贾云飞

贾云飞
E-mail： yfjia@ecust.edu.cn

职位： 科研院副院长
职称： 教授 博士生导师

个人简介：

2014年11月获得华东理工大学机械设计及理论博士学位。2013.8~2014.8赴美国肯塔基大学联合培养。主持国家自然科学基金优青、面上、青年基金，中国博士后基金等科研项目，并入选上海市启明星计划、扬帆计划、上海市晨光计划等。

兼任中国机械工程学会材料分会青工委副主任委员，上海市现代设计法研究会副理事长，上海市高端装备可靠性技术协同创新中心副主任，中国材料学会疲劳分会理事，中国机械工程学会表面工程分会表面改性学组特聘专家，中国机械工程学会摩擦学分会青工委委员，美国TMS（矿物，金属和材料）学会纳米力学材料行为委员会和材料力学行为委员会委员（Committee member）。担任Chinese Journal of Mechanical Engineering，机械强度 等期刊编委、青年编委。

联系方式：

上海市梅陇路130号 华东理工大学
电话：021-64253776

研究方向

主要研究领域包括：
（1）机械结构仿生强度学
面向航空航天、电力等高端装备结构/材料的仿生设计、制造调控、力学性能评定。
（2）航空发动机叶片抗冲蚀
面向航空发动机3D打印材料及涂层的抗冲蚀测试、冲蚀模型建立及冲蚀性能预测。
（3）基于机器学习的结构设计
面向高端装备结构强度、韧性、疲劳寿命等综合优化目标的微区组织参数优化设计。

招生专业：（1）博士：机械工程、动力工程及工程热物理；（2）学硕：机械工程、动力工程及工程热物理；（3）专硕：机械工程、动力工程

承担科研项目

国家自然科学基金优秀青年科学基金，2023.01-2025.12，主持；
国家自然科学基金创新研究群体项目，2024.01-2028.12，群体骨干；
上海市自然科学基金，2023.04-2026.03，主持；
中航商发预研项目，2020.12-2023.06，主持；
国家自然科学基金面上项目, 2020.01-2023.12, 主持；
上海市青年科技启明星计划, 2020.06-2023.05, 主持；
JW科技委创新特区项目，2019.10-2020.9，主持；
国家自然科学基金青年基金，2017.01-2019.12，主持；
上海市青年科技英才扬帆计划，2016.06-2019.05，主持；
上海市晨光计划，2017.02-2019.12，主持；
中国博士后科学基金，2015.08-2016.10，主持；
国家重点研发计划, 2018.07-2021.06，学术骨干；
国家自然科学基金重点项目, 2019.01-2023.12，学术骨干。

获奖成果

2024年获校长奖特等奖
2024年指导研究生获材料与结构强度青年论坛报告特等奖
2023年获中国发明协会创新奖二等奖
2021年获ISSI-Best Student Paper Award一等奖
2019年获Journal of Manufacturing Processes杰出审稿贡献奖
2018年获华东理工大学“青年英才培育计划”
2017年获上海市科技进步一等奖（5/14）
2017年获华东理工大学优秀博士学位论文奖
2014年上海市授予“上海市优秀（博士）毕业生”
2014年华东理工大学授予“华东理工大学荣誉毕业生”
2013年获国家留学基金委“国家建设高水平大学公派研究生项目全额奖学金”
2013年入选华东理工大学“优秀博士学位论文培育计划”
2012年获博士研究生“国家奖学金”
2012年获华东理工大学第十六届“论文年会一等奖”

代表性著作

[55]Z.-M. Wang, **Y.-F. Jia***, J.-D. Cai, Y.-Y. Cui, X. Li, X.-C. Zhang*, S.-T. Tu, Strain-rate and size dependence of gradient lamellar nickel investigated by in-situ micropillar compression, **Journal of Materials Research and Technology** 32 (2024) 3269-3279.
[54]唐沛, 张勇, **贾云飞***, 李晓, 汪永纪, 双峰结构纯钛的低周疲劳性能研究：试验和模拟, **机械工程学报** 60(12) (2024) 228-239.
[53]Y. Zhang, **Y.-F. Jia***, X.-W. Sun, Z.-H. Fang, J.-J. Yan, C.-C. Zhang*, X.-C. Zhang, A model of erosion rate prediction for component with complex geometry based on numerical simulation, **Wear** 546-547 (2024) 205328.
[52] J. Ji, J. Zheng, L. Jia, Y. Zhang, **Y. Jia***, Y. Shi, H. Zhang, Y. Xue*, Low-cycle fatigue behaviour of Mg-9Gd-4Y-2Zn-0.5Zr alloys with different structures, **Journal of Magnesium and Alloys** 11(9) (2023) 3382-3393.
[51]Xiao Li, Bo Guan, Xiao-Feng Yang, Yong Zhang, **Yun-Fei Jia***, Optimizing strength and ductility synergy achieved by multistage strain hardening in gradient recrystallized pure titanium, **Materials Characterization** 205 (2023) 113333.
[50] Zi-Meng Wang, **Yun-Fei Jia***, Kai-Shang Li, Yong Zhang, Jia-Dong Cai, Xian-Cheng Zhang*, Hiroyuki Hirakata, Shan-Tung Tu, Lamellar aspect-ratio and thickness dependent strength-ductility synergy in pure nickel during in-situ micro-tensile loading, **Journal of Materials Science & Technology** 157 (2023) 89-97.
[49] D.-M. Wang, Y. Zhang, **Y.-F. Jia***, X.-C. Zhang*, J.-J. Yan, W.-X. Shu, S.-T. Tu, Application of machine learning in the design and optimization of bimodal structural materials, **Computational Materials Science** 220 (2023) 112040.
[48]王晓坤, 汪永纪, **贾云飞***, 张勇, 贺琛贇, 董博, 张显程, 基于机器学习的异构金属材料性能预测及结构设计, **机械工程材料**, 47(05) (2023) 72-83.
[47] F. Song, S. Yao, L. Liu, Y. Chi, Z. Shao, G. Wang, **Y. Jia**, X. Zhang, S. Tu, Submerged deflecting abrasive waterjet peening for improving the surface integrity and solid particle erosion resistance of Ti-6Al-4V alloy, **Surface and Coatings Technology** (2023) 129780
[46] X.C. Zhang, Y. Zhang, X. Li, Z.M. Wang, C.Y. He, T.W. Lu, X.K. Wang, **Y.F. Jia**, S.T. Tu, Design and Manufacture of Heterostructured Metallic Materials, **Acta Metallurgica Sinica** 58(11) (2022) 1399-1415.
[45] Yong Zhang, Xian-Cheng Zhang*, **Yun-Fei Jia*** , Dong-Feng Li, Guang-Jian Yuan, Hao Chen, Shan-Tung Tu, High density of interfaces with severely mechanical difference controlled high ductility in heterogeneous materials based on crystal plasticity, **Metallurgical and Materials Transactions A**, 53 (2022) 3918-3936.
[44] Z. Wang, **Y. Jia***, Y. Zhang, P. Tang, X. Zhang*, S. Tu, Achieving High Strength-plasticity of Nanoscale Lamellar Grain Extracted from Gradient Lamellar Nickel, **Chinese Journal of Mechanical Engineering** 35(1) (2022) 58.
[43] 魏琦, **贾云飞***, 杨晓峰, 李晓, 张显程, 表面超声滚压及渗氧复合强化对纯钛断裂韧性的影响, **压力容器**, 39(5) (2022) 16-25.
[42] X. Shang, N. Wang*, Z. Wang, H. Jiang, **Y. Jia***, N. Zhou*, M. Qiu*, Customizable and highly sensitive 3D micro-springs produced by two-photon polymerizations with improved post-treatment processes, **Applied Physics Letters** 120(17) (2022) 171107.
[41] H.-J. Cheng, X.-C. Zhang*, **Y.-F. Jia***, F. Yang, S.-T. Tu, A finite element simulation on fully coupled diffusion, stress and chemical reaction, **Mechanics of Materials** (2022) 104217.
[40] C.-Y. He, X.-F. Yang, H. Chen, Y. Zhang, G.-J. Yuan, **Y.-F. Jia**, X.-C. Zhang, Size-dependent deformation mechanisms in copper gradient nano-grained structure: A molecular dynamics simulation, **Materials Today Communications** 31 (2022) 103198.
[39] Y.-Y. Cui, **Y.-F. Jia***, F.-Z. Xuan, Differences in Deformation Behaviors Caused by Microband-Induced Plasticity of [0 0 1]- and [1 1 1]-Oriented Austenite Micro-Pillars, **Metals** 11(8) (2021) 1179.
[38] 孙银莎, **贾云飞***, 苑光健, 李晓, 张显程, 超声滚压纯钛梯度材料的力学性能反演与有限元分析, **机械工程材料**, 45(10) (2021) 58-65.
[37] Yi-Xin Liu, Hao Chen*, Run-Zi Wang, **Yun-Fei Jia**, Xian-Cheng Zhang*, Yan Cui, Shan-Tung Tu, Fatigue behaviors of 2205 duplex stainless steel with gradient nanostructured surface layer, **International Journal of Fatigue** 147 (2021) 106170.
[36] X.-F. Teng, **Y.-F. Jia***, C.-Y. Gong, C.-C. Zhang, X.-C. Zhang*, S.-T. Tu, Effect of ultrasonic surface deep rolling combined with oxygen boost diffusion treatment on fatigue properties of pure titanium, **Scientific Reports** 11(1) (2021) 17840.
[35] Peng-Cheng Zhao, Guang-Jian Yuan, Run-Zi Wang, Bo Guan, **Yun-Fei Jia***, Xian-Cheng Zhang*, Shan-Tung Tu, Grain-refining and strengthening mechanisms of bulk ultrafine grained CP-Ti processed by L-ECAP and MDF, **Journal of Materials Science & Technology** 83 (2021) 196-207.
[34] 孙甲鹏, **贾云飞***, 张勇, 韩静, 吴国松, 强塑均衡金属材料精准设计及制备, **机械工程学报**, 57 (2021) 1-21.
[33] Xiao Li, Bin-Han Sun, Bo Guan, **Yun-Fei Jia***, Cong-Yang Gong, Xian-Cheng Zhang*, Shan-Tung Tu, Elucidating the effect of gradient structure on strengthening mechanisms and fatigue behavior of pure titanium, **International Journal of Fatigue** 146 (2021) 106142.
[32] Y. Zhang, H. Chen, **Y.-F. Jia***, D.-F. Li, G.-J. Yuan, X.-C. Zhang*, S.-T. Tu, A modified kinematic hardening model considering hetero-deformation induced hardening for bimodal structure based on crystal plasticity, **International Journal of Mechanical Sciences** 191 (2021) 106068.
[31] X.-F. Yang, C.-Y. He, G.-J. Yuan, H. Chen*, R.-Z. Wang, **Y.-F. Jia**, X.-C. Zhang*, S.-T. Tu, The effect of grain boundary structures on crack nucleation in nickel nanolaminated structure: A molecular dynamics study, **Computational Materials Science** 186 (2021) 110019.
[30] 郭素娟, 史艳茹, **贾云飞**, 赵剑, 双相不锈钢各组相循环变形行为的纳米压痕试验和有限元表征方法研究, **机械工程学报** 56(22) (2020) 90-100.
[29] **Y.-F. Jia**, R.-J. Pan, P.-Y. Zhang, Z.-T. Sun, X.-R. Chen, X.-C. Zhang*, X.-J. Wu*, Enhanced surface strengthening of titanium treated by combined surface deep-rolling and oxygen boost diffusion technique, **Corrosion Science** 157 (2019) 256-267.
[28] **Y.-F. Jia**, Y.-X. Liu, J. Huang, Y. Fu, X.-C. Zhang*, Y.-C. Xin*, S.-T. Tu, M.-D. Mao, F. Yang*, Fatigue-induced evolution of nanograins and residual stress in the nanostructured surface layer of Ti–6Al–4V, **Materials Science and Engineering: A** 764 (2019) 138205.
[27] Y.-X. Liu, **Y.-F. Jia**, X.-C. Zhang, H. Li, R.-Z. Wang, S.-T. Tu, Effect of Ultrasonic Deep Rolling on High-Frequency and Ultrasonic Fatigue Behavior of TC4, Springer International Publishing, Cham, 2019, pp. 311-318.
[26] Y. Li, W. Mao, K. Zhang, **Y.-F. Jia**, F. Yang, Rate-dependent plastic buckling of a core–shell wire, **Journal of Physics D: Applied Physics** 52(43) (2019) 435502.
[25] Yu Sun, **Yun-Fei Jia***, Muhammad Haroon, Huan-Sheng Lai, Wenchun Jiang, Shan-Tung Tu*. Welding residual stress in HDPE pipes: measurement and numerical simulation, **Journal of Pressure Vessel Technology-Transactions of the ASME**, 2019, 141(14).
[24] Xumin Zhu, Congyang Gong, **Yun-Fei Jia***, Runzi Wang, Chengcheng Zhang, Yao Fu, Shan-Tung Tu, Xian-Cheng Zhang*. Influence of grain size on the small fatigue crack initiation and propagation behaviors of a nickel-based superalloy at 650 °C, **Journal of Materials Science & Technology**, 2019, 39(8): 1607-1617.
[23] Xiao Li, Bo Guan, **Yun-Fei Jia***, Yun-Chang Xin, Cheng-Cheng Zhang, Xian-Cheng Zhang*, Shan-Tung Tu. Microstructural evolution, mechanical properties and thermal stability of gradient structured pure nickel, **Acta Metallurgica Sinica (English Letters)**, 2019, 32(8): 951-960.
[22] Zi-Meng Wang, **Yun-Fei Jia***, Xian-Cheng Zhang*, Yao Fu, Cheng-Cheng Zhang, Shan-Tung Tu. Effects of Different Mechanical Surface Enhancement Techniques on Surface Integrity and Fatigue Properties of Ti-6Al-4V: A Review, **Critical Reviews in Solid State and Materials Sciences**, 2019.
[21] Jie Huang , Kai-Ming Zhang , **Yun-Fei Jia** , Cheng-Cheng Zhang , Xian-Cheng Zhang *, Xian-Feng Ma*, Shan-Tung Tu. Effect of thermal annealing on the microstructure, mechanical properties and residual stress relaxation of pure titanium after deep rolling treatment, **Journal of Materials Science & Technology**, 2019, 35: 409-417.
[20] A. Li, **Y. Jia**, S. Sun, Y. Xu, B.B. Minsky, M.A.C. Stuart, H. Cölfen, R. von Klitzing, X. Guo, Mineral-Enhanced Polyacrylic Acid Hydrogel as an Oyster-Inspired Organic–Inorganic Hybrid Adhesive, **ACS Applied Materials & Interfaces**, 2018, 10(12): 10471-10479.
[19] Cui Y-Y, **Jia Y-F***, Xuan F-Z*. Micro-deformation evolutions of the constituent phases in duplex stainless steel during cyclic nanoindentation. **Scientific Reports**, 2018, 8(1): 6199.
[18] Jiang Y, Li Y, **Jia Y-F**, Zhang X-C, Gong J-M. Gradient Elastic–Plastic Properties of Expanded Austenite Layer in 316L Stainless Steel. **Acta Metallurgica Sinica (English Letters)**, 2018, 31(8): 831-841.
[17] Zhao P-C, Li S-X, **Jia Y-F***, Zhang C-C, Zhang X-C*, Tu S-T. Very high-cycle fatigue behaviour of Ti-6Al-4V alloy under corrosive environment, **Fatigue & Fracture of Engineering Materials & Structures**, 2018, 41(4): 881-893.
[16] Liu L-L, **Jia Y-F***, Xuan F-Z. Gradient effect in the waved interfacial layer of 304L/533B bimetallic plates induced by explosive welding, **Materials Science and Engineering: A**, 2017, 704: 493-502.
[15] **Jia Y-F**, Cui Y-Y, Xuan F-Z*, Yang FQ*. Comparison between single loading-unloading indentation and continuous stiffness indentation, **RSC Advances**, 2017, 57(7): 35655-35665.
[14] Y.Y. Cui, **Y.F. Jia**, F.Z. Xuan, A Comparative Study on the Cyclic Behavior of Austenite/Ferrite Phases Characterized by the Nanoindentation, **Applied Mechanics and Materials** 853 (2017) 137-141.
[13] 李豪赛, **贾云飞***, 轩福贞. 基于柔性布技术的梯度WC增强的NiCrBSi合金涂层制备及性能研究. **机械工程材料**, 2018, 42(6): 59-64.
[12] 刘丽丽, **贾云飞***, 轩福贞. 304L/533B 复合钢板界面几何参数对界面力学性能影响. **压力容器**, 2017, 34(9): 1-7.
[11] 赖焕生, 范登帅, **贾云飞**, 刘康林, 徐书丰, 涂善东, 高密度聚乙烯管在核设备中应用的关键技术挑战, **压力容器**, 34 (2017) 45-54.
[10] Chen Y-H, **Jia Y-F**, Yang F, Huang C-C, Lee S*. Boussinesq type solution for a viscoelastic thin film on an elastic substrate, **International Journal of Mechanical Sciences**, 2016, 117, 79-92.
[9] **Jia Y-F**, Xuan F-Z, Yang FQ*. Numerical Analysis of Indentation of an Elastic Hemispherical Shell, **Journal of Mechanics**, 2016, 32, 245-253.
[8] Chen Y-H, **Jia Y-F**, Yang F, Huang C-C, Lee S*. Boussinesq problem of a Burgers viscoelastic layer on an elastic substrate, **Mechanics of Materials**, 2015, 87, 27-39.
[7] **Jia Y-F**, Xuan F-Z*, Yang FQ*. Viscoplastic response of tooth enamel under cyclic microindentation, **Materials Science and Engineering: C**, 2015, 55, 448-456.
[6] **Jia Y-F**, Xuan F-Z*, Chen XP, Yang FQ*. Finite element analysis of cyclic indentation of bi-layer enamel, **Journal of Physics D: Applied Physics**, 2014, 47, 175401.
[5] **Jia Y-F**, Xuan F-Z*, Yang F*. Finite element analysis of depth effect on measuring elastic modulus of a core-shell structure for application of instrumented indentation in tooth enamel, **Materials Science and Engineering: C**, 2014, 37, 84-89.
[4] **Jia Y-F**, Xuan F-Z*, Yang F*. Analysis of the effect of a compliant layer on indentation of an elastic material, **Journal of the Mechanical Behavior of Biomedical Materials**, 2013, 25, 33-40.
[3] **Jia Y-F**, Xuan F-Z*, Tu S-T. A modified analysis for thermal–mechanical properties of staggered structure in biomimetic materials, **Journal of the Mechanical Behavior of Biomedical Materials**, 2012, 16, 109-120.
[2] **Jia Y-F**, Xuan F-Z*. Anisotropic fatigue behavior of human enamel characterized by multi-cycling nanoindentation, **Journal of the Mechanical Behavior of Biomedical Materials**, 2012, 16, 163-168.
[1] **Jia Y-F**, Xuan F-Z*. Anisotropic wear behavior of human enamel at the rod level in terms of nanoscratching, **Wear**, 2012, 290, 124-132.

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