xiukai Ruan, Yaoju Zhang, and Yuxing Dai. Theoretical analysis of tuning property of the graphene integrated excessively tilted fiber grating for sensitivity enhancement, Journal of the Optical Society of America B, 2019, 36(1): 108-118. （SCI/EI，中科院 3 区）

[38] Yijie Li, Jiang Tao, Xin He, Yaoju Zhang, Chaolong Fang, **Zhihong Li**, Jie Lin, and Youyi Zhuang. Cylindrical Lens Array Concentrator with a Nanonipple-Array Antireflective Surface for Improving the Performances of Solar Cells, Optics Communication, 2019, 439: 118-24. （SCI/EI，中科院 3 区）

[39] **Zhihong Li**, Qianqian Luo, Boteng Yan, Xiukai Ruan, Yaoju Zhang, Yuxing Dai, Zhennao Cai, and Tao Chen, Titanium dioxide film coated excessively tilted fiber grating for ultra-sensitive refractive index sensor, Journal of Lightwave Technology, 2018, 36(22): 5285-5297. （SCI/EI，中科院 2 区）

[40] Zhuying Yu, Boteng Yan, **Zhihong Li**, Xiukai Ruan, Yaoju Zhang, and Yuxing Dai. Graphene induced sensitivity enhancement of thin-film coated long period fiber grating, Journal of Applied Physics, 2018, 124(18): 184503. （SCI/EI，中科院 3 区）

[41] **Zhihong Li**, Jie Shen, Qiuping Ji, Yaoju Zhang, Xiukai Ruan, Yuxing Dai, and Zhennao Cai. Turning the Resonance of the Excessively Tilted LPFG Assisted Surface Plasmon Polaritons: Optimum Design Rules for Ultra-Sensitive Refractometric Sensor, IEEE Photonics Journal, 2018, 10(1): 7101214. （SCI/EI，中科院 3 区）

[42] **Zhihong Li**, Jie Shen, Qiuping Ji, Yaoju Zhang, Xiukai Ruan, Yuxing Dai, and Zhennao Cai. Tuning the resonance of polarization-degenerate cladding mode LP1,j in excessively tilted long period fiber grating for highly sensitive refractive index sensing, Journal of the Optical Society of America A, 2018, 35(3): 397-405. （SCI/EI，中科院 3 区）

[43] **Zhihong Li**, Boteng Yan, Qianqian Luo, Xiukai Ruan, Yaoju Zhang, Yuxing Dai, and Tao Chen. Sensitivity Enhancement of Excessively Tilted Fiber Grating by Inner Cladding Perturbation, IEEE Sensors Journal, 2018, 18(16): 6615-6620. （SCI/EI，中科院 3 区）

[44] Chaolong Fang, Jun Zheng, Yaoju Zhang, Yijie Li, Siyuan Liu, Weiji Wang, Tao Jiang, Xuesong Zhao, and **Zhihong Li**. Antireflective Paraboloidal Microlens Film for Boosting Power Conversion Efficiency of Solar Cells, ACS Applied Materials and

Interfaces, 2018, 10(26): 21950-21956. （SCI/EI，中科院 1 区，TOP）

[45] Yijie Li, Yaoju Zhang, Jie Lin, Chaolong Fang, Yongqi Ke, Hua Tao, Weiji Wang, Xuesong Zhao, **Zhihong Li**, and Zhenkun Lin. Multiscale Array Antireflective Coatings for Improving Efficiencies of Solar Cells, Applied Surface Science, 2018, 462: 105-11. （SCI/EI，中科院 2 区，TOP）

[46] Yaoju Zhang, Jun Zheng, Chaolong Fang, **Zhihong Li**, Xuesong Zhao, Yijie Li, Xiukai Ruan, Yuxing Dai. Enhancement of Silicon-Wafer Solar Cell Efficiency with Low-Cost Wrinkle Antireflection Coating of Polydimethylsiloxane, Solar Energy Materials and Solar Cells, 2018, 181: 15-20. （SCI/EI，中科院 1 区，TOP）

[47] Jie Shen, Qiuping Ji, Yaoju Zhang, Xiukai Ruan, Yuxing Dai, Zhennao Cai, and **Zhihong Li**. Theoretical Design of Band Pass Filter Utilizing Long Period Fiber Grating Having Cladding Refractive Index Perturbation, Automatic Control and Computer Sciences, 2018, 52(6): 489-495. （EI）

[48] Tao Chen, Jun Tu, Xiaochun Song, and **Zhihong Li**. Sensor for Measuring Extremely Large Strain Based on Bending Polymer Optical Fiber, Instruments and Experimental Techniques, 2017, 60(2): 301-306. （SCI/EI，中科院 4 区）

[49] **Zhi-Hong Li**, Tao Chen, Zhao-Gang Zhang, Yan-Ming Zhou, Dan Li, and Zhong Xie. Highly sensitive surface plasmon resonance sensor utilizing a long period grating with photosensitive cladding, Applied Optics，2016, 55(6): 1470-1480. （SCI/EI，中科院 3 区）

[50] **Zhihong Li**, Xiukai Ruan, Yuxing Dai, Zhaogang Zhang, Yanming Zhou, Tao Chen, and Zhong Xie. Numerical analysis of high-sensitivity refractive index sensor based on LPFG with bandpass transmission，IEEE Sensors Journal，2016, 16(20): 7500-7507. （SCI/EI，中科院 3 区）

[51] Tao Chen, **Zhihong Li**, Xiaochun Song, Yanming Zhou, Haiyan Guo, and Zhong Xie. Crack detection and monitoring in viscoelastic solids using polymer optical fiber sensors, Review of Scientific Instruments, 2016, 87(3): 035005. （SCI/EI，中科院 3 区）

[52] **Zhihong Li**, Tao Chen, Zhaogang Zhang, Yanming Zhou, Dan Li, and Zhong Xie. Spectral response of long-period fiber gratings to cladding refractive index perturbation, Optics Engineering, 2015, 54(9): 096105. （SCI/EI，中科院 4 区）

[53] Tao Chen, Zhong Xie, **Zhi-Hong Li**, Yan-Ming Zhou, and Hai-Yan Guo. Study on the Monotonicity of Bending Loss of Polymer Optical Fiber, Journal of Lightwave Technology, 2015, 33(10): 2032-2037. （SCI/EI，中科院 2 区）

2. 会议论文/报告

[54] Ya'nan Wang, **Zhihong Li**. In situ monitoring and unveiling of $K+$ ions transmembrane process via sensitive fiber-optic plasmonic spectral combs, The 10th Asia-Pacific Optical Sensors Conference (APOS), 2024.09.26-29, Chengdu.

[55] **Zhihong Li**. Surface wave spectral combs excited with tilted fiber Bragg grating for biosensing (邀请报告). The 20th International Conference on Optical Communications and Networks (ICOCN), 2024.07.26~29, Harbin.

[56] **李志红**， 光纤模式调控及传感特性（邀请报告），第三届光电、能源与新材料大会(邀请报告), 2024.01.12-14， 佛山.

[57] Yanan Wang, Xiaofang Li, Fei Wang , **Zhihong Li**. Real-time detection of transmembrane behavior of potassium ion with tilted fiber grating plasmonic resonance comb, 2023 广东光学大会, 2023.12.08-10，广州.

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