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- [EN](#)



- [首页Home](#)
- [学院概况About](#)
  - [学院介绍](#)
  - [院长寄语](#)
  - [领导班子](#)
  - [机构设置](#)
- [师资队伍Faculty](#)
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  - [航空宇航信息与控制系](#)
  - [航空宇航推进系](#)
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  - [研究生](#)
  - [课程设置](#)
  - [导师介绍](#)
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## 齐欢

职务：副教授

办公电话：021-34206524

电子邮件：huan.qi@sjtu.edu.cn

办公地址：上海交大密西根学院

## 工作经历

时间	任职单位	职务
2010年-至今	上海交通大学密西根学院副教授	
2005年-2010年	GE Global Research	工程师
1997年-1999年	住友商事（中国）公司	工程师

## 教育背景

时间	毕业院校	学历
2001年-2005年	University of Michigan	博士
1999年-2000年	Florida International University	硕士
1992年-1997年	清华大学	本科

## 研究方向

- (1) 激光金属3D打印：高性能材料快速成型，工艺自动控制；
- (2) 激光微细加工与表面处理；
- (3) 复合材料设计与制造。

## 主要科研项目

- (1) 航空基金民发专项课题：“热障涂层网状衬垫技术研究”，主持在研；
- (2) 航空基金民发专项课题：“热障涂层激光制孔工艺研究”，主持在研；
- (3) 上海浦江人才项目：“航空发动机高性能金属部件激光修复技术研究”，主持在研；
- (4) 国家自然基金项目：“激光多层熔覆自动化修复单晶涡轮叶片的关键技术研究”，主持在研；
- (5) 西门子燃机公司：“用于激光制孔的视觉探透技术开发”，主持在研。

## 代表性论文专著

### JOURNAL:

(1) Zhaoyang Liu, Huan Qi, Numerical simulation of transport phenomena for a double-layer laser powder deposition of single crystal superalloy, Metallurgical and Materials Transactions A, 2014, Volume 45, Issue 4, pp 1903-1915.

(2) 刘朝阳，齐欢，镍基单晶高温合金激光多道搭接熔覆过程晶体生长行为和微观组织分布的研究，《电加工与模具》2014年第1期

(3) 刘朝阳，齐欢，激光熔覆单晶材料过程中的晶体生长的数值模拟，《应用激光》2013年第02期

(4) 赖宏坤，齐欢，采用532nm纳秒光纤激光对金属和热障涂层的激光微加工，《中国激光》2013年第40卷第8期

(5) 张晓丽，齐欢，魏青松，铝合金粉末选择性激光熔化成型工艺优化实验研究，《应用激光》2013年第33卷第4期，pp.391-397

(6) Qi, H., Liu, Z. Modeling of crystal orientations in laser powder deposition of single crystal material, Physics Procedia, Vol. 39, pp 903-912, 2012/11.

(7) Qi, H., Lai, H. Micromachining of Metals and Thermal Barrier Coatings using a 532 nm Nanosecond Fiber Laser, Physics Procedia, Vol. 39, pp 603-612, 2012/11.

(8) Qi. H. (2011) Review of INCONEL 718 alloy: its history, properties, processing and developing substitutes. Chinese Journal of Material Engineering, Vol. 8, pp 92-100. \*

(9) Qi, H., Azer, M., and Singh, P. (2010) Adaptive toolpath deposition method for laser net shape manufacturing and repair of turbine compressor airfoils. The International Journal of Advanced Manufacturing Technology, 48(1-4), 121-131.

- ( 10 ) Qi, H., Azer, M., and Ritter, A. (2009) Studies of standard heat treatment effects on microstructure and mechanical properties of laser net shape manufactured Inconel 718. Metallurgical and Materials Transactions A, 40(10), 2410-2422.
- ( 11 ) Morrow, W.R., Qi, H., Kim, I., Skerlos, S., and Mazumder, J. (2007) Environmental aspects of laser-based and conventional tool and die manufacturing. Journal of Cleaner Production 15 (10), 932-943.
- ( 12 ) Qi, H., Mazumder, J., and Ki, H. (2006) Numerical simulation of heat transfer and fluid flow in coaxial laser cladding process for direct metal deposition. Journal of Applied Physics 100, 024903.
- ( 13 ) Qi, H., Mazumder, J., Green, L.I., and Herrit, G. (2005) Laser beam analysis in direct metal deposition process. Journal of Laser Applications 17(3), 136-143.
- ( 14 ) Qi, H., Kikuchi, N., and Mazumder, J. (2004) Interface study and boundary smoothing on designed composite material microstructure for manufacturing purpose. Structural and Multidisciplinary Optimization 26(5), 326-332.

#### CONFERENCE:

- ( 1 ) Liu, Z.Y., Qi, H., Mathematical modeling of crystal growth and microstructure formation in multi-layer and multi-track laser powder deposition of single-crystal superalloy, LANE 2014, Furth, Germany.
- ( 2 ) X. Miao, Q. Zhang, H Jiang, H. Qi, APPLICATION OF RIBLETS ON TURBINE BLADE END-WALL SECONDARY FLOW CONTROL, Proceedings of ASME Turbo Expo 2014: Turbine Technical Conference and Exposition.
- ( 3 ) Zhao, W.S., Gu, L., Kang, X.M., Qi, H., Guo, C.N., Xi, X.C. and Zhang, Y.O., Review of advanced manufacturing technologies presented in ISEM-XVII, in proceeding of the 15th national non-traditional machining conference, Nanjing, 2013
- ( 4 ) Shen, H.P., Qi, H., Laser cladding of Ni60-WC hardfacing alloy, in proceeding of the 15th national non-traditional machining conference, Nanjing, 2013

( 5 ) Liu, Z.Y., Qi, H., Study of the crystalline growth behavior and microstructures of laser deposited single crystal superalloy. In proceeding of the 15th national non-traditional machining conference, Nanjing, 2013.

( 6 ) Liu, Z., Qi, H. Mathematical modeling of crystal growth and microstructure formation in laser powder deposition of single crystal superalloy, in Proceedings of 32nd ICALEO, 2013.

( 7 ) Y Wang, C Zhao, H Qi, Evaluation of Optical Characteristics and Treatment Performance of Reused Fiber after Cutting for Endovenous Laser Treatment, 8th Asia Pacific Laser Symposium, APLS2012, Huangshan, China, 2012/5.

( 8 ) H.K Lai, H. Qi, X.Y. Shao, Y.Z. Wang, JY Ding, CM Zhao , Micromachining on Thermal Barrier Coated Superalloy Using A Nanosecond Fiber Laser, in Proceedings of 30th ICALEO, 2011

( 9 ) Qi. H., Cai, G., Azer, M. (2010) Application of laser powder deposition for turbine blade tip cap freeform fabrication. In Proceedings of the 4th Pacific International Conference on Applications of Lasers and Optics (PICALO).

( 10 ) Liu, Y., Li, Y., Cai, G., Peng, H., Qi, H., Erikson, C., Schoonover, J., (2008) Laser Net Shape Manufacturing of Rene195, in Proceedings of ICALEO 2008 - 27th International Congress on Applications of Lasers and Electro-Optics, Pages 777-781.

( 11 ) Qi. H., Lee, B., Gao, Y., and Azer, M. (2008) Studies of thermal distortion and residual stresses of an Inconel 718 part fabricated by laser powder deposition process. In Proceedings of the 27th International Congress on Applications of Lasers & Electro-Optics (ICALEO), p782-788.

( 12 ) Qi. H. and Azer, M. (2008) Mechanical properties of laser net shape manufactured Inconel 718 and Ti-6Al-4V components. In Proceedings of the 3rd Pacific International Conference on Applications of Lasers and Optics (PICALO).

( 13 ) Qi, H., Azer, M., and Singh, P. (2007) Laser net shape manufacturing using an adaptive toolpath deposition method, In Proceedings of the 26th ICALEO.

( 14 ) Qi, H., Liu, Y., Azer, M., Erikson, C., and Lin, C. (2006) Microstructure and mechanical properties of laser net shape manufactured Inconel 718 and Ti-6Al-6V components. In Proceeding of the 25th ICALEO.

( 15 ) Qi, H. and Mazumder, J. (2006) Laser cladding based solid freeform fabrication and laser micro-deposition. In Proceedings of 2006 ASME International Conference on Manufacturing Science & Engineering.

( 16 ) Mazumder, J., Morrow, W.R., Qi, H., Skerlos, S., and Dutta, B. (2007) Direct metal deposition: Environmentally friendly enabling technology. In Proceedings of the 2nd PICALO, pp. 189-195.

( 17 ) Singh, P., Kulkarni, P., Qi, H., Kumar, V., and Azer, M. (2005) Investigation on toolpath geometries for surface quality improvement in laser net shape manufacturing. In Proceedings of the 24th ICALEO.

( 18 ) Qi, H., Azer, M., and Deaton, J. (2005) Development of transfer functions for controlling fabrication of components by laser net shape manufacturing (LNSM). In Proceedings of the 24th ICALEO.

( 19 ) Mazumder, J. and Qi, H. (2004) Fabrication of 3D components by laser-aided direct metal deposition. (Invited paper) In Proceedings of SPIE, 5706, 38-59.

( 20 ) Mazumder, J., Qi, H., and Ki, H. (2004) Mathematical modeling of laser materials processing. In Proceedings of the 6th World Congress on Computational Mechanics.

( 21 ) Qi, H., Ki, H., and Mazumder, J. (2004) Numerical simulation of multi-material laser cladding by coaxial powder injection, In Proceedings of the 23rd ICALEO.

发明专利：

( 1 ) Huan Qi, P. Singh, M. Azer, Laser net shape manufacturing using an adaptive toolpath deposition method, 2014-04-18, US8691329;

( 2 ) 齐欢 , 杨艳 , 崔新宇 , 净形修复系统, 2013-02-13, CN102922139 ;

( 3 ) 齐欢 , 涡轮发动机叶片自动化修复设备及其修复方法 , 2014-04-30 , CN103753098 ;

( 4 ) 齐欢 , 硬质合金随钻测井工具激光自动化修复设备及其修复方法 , 2014-03-26, CN103668187 ;

( 5 ) 杨艳 , 齐欢 , 用于激光加工过程的熔池监测装置 , 2014-02-26 , CN103604813 ;

( 6 ) 齐欢 , 截齿净成形装置及方法 , 2014-02-26 , CN103600071

## 学术兼职

( 1 ) 美国Sigma Xi Scientific Research Society, Laser Institute of America会员；  
( 2 ) 中国机械工程学会特种加工分会激光加工技术委员；  
( 3 ) Journal of Laser Applications, Journal of Manufacturing Science and Engineering, Numerical Heat Transfer, Surface and Coatings Technology, Optical Engineering, International Journal of Advanced Manufacturing Technology , Journal of Manufacturing Processes审稿专家。

## 荣誉奖励

( 1 ) 国家第十批 “千人计划” 创业人才 , 中央组织部 , 2014 ;  
( 2 ) 上海市闵行区 “领军人才” , 上海闵行区科委 , 2013 ;  
( 3 ) 上海市浦江人才 , 上海市科委 , 2012 ;  
( 4 ) 入选Marquis Who’ s Who in Science and Engineering, 2008 ;  
( 5 ) 最佳论文奖 , 美国激光协会ICALEO国际会议 , 2004.

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