



## **Xiyu Li, Ph.D.**

Research Associate Professor

Department of Basic Science of Stomatology, State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University

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### **BIOGRAPHY**

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Dr. Xiyu Li is a Research Associate Professor, Master Supervisor, and Deputy Dean of the Department of Basic Science of Stomatology, State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University. He is the distinguished Young Scholars of Science and Technology Department of Sichuan Province, and Young Scientific Talent of the "Tianfu Qingcheng Plan". He has undertaken nine projects from the National Natural Science Foundation of China, National Key R&D Program of China, and Science and Technology Department of Sichuan Province, etc. In recent years, his research interests include the synthesis of multi-ions coupled nanoapatite crystals, composite scaffolds and novel dental implants, as well as their in vitro & in vivo behaviors and multimodal tracking. The related results have been published in *Science Advances*, *Small*, *Bioactive Materials*, *Composites Part B: Engineering*, *Acta Biomaterialia*, and *ACS Applied Materials & Interfaces* etc., and output three Chinese invention patents. The new biomaterials and methods developed have broad clinical application prospects in tissue repair, performance assessment, and postoperative follow-up.

### **EDUCATION**

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**Ph.D.** in Biomedical Engineering Sept 2011 - Jul 2016  
*Peking University*, Beijing, China

**Joint Ph.D.** in Biomedical Engineering May 2014 - May 2015  
*Georgia Institute of Technology and Emory University*, Atlanta, GA, USA

**B.S.** in Chemistry Sept 2007 - Jul 2011  
*Sichuan University*, Chengdu, Sichuan, China

### **WORK EXPERIENCES**

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**Deputy Dean** Apr 2021 - present  
Department of Basic Science of Stomatology, State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, Sichuan, China

**Research Associate Professor** Oct 2019 - present

State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, Sichuan, China

**Postdoctoral Research Fellow**

Mar 2017 - Dec 2019

**Advisor:** Prof. Wei Li

State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, Sichuan, China

**Assistant Researcher**

Jul 2016 - Sept 2019

State Key Laboratory of Oral Diseases, West China Hospital of Stomatology, Sichuan University, Chengdu, Sichuan, China

**HONORS AND AWARDS**

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- Distinguished Young Scholars of Science and Technology Department of Sichuan Province, Nov 2022
- Young Scientific Talent of the "Tianfu Qingcheng Plan" in Sichuan Province, Dec 2023
- The Most Promising Award of the "Young Scientists Forum of Dentistry", Chinese Stomatological Association, Sept 2019
- Overseas High-level Talents in Sichuan Province, Mar 2020
- Chengdu Tianfu Haizhi Program Expert, Jun 2023
- Academic Talent Award of Sichuan University, Dec 2021
- Double-Hundred Talent Plan B of Sichuan University, 2022
- Model Teaching Plan/Courseware Award for Undergraduate Course of Sichuan University, Jan 2023
- Outstanding Award for Undergraduate Classroom Teaching Quality of Sichuan University, May 2023

**RESEARCH & INTERESTS**

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- Investigation on osteogenesis and degradation of multifunctional apatite nanocrystals doped with Ln, Fe, Zn ions via their fluorescent, superparamagnetic, antibacterial properties, and uniform morphology
- Preparation and in vivo fluorescence tracing of 3D printed degradable HA/polymer scaffolds containing growth factors for regeneration of gingival tissue and bone
- Ti implants with magnetostatic field to synergistically interact with surrounding multiple doping HA NPs to promote osteogenesis, osteointegration, and in vivo tracking

**MAIN PUBLICATIONS**

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1. **Xiyu Li**; Qin Zou; Haifeng Chen; Wei Li, In Vivo Changes of Nanoapatite Crystals during Bone Reconstruction and The Differences with Native Bone Apatite. *Science Advances* 2019, 5 (11), eaay6484.
2. **Xiyu Li**; Qin Zou; Yi Man; Wei Li, Synergistic Effects of Novel

- Superparamagnetic/Upconversion HA Material and Ti/Magnet Implant on Biological Performance and Long-Term in Vivo Tracking. *Small* 2019, 15 (31), 1901617.
3. **Xiyu Li**; Juan Wu; Danxue Li; Qin Zou; Yi Man; Ling Zou; Wei Li, Pro-Osteogenesis and in Vivo Tracking Investigation of a Dental Implantation System Comprising Novel mTi Implant and HYH-Fe Particles. *Bioactive Materials* 2021, 6 (9), 2658-2666.
  4. **Xiyu Li**; Qin Zou; Jiawei Wei; Wei Li, The Degradation Regulation of 3D Printed Scaffolds for Promotion of Osteogenesis and in Vivo Tracking. *Composites Part B: Engineering* 2021, 222, 109084.
  5. Mengqin Gu; Wei Li; Li Jiang\*; **Xiyu Li\***, Recent Progress of Rare Earth Doped Hydroxyapatite Nanoparticles: Luminescence Properties, Synthesis and Biomedical Applications. *Acta Biomaterialia* 2022, 148, 22-43.
  6. Mengqin Gu; Linglin Zhang; Liying Hao; Kun Wang; Wei Yang; Zhenqi Liu; Zixue Lei; Yinmo Zhang; Wei Li; Li Jiang\*; **Xiyu Li\***, Upconversion Nanoplatfrom Enables Multimodal Imaging and Combinatorial Immunotherapy for Synergistic Tumor Treatment and Monitoring. *ACS Applied Materials & Interfaces* 2023, 15 (18), 21766-21780.
  7. **Xiyu Li**; Qin Zou; Wei Li\*; Haifeng Chen\*, Intracellular Interaction of Hydroxyapatite-Based Nanocrystals with Uniform Shape and Traceable Fluorescence. *Inorganic Chemistry* 2018, 57 (21), 13739-13748.
  8. **Xiyu Li**; Qin Zou\*; Li Chen; Wei Li\*, A Ternary Doped Single Matrix Material with Dual Functions of Bone Repair and Multimodal Tracking for Applications in Orthopedics and Dentistry. *Journal of Materials Chemistry B* 2018, 6 (38), 6047-6056.
  9. Juan Wu<sup>#</sup>; Yaqi Chi<sup>#</sup>; Yujia Yan; Mengzhen Ji; Xuan Chen; Xueqin Yang; Yuan Gao; Qin Zou; Ling Zou\*; **Xiyu Li\***, Investigation of the Antibacterial Effect, Osteogenic Activity, and Tracing Properties of Hydroxyapatite Co-Doped with Tb<sup>3+</sup> and Zn<sup>2+</sup>. *Nanoscale* 2023, 15 (8), 3940-3951.
  10. Mengqin Gu<sup>#</sup>; Li Jiang<sup>#</sup>; Liying Hao; Junzhuo Lu; Zhenqi Liu; Zixue Lei; Yijun Li; Chengge Hua; Wei Li\*; **Xiyu Li\***, A Novel Theranostic Nanoplatfrom for Imaging-Guided Chemo-Photothermal Therapy in Oral Squamous Cell Carcinoma. *Journal of Materials Chemistry B* 2021, 9 (30), 6006-6016.
  11. Xiaoqing Hu; Jingxian Zhu; **Xiyu Li**; Xin Zhang; Qingyang Meng; Lan Yuan; Jiying Zhang; Xin Fu; Xiaoning Duan; Haifeng Chen\*; Yingfang Ao\*, Dextran-Coated Fluorapatite Crystals Doped with Yb<sup>3+</sup>/Ho<sup>3+</sup> for Labeling and Tracking Chondrogenic Differentiation of Bone Marrow Mesenchymal Stem Cells In vitro and In vivo. *Biomaterials* 2015, 52, 441-451.
  12. Wenying Liu; Justin Lipner; Christine H. Moran; Liangzhu Feng; **Xiyu Li**; Stavros Thomopoulos\*; Younan Xia\*, Generation of Electrospun Nanofibers with Controllable Degrees of Crimping through a Simple, Plasticizer-Based Treatment. *Advanced Materials* 2015, 27 (16), 2583-2588.

## PROFESSIONAL SOCIETIES

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- Member, Dental Materials Committee, Chinese Stomatological Association, 2020 - present
- Member, Dental Materials Committee, Sichuan Stomatological Association, 2021 - present

- Member, Oral Biology Committee, Sichuan Stomatological Association, 2020 – present
- Executive Director of Sichuan Nanotechnology Association