CURRICULUM VITAE

PERSONAL DATA

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EDUCATION

Sep 2008 --- Jul 2013 **Direct Ph. D.** in Fiber Optics, School of Electronic and Information Engineering, Beijing Jiaontong University, China. My dissertation was awarded the prestigious "**Excellent Doctorial Dissertation Prize in Beijing Jiaotong University in 2013**".

Sep 2004 --- Jul 2008 **B. S.** in Optoelectronic Information Science and Engineering, Scholl of Science, Beijing Jiaotong University, China.

OVERVIEW

My current interests are focused on optical fiber sensors, optical fiber lasers, optical fiber gratings, and microstructured optical fibers. I have managed 5 projects, authored or coauthored 38 papers in refereed journals and conferences (first author: 13 journal papers, 3 conference papers), been granted 1 Chinese patent and 4 Chinese computer software copyright, and received 6 honors/awards.

RESEARCH EXPERIENCE

- Aug 2013 --- present **Shenzhen University, Shenzhen, China** Post-doctoral
  Project: Arc discharge-induced **long period fiber gratings** and applications
  Supervisor: Prof. Yiping Wang, Shenzhen University

1. Inscribing Technology

- Long period fiber gratings based on arc discharge-induced periodical tapers
  Arc discharge-induced periodical tapers were proposed for inscribing long period fiber gratings (LPFGs) by only using a commercial splicer. The achieved periodic tapers exhibited an excellent reproducibility with a small error of less than ±0.3 μm. To the best of our knowledge, it is the minimum reproducibility error of tapers achieved by arc discharge technique so far. (IEEE Photon. Technol. Lett., 26(7): 698-701, 2014)
- Automatic Arc Discharge Technology for Inscribing Long Period Fiber Gratings.
  We experimentally demonstrated a fully automatic arc discharge technology to inscribe high quality LPFGs with greatly improved inscription efficiency. For the first time, a full automatic arc discharge technology was developed by building up an embedded program in a commercial fusion splicer for inscribing gratings automatically. (OFS-23, Proc. SPIE, 91577X, 2014, IEEE Photon. Technol. Lett. under review)

2. Applications of long period fiber gratings

- Measuring the refractive index and temperature simultaneously
  Cascaded LPFG and liquid-filled PCF were proposed for measuring the refractive index and temperature simultaneously. The dual-parameter sensing ability originates from the sole temperature response of the liquid-filled PCF, which is used to compensate for the temperature contribution in the total spectral response of the LPFG, leaving a net effect resulting from the refractive index. (IEEE Photon. Technol. Lett., 27(4): 375-378, 2014.)
- Determination of Optical fiber parameters
  We demonstrated a search procedure to determine the optical fiber parameters by use of long period fiber gratings (LPGs). In the search procedure, the theoretical resonant wavelengths of LPGs were expressed as function of the optical fiber parameters. By a finite difference method, the effective refractive indices of core mode and cladding modes were solved in terms of wavelength to find the theoretical phase matching curves. The input optical fiber parameters were then varied in order to minimize the difference between the measured phase matching curves and the calculated ones. The optical fiber parameters were finally determined when the difference value reached the smallest one. (Optics Express, under review)

Dec 2010 --- Jul 2011 **University of Ottawa, Ottawa, Canada** Visiting student
Project: Tunable, narrow linwidth **Erbium doped fiber laser**
Supervisor: Prof. Xiaoyi Bao, University of Ottawa

- Random erbium-doped fiber laser based on Rayleigh backscattering
  The Rayleigh backscattering in the Er-doped ring fiber laser was employed to generate coherent light without a traditional laser resonator and achieve single longitudinal mode generation for the first time. Theory and experimental study showed that the Rayleigh backscattering in 660 m SMF-28e is the key to ensure single longitudinal mode laser oscillation with a linewidth of 4 kHz. (*Opti. Express, 19(27): 25981-25989, 2011.*)

  Our viewpoint was approved by the international peers. For example, Prof. Sergei K. Turitsyn (OSA Fellow) at Aston University used a whole paragraph (line 1 to 7 in page 168) to comment this work in his review article (**Physics Reports, 542:133-193, 2014. IF: 22.91**). He pointed out that "The described above narrow-band lasers (random laser with Raman gain) are not obviously single-frequency (spectral width of 1 nm). However, the Rayleigh backscattering could be used to improve performances of single-frequency lasers. The Rayleigh backscattering in the Erbium-doped ring fiber laser was employed to achieve single longitudinal mode generation in [345] (i. e., the work above)"
- Tunable fiber laser based on in-line two-taper Mach–Zehnder interferometer filter
  A tunable fiber ring laser based on an in-line two-taper Mach–Zehnder interferometer filter was realized, and the effect of beam waists of the tapers on performance of the laser was investigated. (*Appl. Opti., 50(29): 5714-5720, 2011.*)

Sep 2008 --- Jul 2013 **Beijing Jiaotong University, Beijing, China** Ph.D. Student
Project: Tunable/multi-wavelength CW fiber laser based on **twin core fiber (TCF)**
Supervisor: Prof. Shuqin Lou, Beijing Jiaontong University

- In the doctoral thesis, I mainly investigated the mode coupling of the two cores in the twin core fiber (TCF) and its application in tunable fiber lasers as the wavelength-selective element. I investigated theoretically and experimentally the wavelength tunable mechanism and the polarization dependence of the TCF-based filter (*Appl. Phys. B-Lasers, 115(1): 99-104, 2014.*); and then introduced the filter into the ring cavity to implement tunable single-, dual-, and multi-wavelength Erbium-doped fiber lasers (*Laser Phys. Lett., 10(12): 125110, 2013, IEEE Photon. Technol. Lett., 26(22): 2279-2282, 2014. J. of Optic., 16(5): 05540, 2014.*). By utilizing the polarization dependence of TCF, a single polarized fiber laser also can be achieved.

ACADEMIC HONOURS

[1] **National Natural Science Funding** by Natural Science Foundation of China in 2014
[2] **Chinese Postdoctoral Research Fellowships** by China Postdoctoral Science Foundation in 2014.
[3] **Excellent Doctoral Dissertation Prize** by Beijing Jiaotong University in 2013.
[4] **National Scholarship for Graduate Students** by the Ministry of Education of China in 2012.
[5] **Fundamental Research Funds for the Central Universities** by Beijing Jiaotong University in 2011.
[6] **Visiting Scholarship for Overseas research** by Beijing Jiaotong University in 2010.

PERFORMED PROJECTS AS PI (Total Funding: 550K CNY)

	Projects	Foundations	Time	Funding	Principal
1	Fabrication of chiral fiber grating and its application on circular polarizer (waiting to assign the Grant No.)	China Postdoctoral Science Foundation	Jul. 2015-Jul. 2016	CNY 150K	PI
2	Dual-parameter sensing technology based on twin core fiber directional coupler (Grant No. 61405128).	National Natural Science Foundation of China	Jan. 2015-Dec. 2017	CNY 280K	PI
3	Multiple-parameter Sensor Based on Coupled Twin Core Fiber (Grant No. 2014M552227)	China Postdoctoral Science Foundation	May. 2014-Jul. 2015	CNY 50K	PI
4	Novel fiber lasers and fiber sensors based on fiber filters (Grant No. 2011YJS288)	Fundamental Research Funds for the Central Universities	Oct. 2011-Sep. 2012	CNY 50K	PI
5	Refractive index sensing based on tilted fiber gratings (Grant No. 2011YJS002)	Fundamental Research Funds for the Central Universities	Nov. 2010-Jun. 2012	CNY 20K	PI