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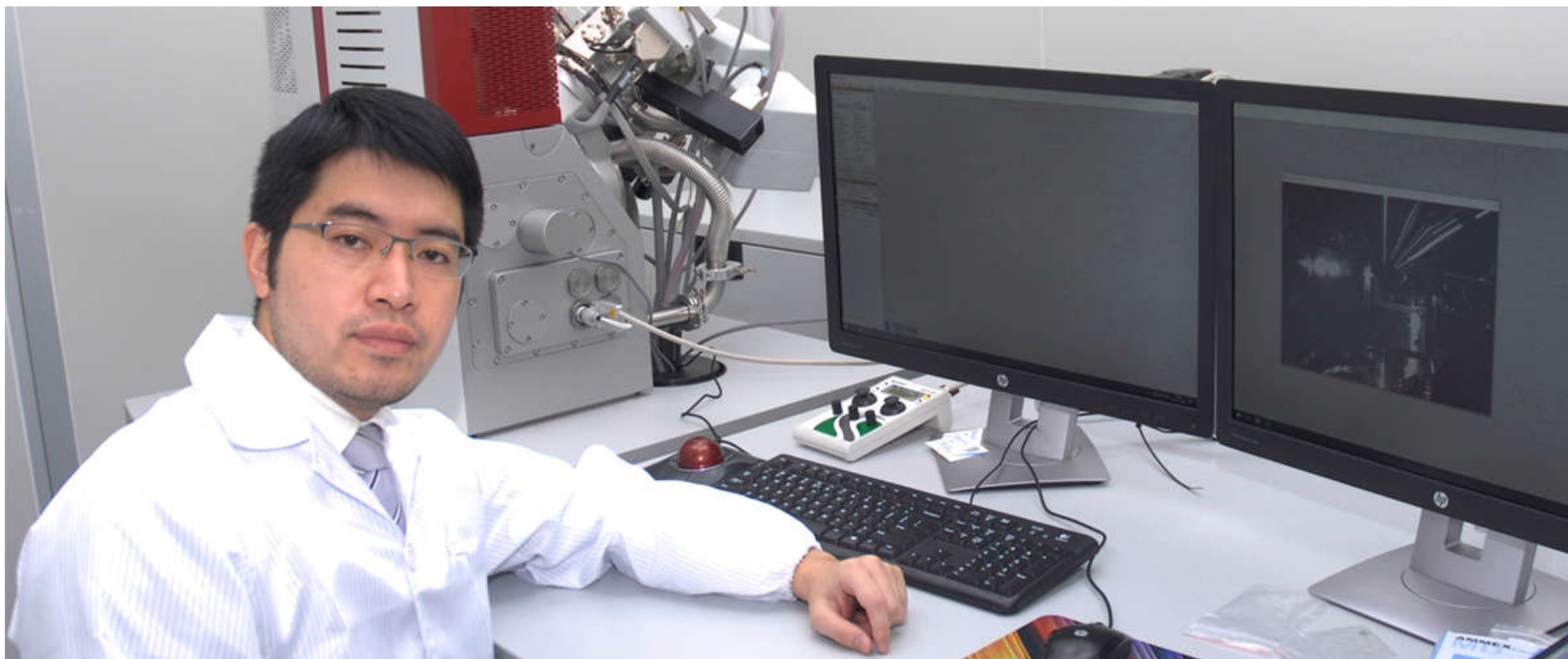


深圳大学
SHENZHEN UNIVERSITY

机电与控制工程学院



首页 学院概况 学院动态 本科教育 研究生培养 科学研究 实验室建设 学生与党建 校友之窗 就业实习信息



研究领域:

离子束电子束微纳加工、微纳器件微纳机器人、微细电加工、康复及工业机器人

* 深圳大学半导体制造研究院博士后科研人员&专职研究人员募集中，有意应聘者请发简历及成果等至邮箱联系； 新晋研究生报导师，请发简历及成果等至邮箱联系

主讲本科课程:

机械工程专业导论、数控加工技术/数字化制作DIY、机械制造基础（荣誉课程，全英授课）

主讲研究生课程:

机械工程研究生专业英语

教育背景:

2010-10至2013-09，日本东京大学 机械工程系 博士，导师：石原直教授（日本工程院院士、日本应用物理学会理事长、日本精密工学会会长）、米谷玲皇准教授

2005-04至2007-03，日本福井大学 机械工程系 硕士，导师：岩井善郎教授（日本工程院院士、福井大学副校长）；

2004-04至2005-03，日本福井大学 材料工程系 国际交换留学生，导师：吴行正副教授；

2000-09至2004-03，南昌航空大学 材料成型与控制工程专业；

1997-09至2000-07，福建省仙游第一中学。（1984年8月生）

工作经历:

2015-01至今，深圳大学 机电与控制工程学院/半导体制造研究院；

2014-03至2014-12，Sensata Technologies Japan有限公司（原日本德州仪器） 研发工程师，压力传感器的研发；

2013-04至2014-02, 日本东京大学 机械工程系日本学术振兴会(JSPS)特别研究员;

2007-04至2010-09, 日本三菱电机有限公司 研发工程师, 工业自动化产品的研发。

主持项目:

国家自然科学基金、深圳市孔雀技术创新项目、横向课题等。

(已结题: 国家自然科学基金、广东省自然科学基金、深圳市基础研究项目、深圳市海外高层次人才计划启动项目、深圳大学校级研究项目和教改项目等)

代表期刊论文:

聚焦离子束加工 (Focused Ion Beam)

- Xu Jiao, Qiao Li, Duan Zewen, Guo Dengji, Chai Liqiang, Zhao Xiaoyu, Wang Peng*, Liu Weimin, "Self-ion irradiation on hydrogenated amorphous carbon films at depth of adhesion interlayer: Radiation-induced atomic intermixing and degraded film properties", SURFACE AND INTERFACE ANALYSIS, 2020, DOI: 10.1002/sia.6785.
- Jiao Xu, Zewen Duan, Li Qiao, Liqiang Chai, Zhang Chen, Dengji Guo*, Peng Wang*, Weimin Liu, "Nonuniform transitions of heavy-ion irradiated a-C:H films in depth direction - Structure and antiwear property degradation analysis", Carbon, 2019, 146: 200-209.
- Dengji Guo, Xinchun Chen*, Chenhui Zhang, Xiaoyu Wu, Zhiyuan Liu, Kunluo Li, Jun Zhang, Chenxue Wang, "Nanoscale Tunable Reduction of Interfacial Friction on Nano-Patterned Wear-Resistant Bulk Metallic Glass", Applied Surface Science, 2018, 453: 297-308.
- Jun Dai*, Saipeng Xie, Hui Chang, Dengji Guo, Reo Kometani, "A semi-empirical growth model study of W-C induced by focused ion beam with a Gaussian-Holtmarkian distribution", Journal of Materials Science, 2017, 52(20): 12326 - 12335. (DOI 10.1007/s10853-017-1377-y)

- Dengji Guo*, Shin' ichi Warisawa, Sunao Ishihara and Reo Kometani, "Mechanical characteristics of ultra-long horizontal nanocantilevers grown by real-time feedback control on focused-ion-beam chemical vapour deposition ", Journal of Micromechanics and Microengineering, 2015, 25: 125028.
- Dengji Guo*, Reo Kometani, Shin' ichi Warisawa and Sunao Ishihara, "Growth of ultra-long horizontal free-space-nanowire by the real-time feedback control of the scanning speed on focused-ion-beam chemical vapor deposition ", Journal of Vacuum Science & Technology B, 2013, 31: 061601.
- Dengji Guo*, Reo Kometani, Shin' ichi Warisawa and Sunao Ishihara, "Three-Dimensional Nanostructure Fabrication by Controlling Downward Growth on Focused-Ion-Beam Chemical Vapor Deposition ", Japanese Journal of Applied Physics, 2012, 51: 065001.

微细电物理/化学加工 (Micro Electro-Physical/Chemical Machining)

- Ziliang Zhu, Dengji Guo*, Jiao Xu, Jianjun Lin, Jianguo Lei, Bin Xu, Xiaoyu Wu and Xujin Wang, "Processing Characteristics of Micro Electrical Discharge Machining for Surface Modification of TiNi Shape Memory Alloys Using a TiC Powder Dielectric", Micromachine, 2020, 11, 1018.
- Zhao-zhi Wu, Xiao-yu Wu*, Bin Xu*, Deng-ji Guo, Yong Tang, Dong-feng Diao, "Reverse-polarity PMEDM using self-welding bundled 3D-laminated microelectrodes", Journal of Materials Processing Technology, 2019, 273: 116261.
- Zhao-zhi Wu, Feng Luo*, Deng-ji Guo*, Xiao-yu Wu, Bin Xu, Jian-guo Lei, Xiong Liang, Dong-feng Diao, "Micro-EDM by using laminated 3D micro-electrodes with deionized water containing B4C powder", The International Journal of Advanced Manufacturing Technology, 2018, 99: 2893 - 2902.
- Bin Xu, Xiao-yu Wu*, Jian-guo Lei*, Hang Zhao, Xiong Liang, Rong Cheng, Deng-ji Guo, "Elimination of 3D micro-electrode' s step effect and applying it in micro-EDM", The International Journal of Advanced Manufacturing Technology, 2018, 96(1 - 4): 429 - 438.
- Bin Xu*, Xiao-yu Wu*, Jian-guo Lei, Xiong Liang, Hang Zhao, Deng-ji Guo and Shuang-chen Ruan, "Micro-ECM of 3D micro-

electrode for efficiently processing 3D micro-structure”, *International Journal of Advanced Manufacturing Technology*, 2016, DOI 10.1007/s00170-016-9825-4.

- Dengji Guo, Xiaoyu Wu*, Jianguo Lei, Bin Xu, Reo Kometani and Feng Luo, “Fabrication of micro/nanoelectrode using focused-ion-beam chemical vapor deposition, and its application to micro-ECDM”, *Procedia CIRP*, 2016, 42: 733-736.

- Jianguo Lei, Xiaoyu Wu*, Bo Wu, Bin Xu, Dengji Guo and Jinming Zhong, “Fabrication of 3D microelectrodes by combining wire electrochemical micromachining and micro-electric resistance slip welding”, *Procedia CIRP*, 2016, 42: 825-830.

金属增材制造 (Metal Additive Manufacturing)

- Jianjun Lin, Yaohui Lv, Dengji Guo*, Xiaoyu Wu, Zhou Li, Cai Liu, Bingang Guo, Gang Xu, Binshi Xu, “Enhanced strength and ductility in thin Ti-6Al-4V alloy components by alternating the thermal cycle strategy during plasma arc additive manufacturing”, *Materials Science and Engineering: A*, 2019, 759: 288-297.

- Jianjun Lin, Dengji Guo*, Yaohui Lv*, Yuxin Liu, Xiaoyu Wu, Bin Xu, Gang Xu, Binshi Xu, “Heterogeneous microstructure evolution of Ti-6Al-4V alloy thin-wall component deposited by plasma arc additive manufacturing”, *Materials & Design*, 2018, 157: 200-210.

飞秒激光加工 (Femtosecond Laser Processing)

- Jianxun Lu, Xiaoyu Wu*, Shuangchen Ruan*, Dengji Guo*, Chenlin Du, Xiong Liang, Zhaozhi Wu, “The Femtosecond Laser Ablation on Ultrafine-Grained Copper”, *Metallurgical and Materials Transactions A*, 2018, <https://doi.org/10.1007/s11661-018-4648-6>.

- Jianxun Lu, Xiaoyu Wu*, Zhaozhi Wu, Zhiyuan Liu, Dengji Guo, Yan Lou and Shuangchen Ruan*, “Microstructure and Mechanical Properties of Ultrafine-Grained Al-6061 Prepared Using Intermittent Ultrasonic-Assisted Equal-Channel Angular Pressing”, *Journal of Materials Engineering and Performance*, 2017, 26(10): 5107-5117.

代表会议论文:

- Ying Lin, Jing Ye, Gong Chen, Dengji Guo*, "Development of a Novel Hierarchical Control Scheme for Hip Assistive Exoskeleton", IEEE on Advanced Robotics & Mechatronics (ARM) 2020, Oral, Shenzhen, China, 2020/12.
- Shengpeng Chen, Dayuan Chen, Ziliang Zhu, Dengji Guo*, "Development of Micro-nano EDM auxiliary system based on high-precision current feedback", IEEE on Advanced Robotics & Mechatronics (ARM) 2020, Oral, Shenzhen, China, 2020/12.
- 郭登极, "从毫米到微纳米的跨尺度增减材制造: 等离子弧金属增材制造、电物理/化学加工、高能束加工", 中国微米纳米技术学会第三届微米纳米技术应用创新大会, 佛山, 2019/07。(邀请报告)
- Zhao-zhi Wu, Deng-ji Guo*, Xiao-yu Wu*, Bing Xu, Jian-guo Lei, Kai Jiang, Dong-feng Diao, "Vibration-assisted Micro-ECM by Laminated 3D Microelectrode Using a Low-concentration NaNO₃ Electrolyte Containing Suspended B₄C Particles", the 13th Asia-Pacific Conference on Materials processing, P309, Sydney, Australia, 2018/08.
- 郭登极, "微细电加工, 飞秒激光加工及三维微纳离子束加工", 中国微米纳米技术学会第二届微米纳米技术应用创新大会, 西安, 2018/05。(邀请报告)
- 郭登极*, Shin'ichi Warisawa, Sunao Ishihara, Reo Kometani, 助力微纳极限传感器的三维微纳加工技术: 聚焦离子束化学气相沉积法, 第二届“微纳传感器与系统集成技术”青年学者论坛, 成都, 2017/06。(特邀报告)
- Dengji Guo, Xiaoyu Wu*, Jianguo Lei, Kunluo Li, Weiyu He, Bin Xu, and Feng Luo, "ECM using micro/nanoelectrode fabricated by focused-ion-beam chemical vapor deposition", ASPE 2016 Annual Meeting Proceeding, 4734, Portland, USA, 2016/10.
- Dengji Guo, Xiaoyu Wu*, Jianguo Lei, Bin Xu, Reo Kometani and Feng Luo, "Fabrication of micro/nanoelectrode using focused-ion-beam chemical vapor deposition, and its application to micro-ECM", 18th CIRP Conference on Electro Physical and Chemical Machining (ISEM XVIII), Z00074, Tokyo, Japan, 2016/04.
- 郭登极*, 割泽伸一, 石原直, 米谷玲皇, 运用聚焦离子束化学气相沉积的实时反馈控制制备悬臂三维纳米结构及其力学特性, 第16届全国特种加工学术会议, 厦门, 2015/11。

- Dengji Guo*, Shin' ichi Warisawa, Sunao Ishihara and Reo Kometani, "A novel scanning strategy towards the 3D print at micro/nanoscale achieved by focused ion beam induced deposition ", 6th International Conference of the Chinese Society of Micro-Nano Technology (CSMNT 2015), 85515, Shanghai, China, 2015/10.
- Dengji Guo*, Shin' ichi Warisawa, Sunao Ishihara and Reo Kometani, "The three-dimensional nanostructure fabrication by the real-time feedback control of the scanning speed on focused-ion-beam chemical vapor deposition, and their characterizations ", The 15th International Conference on Precision Engineering (ICPE 2014), P55, Kanazawa, Japan, 2014/07.
- Jalabert, L.*; Valet, G.; Chorosz, A.; Guo, D.; Kometani, R.; Guillou, H.; Sato, T.; Volz, S.; Fujita, H., "Improved MEMS-in-TEM setup for high sensitivity thermal characterization of nanowire using a new TEM cryo-holder ", 17th International Conference on Solid-State Sensors, Actuators and Microsystems, TRANSDUCERS and EUROSENSORS 2013 (2013 Transducers and Eurosensors XXVII), P1839-1842, Barcelona, Spain, 2013/06. (DOI: 10.1109/Transducers.2013.6627148)
- Dengji Guo*, Reo Kometani, Shin' ichi Warisawa and Sunao Ishihara, "Mechanical characteristics of the ultra-long horizontal free-space-nanowire grown by real-time feedback control on focused-ion-beam chemical vapor deposition ", The 57th International Conference on Electron, Ion, and Photon Beam Technology and Nanofabrication (EIPBN 2013), 9A-5, Nashville, USA, 2013/05.
- Dengji Guo*, Reo Kometani, Shin' ichi Warisawa and Sunao Ishihara, "Ultra-long horizontal free-space-nanowire growth by the real-time feedback control of the scanning speed on focused-ion-beam chemical vapor deposition ", 38th International Conference on Micro and Nano Engineering (MNE 2012), Nanofab3-049, Toulouse, France, 2012/09.
- Dengji Guo*, Reo Kometani, Shin' ichi Warisawa and Sunao Ishihara, "Evaluations of the Downward Growth Characteristics on the 3-D Nanostructure Fabrication using Focused-Ion-Beam Chemical Vapor Deposition ", 3rd GMSI International Symposium, 29D-9-108, Tokyo, Japan, 2012/03.
- Dengji Guo*, Reo Kometani, Shin' ichi Warisawa and Sunao Ishihara, "The 3-D Nanostructure Fabrication by Controlling

Downward Growth on Focused-Ion-Beam Chemical Vapor Deposition “, 24th International Microprocesses and Nanotechnology Conference (MNC 2011), 27C-9-3, Kyoto, Japan, 2011/10.

代表专利:

(节选)

- 郭登极, 陈章等。基于微纳尺度视觉检测及自动补偿控制的高精度微纳加工方法, 中国发明专利, 实审。
- 林颖, 郭登极等。一种圆形夹板辅助穿脱裤装置, 中国发明专利, 实审。
- 郭登极, 伍晓宇, 雷建国, 徐斌, 罗烽, 阮双琛。电极制备方法、电极部件和特种加工平台, 中国发明专利, ZL201610979028.3, 已授权。
- 日本专利: 米谷玲皇, 郭登极, 割澤伸一, 石原直。微小構造物の製造装置、及び製造方法, 特開2014-44829。
- PCT国际专利: 刘志远, 陈鹏, 龚峰, 郭登极。System and method for fabrication of bulk nanocrystal alloy, 国际申请号: PCT/CN2017/079890。
- 伍晓宇, 雷建国, 钟金明, 徐斌, 郭登极, 阮双琛。微细电解加工工具电极制备方法及装置, CN201611072820.7, 已授权。
- 伍晓宇, 雷建国, 钟金明, 徐斌, 郭登极, 阮双琛。一种可变形的工具电极的电解加工工艺及其装置, CN201611179560.3, 已授权。

获得荣誉:

(节选)

- 2019年, 获得深圳大学“优秀共产党员”奖励;
- 2019年, 获得2018年度“名师进中学”活动优秀主讲教师;
- 2019年, 获得2019年深圳大学教学成果奖一等奖(高等教育类);
- 2018年, 获得2017年广东省教育成果奖二等奖;

2017年，获得深圳大学第八届教学成果奖获奖一等奖；

2015年，获得中国机械工程学会第16届全国特种加工学术会议优秀论文奖。

主要学术兼职：

中国机械工程学会微纳制造技术分会 委员，中国微米纳米技术学会微纳执行器与微系统分会 理事，深圳市科创委 项目评审专家，深圳市微纳制造产业促进会 技术解决方案专家

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