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博士生导师简介

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博士生导师简介

刘镇宁，男，博士，教授，博士生导师，吉林大学工程仿生国家地方联合工程实验室常务副主任。

曾获第28届国际化学奥林匹克竞赛金牌，拥有北京大学化学学士学位和哈佛大学医学院生物化学和分子药理学博士学位。博士期间研究成果发表在《Nature》、《PNAS》等国际领先的学术杂志上，产生了广泛的国际影响（累计被引用500余次）。在教学上，曾两次获得哈佛大学杰出教学奖。

2010年，获聘为吉林大学唐敖庆特聘教授。自在吉林大学工程仿生教育部重点实验室工作以来，一直立足于仿生科学与工程，从事机械-材料-医学交叉领域的相关研究，研制和开发人工皮肤、能源装置、功能表面、功能材料等。近5年，在《Chemical Science》、《Small》、《Nanoscale》、《Journal of Materials Chemistry A》、《Journal of Power Sources》等国际知名的学术杂志上发表学术论文20余篇，申请专利25项，其中已授权6项。课题组成员目前主持国家自然科学基金面上项目3项，青年科学基金项目3项。

招收仿生科学与工程硕士、博士，欢迎具有材料、化学、机械、生命科学等背景的学生加入本课题组。目前，课题组共有博士后1名、博士生7名（含协助指导院士博士2名）、硕士生12名。指导的一名博士研究生获吉林大学优秀博士毕业论文。



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一、研究方向

刘镇宁教授的研究聚焦于生物医学、材料科学、医用器械及其交叉领域，主要包括应用于环境、能源和生物医疗方面材料和装置的设计和制备，如人工皮肤材料的合成及其相关制造工艺研究，能源化功能材料/表面的设计与制备，如电化学催化剂、赝电容、杂化纳米材料、纳米药物载体、可降解植入材料、光催化系统、自修复材料、耐磨材料等。

二、教育经历

2000.09-2007.08, 美国波士顿, 哈佛大学医学院, 博士学位

1996.09-2000.07, 中国北京, 北京大学化学与分子工程学院, 学士学位

三、工作经历

2013.09 - 至今, 吉林大学工程仿生教育部重点实验室, 教授/博导

2009.07 - 2010.11, 中国河北廊坊, 新奥科技发展有限公司, 副总裁助理/高级技术顾问

2007.09 - 2009.07, 中国北京, 麦肯锡咨询有限公司, 咨询顾问

四、科研项目

作为负责人, 承担省部级以上科研项目主要如下:

1. 国家自然科学基金面上项目, 51375204, 抽油泵柱塞的仿生耐磨和减阻原理及关键技术研究, 2014/01-2017/12, 80万元, 在研, 主持;

2. 吉林省科技厅面上项目, 20140101056JC, 抽油泵柱塞的仿生耐磨和减阻技术开发及应用, 2014.01-2017.06, 12万元, 在研;

3. 吉林省医药产业发展专项项目, 20130727033YY, 慢性乙肝干扰素治疗应答预判技术的开发, 2013/07-2016/06, 40万元, 已结题, 主持。

五、主要论文

1. Si Zhang; Yanting Lv; Long Zheng; Jiayi Li; Song Liang*; Zhenning Liu*; Luquan Ren. "Bio-inspired Polyimine Copolymers: Facial Integration with High Content Variability and Extremal Transitions of Mechanical Properties" . J. Bionic Eng. 2017, 14(1), 119-129.
2. Ping She; Kongliang Xu; Qinrong He; Shan Zeng; Hang Sun*; Zhenning Liu*. "Controlled preparation and visible light photocatalytic activities of corn cob-like Au-ZnO nanorods" . J. Mater. Sci. 2017, 52(6):3478-3489.
3. Long Zheng; Jianjun Wu; Si Zhang; Shishuai Sun; Zhihui Zhang; Song Liang*; Zhenning Liu*. "Bionic coupling of hardness gradient to surface texture for improved anti-wear properties" . J. Bionic Eng. 2016, 13(3), 406-415.
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5. Xinyu Hu; Chao Yu; Kenji D. Okochi; Yinghua Jin; Zhenning Liu*; Wei Zhang*. "Phenylene vinylene macrocycles as artificial transmembrane transporters" . Chem. Comm. 2016, 52(34), 5848-5851.
6. Guolong Lu; Youlong Zhu; Lu Lu; Kongliang Xu; Heming Wang; Yinghua Jin; Zhiyong Jason Ren; Zhenning Liu*; Wei Zhang*. "Iron-rich nanoparticle encapsulated, nitrogen doped porous carbon materials as efficient cathode electrocatalyst for microbial fuel cells" . J. Power Sources 2016, 315(1), 302-307.
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Degradation of Rhodamine B" . Applied Surface Science 2015, 357(1), 69-73.

10. Hang Sun; Ping She; Kongliang Xu; Yinxing Shang; Shengyan Yin*; Zhenning Liu*. "A self-standing nanocomposite foam of polyaniline@reduced graphene oxide for flexible super-capacitors". Synthetic Metals 2015, 209(1), 68–73.

11. Zhenning Liu; Kongliang Xu; Hang Sun*; Shengyan Yin*. "One-step Synthesis of Single-layer MnO₂ Nanosheets with Multi-role Sodium Dodecyl Sulfate for High-performance Pseudocapacitors". Small 2015, 11(18), 2182-2191.

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13. Hui Huang; Ziqian Feng; Yongxin Li; Zhenning Liu; Ling Zhang; Yunhai Ma; Jin Tong. "Highly sensitive detection of bisphenol A in food packaging based on graphene quantum dots and peroxidase" . Analytical Methods 2015, 7(7), 2928-2935.

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19. Haishen Yang; Zhenning Liu; Wei Zhang*. "Multidentate Triphenolsilane-Based Alkyne Metathesis Catalysts". Adv. Synth. Catal. 2013, 355(6), 885-890.
20. Jinshu Ma; Zhenning Liu; Fang Wang; Qinghai Zhou; Chao Feng; Fan Li*. "Preparation of a New Radiolabeled Biomaterial and Its Biodistribution in Mice". J. Bionic Eng. 2013, 10, 514-521.
21. Yan Liu*; Guolong Lu; Jindan Liu; Zhiwu Han; Zhenning Liu. "Fabrication of biomimetic hydrophobic films with corrosion resistance on magnesium alloy by immersion process". Appl. Surf. Sci. 2013, 264(1), 527-532.
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