



## 张小文 教授 (xwzhang@guet.edu.cn)

桂林电子科技大学材料科学与工程学院

研究领域：有机/无机半导体薄膜材料以及光电子器件

### 个人简介

2010年在上海大学获博士学位，2004-2008年在昆明物理研究所工作，2013年博士后出站，现为桂林电子科技大学硕士生导师，光电信息功能材料与器件科研团队核心成员，主要从事有机发光器件和有机/无机杂化功能材料的研究。近年来主持国家自然科学基金、广西自然科学基金、广西教育厅重点项目、新型显示技术及应用集成教育部重点实验室开放基金等项目多项。在Org. Electron., Appl. Phys. Lett., Dyes Pigments, Phys. Status Solidi RRL, J. Phys. D: Appl. Phys.等学术刊物以第一作者或通讯作者发表SCI、EI收录的科研论文近50篇。申报专利9项（已授权3项）。主讲本科生课程2门、研究生课程（部分内容）2门。

### 教育背景

2008-2010，博士，上海大学

2001-2004，硕士，昆明理工大学

1997-2001，本科，昆明理工大学

### 工作经历

2004-2008，昆明物理研究所工作；2010-至今，桂林电子科技大学。

### 主要论文

- [1] Xiaowen Zhang, Qinghong Zheng, Yi Zhao, Wanshu Li, Yan Zhang, Kai Xu, Xiaogang Xue\*, Jiwen Xu, Hua Wang, Bin Wei\*, Tunable hole injection of solution-processed polymeric carbon nitride towards efficient organic light-emitting diode, Applied Physics Letters, 2018,112, 083302.
- [2] Wanshu Li, Yan Zhang, Qinghong Zheng, Kai Xu, Xiuyun Zhang, Liming Liu, Bin Wei, Lihui Wang, Jiwen Xu, Xiaowen Zhang\*, Solution-processed WOx hole injection layer for efficient fluorescent blue organic light-emitting diode, Current Applied Physics, 2018, 18(5):583-589.
- [3] Yan Zhang, Wanshu Li, Kai Xu, Qinghong Zheng, Jiwen Xu, Xiaowen Zhang\*, Haiou Li\*, Liming Liu, Aqueous solution-processed vanadium oxide for efficient hole injection interfacial layer in organic light-emitting diode, Physica Status Solidi A, 2018, doi: 10.1002/pssa.201800047.
- [4] Qinghong Zheng, Wanshu Li, Yan Zhang, Kai Xu, Jiwen Xu, Hua Wang, Jian Xiong, Xiuyun Zhang, Xiaowen Zhang\*, Solution-processed composite interfacial layer of MoOx doped graphene oxide for robust hole injection in organic light-emitting diode, Physica Status Solidi RRL, 2018, doi: 10.1002/pssr.201700434.
- [5] Yan Zhang, Wanshu Li, Ting Zhang, Bo Yang, Qinghong Zheng, Jiwen Xu\*, Hua Wang, Lihui Wang, Xiaowen Zhang\*, Bin Wei, The feasibility of using solution-processed aqueous La2O3 as effective hole injection layer in organic light-emitting diode, Solid State Electronics, 2018, 139: 54-59.
- [6] Aihui Liang\*, Han Wang, Yi Chen, Xiaoyan Zheng, Tian Cao, Xiulan Yang, Ping Cai\*, Zhiping Wang, Xiaowen Zhang\*, Fei Huang\*, Benzosenadiazole-based donor-acceptor small molecule: Synthesis, aggregation-induced emission and electroluminescence, Dyes and Pigments, 2018,149:399-406.
- [7] Qinghong Zheng, Disui Qu, Yan Zhang, Wanshu Li, Jian Xiong, Ping Cai, Xiaogang Xue, Liming Liu\*, Honghang Wang, Xiaowen Zhang\*, Facile solution-processed aqueous MoOx for feasible application in organic light-emitting diode, Optics and Laser Technology, 2018,101:85-90.
- [8] Liming Liu, Honghang Wang, Zichuan Yi, Quanrong Deng, Zhidong Lin\*, Xiaowen Zhang\*, In situ investigation of bismuth nanoparticles formation by transmission electron microscope, Micron, 2018, 105,30-34.
- [9] Xiaowen Zhang, Fengjiao You, Shiqi Liu, Bingjie Mo, Zheling Zhang, Jian Xiong, Ping Cai, Xiaogang Xue, Jian Zhang\*, Bin Wei\*, Exceeding 4% external quantum efficiency in ultraviolet organic light-emitting diode using PEDOT:PSS/MoOx double-stacked hole

injection layer, *Applied Physics Letters*, 2017,110(4):043301.

[10] Qinghong Zheng, Fengjiao You, Jiwen Xu, Jian Xiong, Xiaogang Xue, Ping Cai, Xiaowen Zhang\*, Hua Wang, Bin Wei\*, Lihui Wang, Solution-processed aqueous composite hole injection layer of PEDOT:PSS+MoO<sub>x</sub> for efficient ultraviolet organic light-emitting diode, *Organic Electronics*, 2017,46:7-13.

[11] Liming Liu, Fengjiao You, Qinghong Zheng, Bingjie Mo, Baoqing Zeng, Honghang Wang, Xiaowen Zhang\*, Bin Wei\*, Enhanced performance of ultraviolet organic light-emitting diode by using graphene oxide and MoO<sub>3</sub> dual hole injection layer, *Physica Status Solidi C*, 2017,14(1-2):1600131.

[12] Xiaowen Zhang\*, Bingjie Mo, Fengjiao You, Xiujuan Zhou, Liming Liu, Honghang Wang, Hole injection engineering with MoO<sub>3</sub> interlayer in organic light-emitting diode revealed by impedance spectroscopy, *Optik*, 2016,127(3):1424-1428.

[13] Xiaowen Zhang, Fengjiao You, Qinghong Zheng, Zheling Zhang, Ping Cai, Xiaogang Xue, Jian Xiong\*, Jian Zhang\*, Solution-processed MoO<sub>x</sub> hole injection layer towards efficient organic light-emitting diode, *Organic Electronics*, 2016, 39:43-49.

[14] Fengjiao You, Bingjie Mo, Liming Liu, Honghang Wang, Bin Wei, Jiwen Xu, Xiaowen Zhang\*, Remarkable improvement in electroluminescence benefited from appropriate electron injection and transporting in ultraviolet organic light-emitting diode, *Optics and Laser Technology*, 2016, 82:199-202.

[15] Weiling Li, Chang Sun, Lianqiao Yang, Wenqing Zhu, Hao Zhang, Miao Cai, Xiaowen Zhang\*, Bin Wei\*, Extremely low color-temperature white organic electroluminescence devices based on the control of exciton recombination zone, *Physica Status Solidi A*, 2016, 213(9):2400-2405.

[16] Liming Liu, Baoqing Zeng, Qi Meng, Zhifang Zhang, Jinyu Li, Xiaowen Zhang\*, Peizhi Yang\*, Honghang Wang, Titanium dioxide/graphene anode for enhanced charge-transfer in dye-sensitized solar cell, *Synthetic Metals*, 2016, 222:219-223.

[17] 莫炳杰,刘黎明,王红航,游凤姣,魏斌,张小文\*, 紫外有机发光器件的激子形成区域优化与掺杂调控, *发光学报*, 2016,37(2):213-218.

[18] Xiaowen Zhang\*, Bingjie Mo, Fengjiao You, Xiujuan Zhou, Liming Liu, Honghang Wang, Bin Wei\*, Electroluminescence enhancement in ultraviolet organic light-emitting diode with graded-hole injection and -transporting structure, *Physica Status Solidi RRL*, 2015,9(6):353-357.

[19] Qi Zhang, Xiaowen Zhang\*, Bin Wei\*, Highly efficient ultraviolet organic light-emitting diodes and interface study using impedance spectroscopy, *Optik*, 2015,126(18):1595-1597.

[20] Xiaowen Zhang\*, Bingjie Mo, Fengjiao You, Liming Liu, Honghang Wang, Bin Wei\*, Highly-efficient low-voltage organic light-emitting diode by controlling hole transporting with doped dual hole-transport layer and the impedance spectroscopy analysis, *Synthetic Metals*, 2015,205:134-138.

[21] 张小文,莫炳杰,刘黎明,王红航,陈二伟,许积文,王华,魏斌\*, 基于MADN空穴传输层的双层结构高效率黄绿光OLED及其阻抗谱分析, *光谱学与光谱分析*, 2015,35(12):3296-3299.

[22] Bingjie Mo, Xiaowen Zhang\*, Liming Liu, Honghang Wang, Jiwen Xu, Hua Wang, Bin Wei\*, Bilayer-structure white organic light-emitting diode based on [Alq<sub>3</sub>:rubrene] and the electron transporting characteristics investigation using impedance spectroscopy, *Optics and Laser Technology*, 2015,68:202-205.

[23] Qi Zhang, Hao Zhang, Xiao-Wen Zhang\*, Tao Xu, Bin Wei\*, Exciplex formation and electroluminescent absorption in ultraviolet organic light-emitting diodes, *Chinese Physics B*, 2015, 24(2):024222.

[24] Xiao-Wen Zhang\*, Ji-Wen Xu, Hua Wang, Bin Wei\*, Hua-Rong Zeng, Xue-Yin Jiang, Zhi-Lin Zhang, Optimizing structure for constructing highly efficient inverted top-emitting organic light-emitting diode with stable electroluminescent spectra, *半导体学报*, 2014, 35(2):023002.

[25] Xiao-Wen Zhang\*, Er-Wei Chen, Investigation on polarity of TiO<sub>2</sub> varistor using impedance spectroscopy and the frequency effects, *Advanced Materials Research*, 2014,986-987:1942-1945.

[26] Xiao-Wen Zhang\*, Bing-Jie Mo, Li-Ming Liu, Hong-Hang Wang, Dan-Teng Chang, Ji-Wen Xu, Hua Wang, Bin Wei\*, Blue organic light-emitting diodes with 2-methyl-9,10-bis(naphthalen-2-yl)anthracene as hole transport and emitting layer and the impedance spectroscopy analysis, *Current Applied Physics*, 2014,14(11):1460-1464.

[27] Xiao-Wen Zhang\*, Ji-Wen Xu, Hua-Rui Xu, Hua-Ping Lin, Jun Li, Xue-Yin Jiang, Zhi-Lin Zhang, Improving electron injection and microcavity effect for constructing highly efficient inverted top-emitting organic light-emitting diode, *Optics and Laser Technology*, 2013, 45(1):181-184.

[28] Xiao-Wen Zhang\*, Ji-Wen Xu, Hua-Rui Xu, Hua Wang, Chun-Lin Xie, Bin Wei, Xue-Yin Jiang, Zhi-Lin Zhang, Elucidations of carrier injection and recombination characteristics with impedance and capacitance in organic light-emitting diode and the frequency effects, *Journal of Physics D: Applied Physics*, 2013, 46(5):055102.

[29] Xiao-Wen Zhang\*, Hua-Ping Lin, Jun Li, Liang Zhang, Bin Wei, Xue-Yin Jiang, Zhi-Lin Zhang, A very simple method of constructing efficient inverted top-emitting organic light-emitting diode based on Ag/Al bilayer reflective cathode, *Journal of*

Luminescence, 2012, 132(1):1-5.

[30] Xiao-Wen Zhang\*, Hua-Ping Lin, Jun Li, Fan Zhou, Bin Wei, Xue-Yin Jiang, Zhi-Lin Zhang, Elucidations of weak microcavity effect and improved pixel contrast ratio in Si-based top-emitting organic light-emitting diode, Current Applied Physics, 2012, 12(5):1297-1301.

[31] Xiao-Wen Zhang\*, Xue-Yin Jiang, Wen-Qing Zhu, Zhi-Lin Zhang, Xin-Yu Liu, Hua Wang, Hua-Rui Xu, Efficient fluorescence from 9,10-bis(m-tolylphenylamino)anthracene doped into a blue matrix in Si-based top-emitting organic light-emitting diode, Thin Solid Films, 2011, 519(19):6595-6597.

[32] Xiao-Wen Zhang\*, Xue-Yin Jiang, Hua Wang, Xin-Yu Liu, Hua-Rui Xu, Zhi-Lin Zhang, The feasible application of low-cost Al/Cu bimetal semitransparent cathode in top-emitting organic light-emitting diode, Journal of Optoelectronics and Advanced Materials, 2011,13(4):338-342.

[33] Xiao-Wen Zhang\*, Li-Ming Liu, Jun Li, Liang Zhang, Xue-Yin Jiang, Zhi-Lin Zhang, Hua Wang, Xin-Yu Liu, The feasibility of using Cu as reflective anode in top-emitting organic light-emitting diode, Journal of Display Technology, 2011,7(9):515-518.

[34] Xiao-Wen Zhang\*, Jun Li, Liang Zhang, Hua-Ping Lin, Xue-Yin Jiang, Wen-Qing Zhu, Zhi-Lin Zhang, Improved performance of Si-based top-emitting organic light-emitting device using MoOx buffer layer, Synthetic Metals, 2010,160(7-8):788-790.

[35] Xiao-Wen Zhang\*, Jun Li, Liang Zhang, Xue-Yin Jiang, Khizar-ul Haq, Wen-Qing Zhu, Zhi-Lin Zhang, Top-emitting organic light-emitting device with high efficiency and low voltage using a silver-silver microcavity, Thin Solid Films, 2010,518(6):1756-1759.

[36] Xiao-Wen Zhang\*, Bang-Dong Ding, Jun Li, Liang Zhang, Xue-Yin Jiang, Wen-Qing Zhu, Zhi-Lin Zhang, Red top-emitting organic light-emitting device using 6,13-di-(3,5-diphenyl)phenylpentacene doped emitting system, Solid State Communications, 2010,150(25-26):1132-1135.

[37] Xiao-Wen Zhang\*, Jun Li, M.A. Khan, Liang Zhang, Xue-Yin Jiang, Khizar-ul Haq, Wen-Qing Zhu, Zhi-Lin Zhang, Improved chromaticity and electron injection in blue organic light-emitting device by using a dual electron-transport layer with hole-blocking function, Semiconductor Science and Technology, 2009,24(7):075021.

[38] Xiao-Wen Zhang\*, Xue-Yin Jiang, M.A. Khan, Jun Li, Liang Zhang, Jin Cao, Wen-Qing Zhu, Zhi-Lin Zhang, Colour tunability of blue top-emitting organic light-emitting devices with single-mode resonance and improved performance by using C60 capping layer and dual emission layer, Journal of Physics D: Applied Physics, 2009,42(14):145106.

[39] Xiao-Wen Zhang\*, Xue-Yin Jiang, M.A. Khan, Jin Cao, Jun-Wei Ma, Liang Zhang, Jun Li, Khizar-ul Haq, Wen-Qing Zhu, Zhi-Lin Zhang, Enhanced electron injection in organic light-emitting devices by using a composite electron injection layer composed of 8-hydroquinolatolithium and cesium oxide, Solid State Communications, 2009,149(15-16):652-656.

[40] Xiao-Wen Zhang\*, M.A. Khan, Xue-Yin Jiang, Jin Cao, Wen-Qing Zhu, Zhi-Lin Zhang, Electron injection property at the organic-metal interface in organic light-emitting devices revealed by current-voltage characteristics, Physica B, 2009,404(8-11):1247-1250.

[41] Xiao-Wen Zhang\*, Zeng-Lin Zhao, Peng-Ju Zhang, Rong-Bin Ji, Quan-Bao Li, Comparison of CdZnTe crystals grown by the Bridgman method under Te-rich and Te-stoichiometric conditions and the annealing effects, Journal of Crystal Growth, 2009,311(2):286-291.

---

## 联系信息

招收材料、物理、化学等专业研究生, E-mail:xwzhang@guet.edu.cn

---