Dongyang Li, PhD, PEng, FCAE, MEASA, FInstP, FIMMM
Department of Chemical and Materials Engineering, University of Alberta

1. EDUCATION:

Ph.D., Metallurgical Engineering, 1995, McGill University, Montreal, Canada
Ph.D., Materials Physics, 1990, University of Science and Technology Beijing, China
M.Sc., Condensed Matter Physics, 1985, Sun Yat-sen University, Guangzhou, China
B.Sc., Solid Mechanics, 1982, University of Science and Technology China, Hefei, China

2. POSITIONS HELD

07/2005 -	Professor	Department of Chemical & Materials Engineering, University of Alberta, Edmonton, AB, Canada
07/2002 – 06/2005	Associate Professor	Department of Chemical & Materials Engineering, University of Alberta, Edmonton, AB, Canada
01/1998 – 06/2002	Assistant Professor, NSERC Industrial Research Chair	Department of Chemical & Materials Engineering, University of Alberta, Edmonton, AB, Canada
08/1995 – 12/1997	Postdoctoral Associate	Department of Mater. Sci. and Eng., the Pennsylvania State University, PA, USA
07/1990 – 12/1991	Research Associate	Department of Metallurgical Engineering, McGill University, Montreal, QC, Canada
1985- 1986	Lecturer	Department of Physics, South China Univ. of Tech., Guangzhou, China

Others

07/2005 -	Adjunct Professor	Dept. of Bio-medical Engineering, University of Alberta
07/2022 -	Adjunct Professor	Department of Civil, Materials, and Environmental Eng., University of Illinois at Chicago
07/2023 -	Adjunct Professor	School of Materials Science and Engineering, Shandong University, Jinan, China
08/2023 – 08/2025	Adjunct Professor	Department of Mechanical, Materials and Aerospace Eng., Illinois Institute of Technology, Chicago
12/2018 - 04/2019	Specially Appointed Professor,	Department of Materials Science and Engineering, Osaka University, Japan
09/2018-07/2019	Visiting Professor	Department of Materials Science and Engineering, National Taiwan University, Taipei, Taiwan
2017 – 2020	Chutian Scholars - Professor Lectures	Wuhan University of Science and Technology, Hubei Province, China
01/2012 – 06/2012	Visiting Professor	Department of Mechanical Engineering, National University of Singapore, Singapore
08/2011 –12/2011	Visiting Professor	Department of Materials Science and Engineering, Massachusetts Institute of Technology, USA
2014 – 2017	Awardee	100-Talents Program, Taiyuan University of Science and Technology, Shanxi, China
2007 – 2016	Foreign Doctoral Advisor,	Harbin Institute of Technology, China
01-05/2005	Visiting Scientist	Biophysics, Advance Research Center, National Institute of Information and Communications Technology, Japan
07-12/2004	Visiting Associate Professor	Department of Mechanical Engineering, National University of Singapore, Singapore

3. Editorial: on editorial board for eighteen international journals

Associate Editor: Tribology section, Frontier in Mechanical Engineering
Editorial board member: Scientific Reports, Coatings, Metals, Materials (Guest editor), Intl. J. of Corrosion, J. of Biosensors & Bioelectronics, Tribology – Surface, Interfaces and Materials, and …..;
Former Editor-in-Chief: Intl. J. of Nano and Biomaterials, 04/2009 – 04/2022.

4. Teaching Experience

Wear and Friction of Engineering Materials (4th year undergraduate and graduate) – This course covers fundamentals of interfacial contact, wear modes and characterization, tribo-materials, surface protection, and computational modeling.

Nanomaterials for bio-medical applications (4th year undergraduate and graduate) – This course covers synthesis of nanostructured materials (bulk, films, nanoparticles), properties and characterization, and bio-medical applications of the nanostructured materials. **Note:** I was invited to offer this course at Harbin Institute of Tech. as well (summer, 2008 – 2015).

- **Solid/liquid and solid/vapot phase transformations** (3rd year undergraduate) - This course covers topics of Vapor-Solid and Liquid-Solid interfacial phenomena. V-S and L-S interfacial characteristics and phase transformations are analyzed based on local atomic interactions.

Structure of Materials (3rd year undergraduate students) – This course covers topics of crystal structure, X-ray diffraction, dislocation theory, and characterization of crystal structure and defects.

Surface Failure and Surface Engineering (4th year undergraduate, 2012-2015) – This course is developed to introduce wear, corrosion, and surface engineering techniques.

Advanced thermodynamics of materials (graduate, 2000 - 2008) - This course covers classic and statistic thermodynamic techniques with emphasis on materials issues.

Materials Science & Engineering (2nd year undergraduate, 1998 - 2012) – This is an introductory course for 2nd year students in the materials engineering program.

Physical Metallurgy (3rd year undergraduate, 1998 - 2003) – This course covers typical topics of Physical metallurgy.

Experimental techniques for materials research (graduate, 2013 - 2016) – This is a joint course, which covers typical experimental techniques for materials research, such as TEM, SEM, AFM, XPS, Auger, SIMS, DSC, etc.

5. Fellowships, Honors and Awards

- Fellow, the Canadian Academy of Engineering (FCAE)
- Member, European Academy of Sciences and Arts (MEASA)
- Fellow of the Institute of Physics (FInstP)
- Fellow of the Institute of Materials, Minerals and Mining (FIMMM)
- ScholarGPS® ranking, Dr. Li is named a ScholarGPS Highly Ranked Scholar in the top 0.05% of all scholars worldwide for his lifetime of contributions, and is ranked as #1 scholar in the field of electron work function.
- MetSoc Airey Award (Lifetime Achievement), 2025, the highest award in the field of materials and metallurgy
- IAAM Distinguished Award, 2025, International Association of Advanced Materials IAAM (Ulrika, Sweden)
- Metsoc Research Excellence Award, CIM, 2024
- Metal Physics Award, MetSoc, Canadian Institute of Mining, Metallurgy and Petroleum (CIM), 2024
- MetSoc Distinguished Materials Scientist Award, 2020, Metallurgy & Materials Society of CIM
- Awardee of Top100 Talent Program, Shanxi, China, 2014-2017.
- Awardee of Chutian Scholars Program - Professor Lectures, Hubei province, China, 2017-2020

- NSERC Industrial Research Chair, 1998-2002, Canada
- Honorary Professorship (Lifetime), Jinan University, Guangzhou, China, 2021
- Specially Appointed Professor, 2019, Osaka University, Japan
- Awardee of National Major High-end Foreign Talents Program (2018, 2020, 2023), the Ministry of Science and Technology, China.
- MOST Fellowship, awarded by the Ministry of Science and Technology, R.O.C (Taiwan), 2018/2019
- RWTH Aachen – University of Alberta Senior Research Fellow, 2020
- JMST2020 Excellent Article Award (J. of Mater. Sci. & Technol.), 2020
- Best Paper Award, 5th International Conference of Theoretical and Applied Nanoscience and
- Best Paper Award, Nanotechnology (TANN'21) May 23 -25, 2021, Niagara Falls, Canada.
- Ken Ludema Best Paper Award, 18th Intl. Conf. on Wear of Materials, Philadelphia, USA, 2011.
- Best Paper Award, Canadian Materials Science Conference 2008
- Imperial Oil University Research Award, 2000 – 2015
- Best Paper Award, Intl. Conf. on Mater. Sci., Nov., 1989

6. Research Areas

Dr. D.Y. Li has conducted extensive research in materials science & engineering with focus on tribo-materials and wear control in a wide range of topics: 1) the correlation between the electron behaviour and material properties, and development of electron work function – based methodology for material design towards Electronic Metallurgy; 2) develop hybrid high-entropy ferrous alloys against wear in oil sands mining and pipeline systems; 3) advanced tribo-materials, wear and corrosion control, 4) computational materials science and tribology, 5) bacteria-metal surface interaction, and photocatalytic films. Since joined University of Alberta, Dr. Li has developed a highly recognized Wear and tribo-materials program. He has in excess of 530 scientific publications including 480+ referred journal publications. Dr. Li is an invited contributor for authoritative handbooks/encyclopaedias (Elsevier, Springer, ASM International). The following are research subjects of his studies:

<u>Development of electron work function (EWF) – based methodology for material design:</u>

-- Correlation between work function and mechanical and electrochemical properties of materials
-- Work function, surface adhesion behavior, and the affinity of materials for bacterial biofilms
-- Electron work function for nano-tribological diagnosis
-- Interfacial work function and interfacial bond strength of materials
-- EWF-based new framework for material design and modification
-- EWF mapping (AFM) and corresponding mapping of other properties for material manipulation.

<u>Materials behavior in surface tribological failure processes</u>:

-- High-entropy materials for wear control and components in small modular nuclear reactors
-- Novel tribo-materials with structural hierarchy and self-stress adjusting capability
-- Surface alloying and nanocrystallization for enhanced resistances to corrosion, wear and corrosive wear
-- Shape memory alloy – based pseudoelastic tribo-materials, including alloys and composites
-- Dislocation dynamics and effects of strain rate on wear in aggressive environments
-- Corrosion-wear synergy, high-T wear and control using rare-earth elements
-- Quantitative determination of interfacial bond strength of protective coatings and composites

<u>Computational materials science and surface processes</u>

-- First-principles calculation of electron work function and corresponding material and interfacial properties
-- Computational studies on complex carbides and high-entropy ceramic materials
-- Molecular dynamic simulation of structure evolution and the mechanical behavior of nano-material systems
-- First-principles and MD modeling of growth and properties of corrosion inhibitor – induced protective films
-- Microtubule motion, the coordination of biological motors and related statistic problems
-- Investigate wear, corrosive wear and friction using a micro-scale dynamic model (MSDM)
-- Phase-field modeling microstructure evolution, and simulation of textural growth

Biological surface interactions and materials

-- Interaction between bio-films and surface of implant materials and related electronic mechanisms
-- Reduction in electron activity by surface nanocrystallization of implants to diminish bio-films' adherence
-- Surface nanocrystallization with anti-bacteria agents for control bacterial biofilms on solids
-- Investigation of dynein protein–microtubule interaction for potential nano-bio-machine systems
-- Self-organization sliding of microtubules driven by biological motors

Surface phenomena related to photocatalytic nanotubular films and techniques

-- *in situ* thermo-electrochemical synthesis of TiO_2 nanotubular films for effective solar energy utilization
-- Solar spectrum analysis and the efficiency of solar energy conversion based on *in situ* EWF monitoring
-- Degradation of toxic organic substances by photocatalytic nanotubular films
-- Relation between work function and photocatalytic behavior of element-doped TiO_2 nanotubular films
-- Develop an electron work function – light illumination technique for photocatalytic film characterization
-- Conductive peptide incorporated TiO_2 nanotubes with improved mechanical and photocatalytical properties

7. Refereed Journal Publications

- Journal Publications

1. Seyed Elias Mousavi, Anqiang He, Dongyang Li, Small Features, Big Impact: Influence of Overlooked Microstructure features on High-Entropy Alloy Predictions, **Acta Materialia**, 2026, 122009; https://doi.org/10.1016/j.actamat.2026.122009
2. Zhang, yamei; Yu, Jianfei; Wu, Haixia; Zhao, Zhijun; Xia, Hongjin; Li, Qingyang; Wang, Yiran; Li, Dongyang; Wang, Qian, Plasma activate nitrogen for efficient ammonia synthesis, **Exploration**, 2026; 0:20240438 https://doi.org/10.1002/EXP.20240438.
3. Guijiang Diao, Zhen Xu, Anqiang He, Doug Fraser, Reinaldo Chung, Jing Li , D.Y. Li, Differential effects of Ti addition on microstructure and corresponding mechanical and tribological properties of AlCr3Fe3NiTix high-entropy alloys, **Wear,** 586 (2026) 2064631.
4. Wen-wei Sun, Yong Yang, Hong-jian Zhao, Yan-wei Wang, Wei Li, Yan-chun Dong, Wei Tian, Tao Wang, Zhao Li, Sheng-yong Gao, Huan-huan Zhang, Dong-yang Li, Tribological performance and wear mechanisms of plasma-sprayed (ZrNbTiCr)C system coatings: The detrimental role of vanadium addition, **Tribology International,** 218 (2026) 111777.
5. D. Bajaj, A.H. Feng, S.J. Qu, D.Y. Li, D.L. Chen, Deformation mechanisms of an additively manufactured high-entropy alloy under cyclic loading, **Journal of Materials Science & Technology**, 262 (2026) 24-39.
6. Hai-shan Li, Yong Yang, Hong-jian Zhao, Huan-huan Zhang, Wei Li, Zhao Li, Tao Wang, Wei Tian, Sheng-yong Gao, Yan-wei Wang, Ke-ran Li, Dong-yang Li, Ben-peng Li, Wen-jing Feng, Ning Li, Ai-min Li, Effect of Heat Treatment on the Microstructure and High-Temperature Tensile Properties of GH4065A Alloy, **Journal of Alloys and Compounds**, 1058 (2026) 187064.
7. Zheng Zhang, Hongjin Xia, Jibiao Liu, Weihong Jin, Zexian Wu, Chongwu Guo, Qingyang Li, D.L. Chen, D.Y. Li, Electrodeposition of Fe on a Mg alloy for improved surface mechanical strength and enhanced resistance to corrosion, wear and corrosive-wear attacks, **Corrosion Commuinications**, accepted, 2026.
8. Wenhui Zhang, Shaozhu Wang, Huanwei Yu, Xianfeng Chen, Yanfu Chai, Yan Zhang, Huabao Yang, Di Mei, unming Zhu, Dongyang Li, The corrosion resistance, discharge performance and mechanical properties of 1200 mm AZ31 Mg wide sheets produced by coupled continuous casting–rolling and warm rolling, **Journal of Magnesium and Alloys**, 2026, 101968; https:/doi.org/10.1016/j.jma.2025.101968.
9. Wen-wei Sun, Yong Yang, Hong-jian Zhao, Yan-wei Wang, Wei Li, Yu-xuan Shao, Gui-jiang Diao, Wei Tian, Tao Wang, Zhao Li, Sheng-yong Gao, Ai-min Li, Huan-huan Zhang, Dong-yang Li, Strengthening, toughening and wear mechanisms of (TaNbTiV)C and (TaNbTiVMe)C (Me = Mo or Zr) coatings, **Tribology International**, 214 (2026) 111255.
10. Wen-wei Sun, Yong Yang, Hong-jian Zhao, Yan- wei Wang, Wei Li, Gui-jiang Diao, Wei Tian, Tao Wang, Zhao Li, Sheng-yong Gao, Ai-min Li, Huan-huan Zhang, Dong-yang Li, Influence of Zr or Mo on the ablation performance of high-entropy carbide coatings above 2400 °C, **J. of the European Ceramic Society**, 46 (2026) 118047. https://doi.org/10.1016/j.jeurceramsoc.2025.118047.

11. Wangpeng Wu, Jiawen Hu, Chen Chen, Bowen Zhao, Yang Yang, Chun Cheng, Shihong Zhang, Dongyang Li, Tailoring Cu, Mn, Al, and Mo to enhance high-temperature wear resistance of CoCrFeNi coatings: unraveling lubrication mechanisms via first-principles calculations, **Tribology International**, 214 (2026) 111195. https://doi.org/10.1016/j.triboint.2025.111195.
12. D. Bajaj, V.V. Nemade, A. Hajdarevic, X.F. Fang, D.Y. Li, D.L. Chen, Joining of copolyamide thermoplastic-coated galvanized DP600 steel sheets using ultrasonic spot welding, **Journal of Manufacturing Processes**, 158 (2026) 35-48.
13. Qiao Chen, Dongyang Li, Bing Yang, Yunqing Tang, Lin Li, Neural networks accelerate discovery of ultralow thermal conductivity configurations in disordered graphene/h-BN multilayers, **Applied Thermal Engineering**. 292 (2026) 130338.
14. S.E. Mousavi , G.J. Diao , A.Q. He , Z. Xu , D. Fraser, Jing Li, R. Chung, R. Fang, A. Vorobyev, W.G. Chen, Q.Y. Li , D.L. Chen , D.Y. Li, Potential substitution of superalloys with high-entropy alloys: a study on erosion of Al0.5CrFe1.5NixTi0.2 in comparison with Inconel 625, **Materials Characterization**, 232 (2026) 115963; https://doi.org/10.1016/j.matchar.2025.115963.
15. Xing Li, Ruizhi Wang, Yunqing Tang , Yukui Cai, Xiaoliang Liang, Jiaqian Li, Guijiang Diao, and Dongyang Li, First-Principles Insights into Lubrication Behaviors of Gallium-Matrix Liquid Metal for Bearing Steel and Albronze Frictional Pairs, **Lubricants**, 14 (2026) 24; https://doi.org/10.3390/lubricants14010024.
16. Dewen Yang,Bingye Huang, Xiang Chen, Zhonghua Yan, Jiangen Zheng, Nana Pan, Ranran Fang, Anatoliy Y. Vorobyev, Dongyang Li, Weiping Li,The Co-Regulation Mechanism for the Indentation Size Effect and the Interface in Nb-NiTi-Nb Nano-Multilayer Films, **MSMSE**, accepted, 2026.
17. Ranran Fang, Yongyi Deng, Weiping Li *, Zhonghua Yan, Jiangen Zheng, Nana Pan, Anatoliy Y. Vorobyev, Dongyang Li, Xiang Chen, Study on Nanoindentation Properties of FCC/B2 Nanostructured Films with Superelastic NiTi Interlayers, **Materials**, accepted, 2026.
18. Ye Hao; Naiming Lin; Lin Wu; Kai Yan; Weihua Wang; Yuan Yu; Qing Zhou; Zhiqi Liu; Qunfeng Zeng; Dongyang Li; Yucheng Wu, Mechanical Wear and Friction Behavior of 30CrMnSiNi2A Steel Rocket Sled Sliders Under High-Speed and Heavy-Load Conditions: A Finite Element Analysis, **Metals**, 16 (2026) 122.
19. Zhen Xu, Guijiang Diao , Kaifan Lin, Xin Pang, Jessica Poupore, Wengang Chen, Daolun Chen, D.Y. Li, Effects of rare-earth element yttrium (Y) on the hot corrosion of AlCrFeNi medium-entropy alloy in NaCl-KCl molten salt at 750 °C, **Journal of Metals**, 2026. https://doi.org/10.1007/s11837-025-08107-2.
20. Linwei Sha, Naiming Lin, Xiaokai Li, Weihua Wang, Quanxin Shi, Zhiqi Liu, Yuan Yu, Qunfeng Zeng, Dongyang Li, Yucheng Wu, Synergistic enhancement in wear resistance of AISI 321 austenitic stainless steel (ASS) by laser surface texturing (LST) and double glow plasma surface alloying (DGPSA) with an atomic ratio of Ni: Ti=1: 2 target, **J. of Materials Science**, 61 (2026) 6903–6950; https://doi.org/10.1007/s10853-025-12139-z.
21. Xing Li, Ruizhi Wang, Yunqing Tang, Yukui Cai, Xiaoliang Liang, Jiaqian Li, Guijiang Diao, Dongyang Li, First-principles insights into lubrication behaviors of gallium-matrix liquid metal for bearing steel and albronze frictional pairs, **Lubricants** 2026, 14(1), 24; https://doi.org/10.3390/lubricants14010024.
22. Lin Li, Dongyang Li, Bing Yang, Dongbo Li, Yunqing Tang, Ultrathin Aluminum–Oxygen Interlayers Optimize Silver-Based Transparent Electrodes for High-Efficiency Photovoltaics, **Crystal Growth & Design**, 26 (2026) 1676–1685; https://doi.org/10.1021/acs.cgd.5c01463.
23. P. Aghdasi, D.Y. Li, Electron Work Function guided tailoring of $(W_{4-x}, M_x)C_4$ /doped Ni matrix Interfacial Bonding: Insights from First-Principles Calculations, **Acta Materialia**, 283 (2025) 120511.
24. Yue Guan, Dandan Zhao, Dongyang Li, Lin Zhang, Thermal Management and Phonon Transport in BAs/WSe2 Heterostructure: First-Principles Insights for Optoelectronic Applications, **Materials Today Physics**, 58 (2025) 1018432025, https://doi.org/10.1016/j.mtphys.2025.101843.
25. D. Bajaj, R. Mehavarnam, X.F. Fang, N.S. Ma, D.Y. Li, D.L. Chen, Achieving superior aluminum-steel dissimilar joining via ultrasonic spot welding: Microstructure and fracture behavior, **Materials Science & Engineering A**, 919 (2025) 147489.
26. Dong Zhang, D.Y. Li, Identify survived key features and relevant mechanisms for designing high-entropy carbides via AI or machine learning, **J. of Chem. Inf. Model**. 65 (2025) 10141–10151.
27. D. Bajaj, V.V. Nemade, N. Stöcke r , D. Suli k , X.F. Fang, N.S. Ma, D.Y. Li, D.L. Chen, Dissimilar ultrasonic spot welding of AA6016 alloy-to-DP80 0 steel: The role of a novel AlSi(Fe) PVD coating, **Journal of Manufacturing Processes**, 151 (2025) 103-119; https://doi.org/10.1016/j.jmapro.2025.07.022.

28. Meiyue Yin, Wengang Chen, Dongyang Li, Zhaoling Qiu, Zhijin Yang, Hanchong Xie, Jinming Feng, Zancong Chen, Yipeng Zhang, Effect of Adding Y2O3 on Microstructure and Wear Resistance of AlCrFeNiTi High-entropy Alloy Coating, **Ceramics International**, 2025; https://doi.org/10.1016/j.ceramint.2025.08.320.
29. Lin Wu; Naiming Lin; Ruyi Liu; Kai Yan; Ye Hao; W.H. Wang; Quanxin Shi; Yuan Yu; Zhiqi Liu; Q.F. Zeng; D.Y. Li; Yucheng Wu, Effect of laser surface texturing on sliding wear performance and wear mechanism of CoCrNi and CoCrFeMnNi alloys, **J. Mater. Sci.** (2025). https://doi.org/10.1007/s10853-025-11812-7.
30. Kaiwei Wang, Naiming Lin, Qiang Liu, Quanxin Shi, Zhiqi Liu, Qunfeng Zeng, Yuan Yu, Dongyang Li, Yucheng Wu, Enhancing corrosive-wear resistance of 316 austenitic stainless steel via surface texturing and double glow plasma surface alloying with titanium (Ti), **J. of Mater. Res. & Tech.**, 38 (2025) 5486-5497.
31. Arzoo Hassan, Marcelo L. Pereira Junior, L. Shaw, Umer Younis, Dongyang Li, Unveiling the Potential of 3D TH-Graphyne: A Porous Carbon Anode for Efficient Potassium-Ion Storage, **Physica Scripta**, 100 (2025) 1159302025; https://doi.org/10.1088/1402-4896/ae1a1d
32. Wen-wei Sun, Yong Yang, Hong-jian Zhao, Yan-wei Wang, Wei Li, Gui-jiang Diao, Wei Tian, Tao Wang, Zhao Li, Sheng-yong Gao, Huan-huan Zhang, Dong-yang Li, Influence of metal element types on the density, phase purity, and mechanical properties of high entropy carbide ceramics, **Intl. J. of Refractory Metals & Hard Mater.** 2025, DOI:10.1016/j.ijrmhm.2025.107578.
33. Yong Xie, Wengang Chen, Yu Liu, Zhihua Sha, Dongyang Li, Effect of oxidative atmosphere on laser welding properties of galvanized high-strength steel, **JMEPEG**, (2025). https://doi.org/10.1007/s11665-025-12615-2.
34. Xianlong Ji, Naiming Lin, Quanxin Shi, Yuan Yu, Zhuhui Qiao, Dongyang Li, Yucheng Wu, Oxidation and tribological performance of low-activation refractory high-entropy alloy (RHEA) WCrTaVTi0.5 prepared by spark plasma sintering (SPS), **Intl. J. of Refractory Metals and Hard Materials**, 133 (2025) 107347.
35. MENG Xianglong, LIU Ruiliang, Li D.Y., First Principles Study on the Precipitation and Properties of Carbides in the Surface Carburized Layer of Tantalum Alloys, **Acta Metallurgical Sinica**, 61 (2025) 797-808. . DOI: 10.11900/0412.1961.2024.00
36. Yachao Zhang, Jian Zhang, Wengang Chen, Haijun Wang, Zhaoling Qiu, Wen Wang, Yali Zhang, and Dongyang Li, Effect of Surface Morphology and Texture of Short-Tailed Shrew's Toe on Tribological Properties of 65Mn Steel, **Biomimetics**, 10 (2025) 631.
37. Jiangen Zheng, Ranran Fang, Zhonghua Yan, Wei Li, Dongyang Li, Anatoliy Vorobyev, Impact of a falling droplet on a sessile droplet on a surface with controllable wettability: Effects of surface wettability and Weber number, **J Colloid Interface Sci.** 699 (2025) 138151.
38. Wangpeng Wu, Guijiang Diao, Xiang Gui, Gobinda Gyawali, Chun Cheng, Naiming Lin, Yang Yang, Kang Yang, Shihong Zhang, Dongyang Li, Influences of Cu, Mn, Al, and Mo additions (X) on mechanical and tribological properties of FeCrNiCoX high-entropy coatings, **Surface & Coating Tech.**, 512 (2025) 132428.
39. Ao Wei, Guijiang Diao, Ruirui Dai, Lingbing Shi, Hai Lin, Dongyang Li, Junfeng Yuan, A new era for applications of multi-principal element alloys in the biomedical field, **Biomaterials Advances**, 172 (2025) 214244.
40. D. Bajaj, A.H. Feng, S.J. Qu, D.Y. Li, D.L. Chen, Orientation-dependent lattice rotation and phase transformation in an additively-manufactured high-entropy alloy, **J. of Mater. Sci. & Tech.**, 227 (2025) 11-25.
41. S.S. Dash, R.C. Fernandes, X. Shang, Y. Zou, H. Peng, X.Q. Jiang, X.F. Fang, N.S. Ma, D.Y. Li, D.L. Chen, Fatigue and deformation mechanisms of ultrasonic spot-welded dissimilar joints of a magnesium alloy to a clad aluminum alloy, **Journal of Magnesium and Alloys**, 2025; https://doi.org/10.1016/j.jma.2025.03.005.
42. Guijiang Diao, Dong Zhang, Yunqing Tang, Anqiang He, Yefei Zhou, Zhen Xu, Keyang Chen, Aakash Kumar, Seyed Elias Mousavi, Mingyu Wu, Wengang Chen, D.Y. Li, Mechanical properties and wear behaviors of lightweight Al3Ti-based medium-entropy alloys at elevated temperatures, **Wear**, 570 (2025) 205953; https://doi.org/10.1016/j.wear.2025.205953.
43. Ata Radnia, Mostafa Ketabchi, Anqiang He, Dongyang Li, Effects of ECAP and subsequent recovery on microstructure, mechanical, tribological and corrosion properties of Ti-6Al-4V alloy, **J. of Mater. Res. & Tech.**, 35 (2025) 4534-4542.
44. Xiangyang Zhao, Yunqing Tang, Keyang Chen, Yukui Cai, Zhanqiang Liu, Dongyang Li, Bauschinger effect in nano-grinding of 3C-SiC: a molecular dynamics study, **Wear**, 571 (2025) 205847; https://doi.org/10.1016/j.wear.2025.205847.
45. Wen Wang, Wengang Chen, Haijun Wang, Dongyang LI, Yongkang Wang,Yangrui Ou,Yachao Zhang, Effect of wave-textured composite MAO coating on tribological properties of TC4 Ti alloy for valve tappets, **Ceramic International**, 51 (2025) 12218-12230.

46. Qixuan Fu, Xiang Gui, Gobinda Gyawali, Yang Yang, Dongyang Li, Tengfei Xiang, Meisam Nouri, Shihong Zhang, Improved tribo-corrosion performance of duplex treatment on H13 steel by plasma nitriding and CrAlN coating, **Surfaces and Interfaces**, 56 (2025) 105738.
47. Zuyang Li, Wengang Chen, Dongyang Li, Jiawei Yang, Yao Zhang, Xiaodong Yang, Binggui Dai, Jihao Zhang, Zhaoling Qiu, Frictional wear properties of different nano La2O3 composite FeCoNiCrMo high-entropy alloy coatings under soil conditions, **J. of Mater. Res. & Tech.**, 35 (2025) 6874-6888.
48. Z. Xu, A. Q. He, G. J. Diao, M. Y. Wu, D. Fraser, Jing Li, R. Chung, Ranran Fang, Anatoliy Vorobyev, D.L. Chen, D.Y. Li, Solid-particle erosion resistance of NbC-reinforced AlCrFeNi medium-entropy alloy at ambient and elevated temperatures, **Wear**, 570 (2025) 205950.
49. Junfeng Yuan, Ruirui Dai, Jianhua Yue, Haitao Zhu, Kailiang Lu, Ruwei Geng, Marco Alfano, Abul Fazal Muhammad Arif, Zhiqiang Xu, Dongyang Li, Impact of post-heat treatment on the mechanical and tribological properties of GH4169/V coatings produced by laser cladding, **Wear**, 571 (2025) 205829. https://doi.org/10.1016/j.wear.2025.205829.
50. Guijiang Diao, Mingyu Wu, Anqiang He, Zhen Xu, Dhruv Bajaj, Daolun Chen, Ranran Fang, Anatoliy Vorobyev, Q.Y. Li , Dongyang Li, Adjusting (AlNi)/(FeCr) ratio to tailor microstructure and properties of A2-B2 dual-phase (AlNi)x(FeCr)100-x medium-entropy alloys, **J. of Mater. Res. & Tech.**, 34 (2025) 1921-1932.
51. Xiaodong Yang, Wengang Chen, Yao Zhang, Zuyang Li, Jiawei yang, Binggui Dai, Jihao Zhang, Dongyang Li, Zhaoling Qiu, Influence of triangular texture composite MAO coating on the tribological properties of aluminum alloys, **Tribology International**, 201 (2025) 110243.
52. Chen, W.G.; Qiu, Zhaoling; Zhang, Yao; Yang, Xiaodong; Dai, Binggui; Zhang, Jihao; Yang, Jiawei; Li, ZuYang; Li, Dongyang, Study on the corrosion resistance of HEA composite nitriding coating on 65Mn steel by laser melting, **JMEPEG**, (2025). https://doi.org/10.1007/s11665-025-11874-3.
53. Junguang Huang, Naiming Lin, Guangyuan Fu, Quanxin Shi, Zhiqi Liu, Yuan Yu, Qunfeng Zeng, Dongyang Li, Yucheng Wu, Enhancement in tribocorrosion resistance of Ti6Al4V alloy by combining laser surface texturing and double glow plasma surface tantalum alloying, **Materials Today Communications**, 49 (2025) 113754, https://doi.org/10.1016/j.mtcomm.2025.113754
54. Junfeng Guo, Kuanwen Chen, Minchen Le, Guan Wang, Guibin Tan, Dongyang Li, Jiangwen Liu, Yongkang Zhang, A study on the scratch behavior and two-body abrasion wear resistance of TiC-modified E690 steel cladding, **Wear**, 570 (2025) 205923; https://doi.org/10.1016/j.wear.2025.205923
55. Yukun Mao, Wengang Chen, Ying Li, Yifan Dai, Wenxuan Guo, Jubang Zhang, Yuhao Wang, Zexiao Wang, Lili Zheng, Dongyang Li & Naiming Lin, Simulation and Experimental Study on Tribological Properties of Herringbone Texture on 42CrMo Bearing Alloy Steel Surface, **JMEPEG**, 34 (2025) 1364-1377.
56. Meisam Nouri, et al., Critical Factors Governing the Frictional Coefficient in Mg Alloys - Learn from Machine Learning, **Engineering Reports**, accepted, 2025.
57. Kaiwei Wang, Naiming Lin, Shuying Chen, Haichao Zhao, Guozheng Ma, Quanxin Shi, Effect of bias voltage on structure, mechanical properties and tribological performance (against simulated lunar dust) of NiCrMoAl thin films deposited by DC magnetron sputtering, **J. of Mater. Res. & Tech**., 38 (2025) 1898-1910.
58. Han Li, Yong Yang, Wei Tian, Yan-fei Liu, Hong-jian Zhao, Yong-gang Wang, Hai-shan Li, Yu-xuan Shao, Sheng-yong Gao, Ai-min Li, Huan-huan Zhang, Dong-yang Li, High-Temperature Oxidation Behavior of GH5188Superalloy Foil and Its Efect on Tensile Performance, **High Temperature Corrosion of Materials** (2025) 102:23.
59. Zhen Xu, Guijiang Diao, Yunqing Tang, Keyang Chen, Kaifan Lin, Anqiang He, Doug Fraser, Jing Li, Rei Chung, Q. Y. Li and D. Y. Li, Effects of rare-earth element yttrium (Y) on the solid-particle erosion resistance of AlCrFeNi medium-entropy alloy at ambient and elevated temperatures, **Front. Coat. Dyes Interface Eng.**, 3 (2025) 1598207; https://doi.org/10.3389/frcdi.2025.1598207.
60. Zhihua Sha, Yong Xie, Wengang Chen, Yu Liu; Dongyang Li, Effect of oxidative atmosphere on laser welding properties of galvanized high-strength steel, **JMEPEG,** 2025, https://doi.org/10.1007/s11665-025-12615-2.
61. Guijiang Diao, Yunqing Tang, Anqiang He, Mingyu Wu, Dong Zhang, Doug Fraser, Jing Li, Reinaldo Chung, Dongyang Li, Tune Al/Ti to adjust FCC+L21 hetero-structured Ni-based high-entropy alloys for improvedmechanical properties and wear resistance, **Acta Materialia**, 281 (2024) 120399.
62. S.S. Dash, Z.Y. Liu, Y. Zou, D.J. Li, X.Q. Zeng, D.Y. Li, D.L. Chen, Cyclic deformation behavior of an overaged high-pressure die-cast aluminum alloy, **Materials Science & Engineering A**, 915 (2024) 147246.

63. Shangwu Men, Panpan Yang, Gobinda Gyawali, Yang Yang, Dongyang Li, Meisam Nouri, Shihong Zhang, Insight into the corrosion behaviors and mechanism of arc discharge plasma nitrided H13 steel in molten Al-Si, **Applied Surface Science**, 670 (2024) 160584.
64. Xiaodong Yang, Wengang Chen, Yao Zhang, Zuyang Li, Jiawei Yang, Binggui Dai, Jihao Zhang, Dongyang Li, Zhaoling Qiu, Tribological Properties of MAO Coating Deposited on Aluminum Base Bearing Alloy with Different Texture Shapes, **Surface and Coatings Technology**, 492 (2024) 1311912024,
65. Bingyan Duan, Feng Han, Naiming Lin, Meisam Nouri, Zhiqi Liu, Yuan Yu, Qunfeng Zeng, Dongyang Li, Yucheng Wu, Wear performance of CoCrFeMnNi and CoCrFeMnNi-SiC coatings on 0Cr18Ni9Ti stainless steel fabricated by plasma transfer arc cladding, **Tribology International,** 200 (2024) 110163.
66. Yao Zhang, Wengang Chen, Xiaodong Yang, Zuyang Li , Binggui Dai, Jihao Zhang, Jiawei Yang, Dongyang Li, Effect of crescent-shaped texture based on different depths and orientations on the frictional properties of cam tappets, **J. of Mater. Res. & Tech.**, 31 (2024) 1826-1836.
67. Zhaoling Qiu, Wengang Chen; Dongyang Li; Haijun Wang; Jihao Zhang; Yao Zhang; Yongkang Wang; Xiaodong Yang; Zuyang Li; Binggui Dai, Preparation of large-area superhydrophobic and anti-icing 3D micro-nano-structures using femtosecond Bessel beams with fluorination treatment, **Applied Surface Science**, 664 (2024) 160239.
68. Huanhuan Wang, Naiming Lin, Shuo Yuan, Zhiqi Liu, Yuan Yu, Qunfeng Zeng, Jianfeng Fan, Dongyang Li, Yucheng Wu, Effects of structural improvement, material selection and surface treatment on the tribological performance of key friction pairs in axial piston pumps: A review, **Tribology International,** 198 (2024) 109838.
69. WEI Beichao, CHEN Wengang, GUO Siliang, CHENG Jiahao,YUAN Haoen, ZHOU Yihao, LUO Hai, Dongyang LI, Study on the Tribological Characteristics of Surface Triangular Textured TC4 Alloy Prepared by SLM Technology, **Surface and Coatings Technology**, 482 (2024)130735.
70. Guijiang Diao, Junfeng Yuan, Anqiang He, Dong Zhang, Aakash Kumar, Ranran Fang, Anatoliy Vorobyev, Wengang Chen, Dongyang Li, Transformation from D022 to L12 in Al3Ti by Fe Addition for Enhanced Wear Resistance, **Lubricants**, 12 (2024) 3988.
71. Jipeng Jiang, D.Y. Li, Shaoqiang Li, Yunjin Lai, Assessment on oxidation behaviors of high chromium white iron matrix composite in high temperature air environment, **Composites Communications**, 48 (2024) 101920.
72. Guijiang Diao, Mingyu Wu, Zhen Xu, Q.Y. Li, Dongyang Li, Manipulating A2/B2 microstructure via adjusting Al/Ni ratio in cost-effective Fe-based AlNiFeCr alloys for controllable strength-plasticity combination, **Materials Characterization**, 210 (2024) 113845.
73. Jiangen Zheng, Ranran Fang, Zhaoyi Xu, Tianle Lv, Dongyang Li, and Anatoliy Vorobyev, Impact dynamics of water droplets on oil-covered dielectrowetting substrate: Effects of oil film thickness and surface wettability, **Applied Surface Science**, 659 (2024) 159886.
74. Z. Xu, D.Y. Li, G. J. Diao, M. Y. Wu, D. Fraser, Jing Li, R. Chung, Q.Y. Li, Effects of NbC addition on mechanical and tribological properties of AlCrFeNi medium-entropy alloy, **Tribology International,** 194 (2024), 109486.
75. Z. Xu, Y.Q. Tang, A.Q. He, W.G. Chen, D.L. Chen¸ D.Y. Li, Opposite Bauschinger effect on wear and machining of high-entropy alloy AlCoCrFeNix, **Metall. Mater. Trans. A**, 55 (2024) 2098–2115.
76. Jie Li, Huanhuan Hong, Lei Sun, Yang Yang, Dongyabg Li, Shihong Zhang, Argon ion sputtering bridging plasma nitriding and GLC film deposition: Effects on the mechanical and tribological properties, **Surface and Coatings Technology**, 479 (2024) 130559.
77. S.S. Dash, S. Biswas, H. Peng, X.Q. Jiang, D.Y. Li, D.L. Chen, Deformation behavior of dissimilar ultrasonic spot-welded joints of a clad 7075 aluminum alloy to galvanized high-strength low-alloy steel, **Materials Science & Engineering A**, 894 (2024) 146179.
78. Guijiang Diao, Anqiang He, Mingyu Wu, Yuqing Tang, W.G. Chen, Q.Y. Li, Dongyang Li, Lightweight Al3Ti-based medium-entropy alloys with well-balanced strength and ductility, **Scripta Materialia**, 242 (2024) 115928.
79. Lin Wu, Naiming Lin, Kai Yan, Weihua Wang, Yuan Yu, Qunfeng Zeng, Dongyang Li, Yucheng Wu, Numerical simulation on high-speed and heavy-load wear behavior of CoCrNi and CoCrFeMnNi alloys, **Tribology International**, 192 (2024) 109277.
80. Wangpeng Wu, Guangrui Xie, Lei Sun, Yang Yang, Huanhuan Hong, Shihong Zhang, Dongyang Li, A study on adsorption, dissociation, penetration, and diffusion of nitrogen on and in α-Ti via First-principles calculations, **Vacuum**, 221 (2024) 112856.
81. Xin Lei, Naiming Lin, Shuo Yuan, Chenqing Liu, Meisam Nouri, Zhiqi Liu, Yuan Yu, Qunfeng Zeng, Guanshui Ma, Dongyang Li, Yucheng Wu, Combining laser surface texturing and double glow plasma surface chromizing

to improve tribological performance of Ti6Al4V alloy, **Surface & Coatings Technology**, 478 (2024) 130418.

82. MAO, Yukun; Chen, Wen-Gang; Li, Ying; Dai, Yifan; Guo, Wenxuan; Zhang, Jubang; Wang, Yuhao; Wang, Zexiao; Zheng, Lili; Li, Dongyang, Simulation and experimental study on tribological properties of herringbone texture on cemented carbide surface, **JMEPEG**, 2024, https://doi.org/10.1007/s11665-023-09092-w..
83. Fenger Sun, Guowei Zhang, Hong Xu, Dongyang Li, and Yizheng Fu, Theoretical Analysis of Stacking Fault Energy, Elastic Properties, Electronic Properties, and Work Function of MnxCoCrFeNi High-Entropy Alloy, **Materials**, 17 (2024) 4378. https://doi.org/10.3390/ma17174378.
84. ZHOU Yihao, CHEN Wengang, CHENG Jiahao, GUO Siliang, WEI Beichao, YUAN Haoen, Dongyang Li,.Effect of Laser Texture Shape Spacing on Friction and Wear Characteristics of Monocrystalline Silicon, **Surface Technology**, 53 (2024)127-139.
85. Kun Wang, Dongyang Li, Xingli Zou, Hongwei Cheng, Chonghe Li, Xionggang Lu, Kuochih Chou, Generic bond energy formalism within the modified quasichemical model for ternary solutions, **J. of Molecular Liquids**, 370 (2024) 120932.
86. Chaoyu Lin, Huiqin Zhou, Anlin Feng, Qingyang Li, Dongyang Li, Catalytic transformation of 4-nitrophenol into 4-aminophenol over ZnO nanowire array-decorated Cu nanoparticles, **Green Chemical Engineering**, 5 (2024) 205-212.
87. Jie Li, Lei Sun, Jinming Xie, Yang Yang, Dongyang Li, and Shihong Zhang, Catalytic Growth of High-performance Graphite-like Carbon Films on a Nitrided Substrate: Experimental Study and First-Principles Calculations, **ACS Appl. Mater. Interfaces**, 15 (2023) 49814–49825.
88. Mingyu Wu, Rui Ken Sim, Anqiang He, Guijiang Diao, Wengang Chen, Daolun Chen, Dongyang Li, Mechanisms underlying the influence of Co and Ti on the microstructure, mechanical and wear properties of A2/B2 typed AlCrFeNi alloy, **Journal of Alloys and Compounds**, 569 (2023) 172070.
89. Mingyu Wu, Rui Ken Sim, Anqiang He, Guijiang Diao, Daolun Chen, Dongyang Li, Enhancing Mechanical Performance and Wear Resistance of Co-free B2/A2 CrFeNiAl Alloy via Cr and Ti Adjustment, **MRS Bulletin**, 2023, DOI: 10.1557/s43577-023-00624-2.
90. Jing Luo, Ziran Liu, Dongyang Li, Electronic and strain-elimination effects of solute–vacancy interaction in molybdenum, **J. of Appl. Phys.**, 133 (2023) 125106.
91. Wengang Chen, Jiahao Cheng, Dongyang Li, Hongyan Chen, Siliang Guo, Yihao Zhou, Haoen Yuan, Beichao Wei, Effect of spherical crown texturing and ionized sulfur infiltration on the tribological performance of piston-cylinder liner, **Tribology International**, 189 (2023) 108969.
92. Huanhuan Wang, Naiming Lin, Meisam Nouri, Zhiqi Liu, Yuan Yu, Qunfeng Zeng, Guanshui Ma, Jianfeng Fan, Dongyang Li, Yucheng Wu, Improvement in surface performance of stainless steel by nitride and carbon-based coatings prepared via physical vapor deposition for marine application, **J. of Mater. Res. & Technl.,** 27 (2023) 6021-6046.
93. P. Aghdasi and D.Y. Li, Work of Adhesion Analysis for Metal-Substituted W_4C_4 Carbides in Cobalt Matrix, **Langmuir**, 39 (2023) 18746–18756.
94. Jinming Xie, Jie Li, Qixuan Fu, Wangpeng Wu, Yang Yang, Dongyang Li, Shihong Zhang, Graphite-like carbon films catalytically grown on a carburized substrate with an antenna structure at the interface: Experiments and first-principles calculations, **Applied Surface Science**, 639 (2023) 158095.
95. G.J. Diao, A.Q. He, Y.Q. Tang, M.Y. Wu, D. Zhang, W.G. Chen, D.L. Chen, D.Y. Li, Effects of Al and Ti on microstructure, mechanical properties and wear resistance of TiXCrFe2Ni2 alloys, **Mater. Sci. and Eng. A**, 879 (2023) 145242
96. Yefei ZHOU, Yu Tian, Shuo Meng, Silong ZHANG, Xiaolei XING, Qingxiang YANG, Dongyang LI, An open-source tribometer with high repeatability and reliability: development and performance assessment, **Tribology international**, 184 (2023) 108421.
97. Wentao Jiang, Hao Lu, Xuemei Liu, Haibin Wang, Dongyang Li, Chao Liu, Mingsheng Wang, Xiaoyan Song, Outstanding high-temperature oxidation- and wear- resistance of WC based cermets. **Journal of Materials Science & Technology**, 155 (2023) 33-46.
98. G.J. Diao, Mingyu Wu, Anqiang He, Zhen Xu, Seyed Elias Mousavi, and D.Y. Li, Manipulate A2/B2 structures in AlCrFexNi alloys for improved mechanical properties and wear resistance, **Lubricants**, 11 (2023) 392.
99. Junfeng Gou, Jinbao Guo, Jieyu Zhu, Jiawen Yao, Dongyang Li, You Wang, Jiangwen Liu, Yang Yang, Effect of graphene on the microstructure, mechanical properties and wear behavior of plasma sprayed Al2O3-Cr2O3 coating, **Intl. J. of Appl. Ceramic Technl.,** 2023. https://doi.org/10.1111/ijac.14562.

100. S.S. Dash, Z.Y. Liu, Y. Zou, D.J. Li, X.Q. Zeng, D.Y. Li, D.L. Chen, Strengthening mechanisms and work hardening in a heterostructured cast aluminum alloy under compressive loading: Correlation with nanomechanical properties, **Journal of Alloys and Compounds**, 968 (2023) 171844.
101. Jipeng Jiang, D.Y. Li, Effect of 211 MAX phase Ti2AlC in situ formed TiCx on properties of high chromium white iron, **Materials Letters**, 352 (2023) 135112.
102. D. Zhang, D.Y. Li, A further look at the nano/micro-indentation method for measuring and ranking Young's modulus and hardness of materials, **Physica Scripta**, 98 (2023) 095936.
103. Jipeng Jiang, Shibo Li, Wenbo Yu, Yang Zhou, Dongyang Li, Oxidation behavior of high Cr white iron composites reinforced with two types of TiC in air at 600C, **J. of Mater. Res. & Technl.**, 25 (2023) 5982-5989.
104. D. Bajaj, Z. Chen, S.J. Qu, A.H. Feng, D.Y. Li, D.L. Chen, Distinct origins of deformation twinning in an additively-manufactured high-entropy alloy, **Additive Manufacturing**, 74 (2023) 103716
105. D. Bajaj, A.H. Feng, S.J. Qu. Chen, D.Y. Li, ' Deformation behavior of 3D-printed high-entropy alloys: A critical review, **Advanced Engineering Materials**, 2023 https://doi.org/10.1002/adem.202300615.
106. Jipeng Jiang; Deqiang Chen; D.Y. Li, Shibo Li, Oxidation behavior of high Cr white iron composites reinforced with TiC and nonstoichiometric TiCx in air at 600 °C, **J. of Mater. Res. Tech.**, 25 (2023) 5982-5989.
107. M.j. Palimi, Y.Q. Tang, S. E. Mousavi, Wengang Chen, V. Alvarez, E. Kuru, D.Y. Li, Tribo-corrosion behavior of C-steel in water-based emulsion drilling fluids containing green corrosion inhibitors: experimental and computational studies, **Tribology International**, 187 (2023) 108728.
108. MAO, Yukun; Chen, Wen-Gang; Li, Ying; Dai, Yifan; Guo, Wenxuan; Zhang, Jubang; Wang, Yuhao; Wang, Zexiao; Zheng, Lili; Li, Dongyang, Simulation and experimental study on tribological properties of herringbone texture on cemented carbide surface, **JMEP**, accepted, 2023.
109. R.J. Chung, J. Jiang, C. Peng, B. Yu, R. Eadie, D.Y. Li, Erosion-corrosion behaviour of high manganese steel used in slurry pipelines, **Wear**, 530–531 (2023) 204885.
110. Jipeng Jiang, D.Y. Li, Preparation and properties of in situ formed TiCx/high chromium white iron composite with honeycomb structure, **Materials Letters**, 342 (2023) 134341.
111. S.S. Dash, D.J. Li, X.Q. Zeng, D.Y. Li, D.L. Chen, On the origin of deformation mechanisms in a hetero-structured aluminum alloy via slip trace and lattice rotation analyses, **Mater. Sci. & Eng. A**, 867 (2023) 144723.
112. Mingyu Wu, Guijang Diao, Zhen Xu, Ruiken Sim, W. Chen, Daolun Chen, Dongyang Li, Investigation of Mechanical Properties and Wear Resistance of A2/B2 Type Medium-Entropy Alloy Matrix Reinforced with Tungsten Particles by In-Situ Reaction, **Metals**, 13 (2023) 656.
113. Y.Q. Tang, A. Kumar, D.L. Chen, D.Y. Li, Q.Y. Li, W. Li, Bauschinger effect on wear of cold-worked Cu and Mg – A study combining molecular dynamics modeling and experimental investigation, **Wear**, 522 (2023) 204726.
114. H.Peng, D.L.Chen, S.F.Guo, H.Hong, K.H.Zheng, X.F.Bai, D.Y.Li, X.Q.Jiang, Dissimilar ultrasonic spot welding of rare-earth containing ZEK100 magnesium-to-aluminum alloy with a zinc interlayer: Microstructural evolution and mechanical properties, **Journal of Manufacturing Processes**, 92 (2023), Pages 422-434.
115. Z. Xu, D.Y. Li, Microstructure, mechanical properties, and wear behavior of AlCoCrFeNi high-entropy alloy and AlCrFeNi medium-entropy alloy with WC addition, **Wear**, 522 (2023) 204701.
116. S.S. Dash, D.J. Li, X.Q. Zeng, D.Y. Li, D.L. Chen, Deformation behavior of a newly-developed T4-treated Al-Si die cast alloy, **Mater. Sci. & Eng. A**, 866 (2023) 144283.
117. Y.F. Dai, Z.F. Tan, W.G. Chen, D.Y. Li, J.B. Zhang, Z.X. Wang, Y.K. Mao, Y.H. Wang, W.X. Guo, Effect of salt bath nitriding and reoxidation composite texture on frictional properties of valve steel 4Cr10Si2Mo, **Coatings**, 13 2023) 776.
118. S.E. Mousavi, A.Q. He, M. Palimi, D.L. Chen, D.Y. Li, Influences of alloying elements on microstructure and tribological properties of a medium-weight high-entropy alloy, **Wear**, 524-525 (2023) 204856.
119. Yefei ZHOU, Zhihao CHEN, Dongyang LI, Tao ZHANG, Silong ZHANG, Xiaolei XING, Qingxiang YANG, Metastable hybridized structure transformation in amorphous carbon films during friction - A study combining experiments and MD simulation, **Friction**, 11(2023) 1708–1723.
120. Huanhuan Wang, Naiming Lin, Shuo Yuan, Zhiqi Liu, Yuan Yu, Qunfeng Zend, D.Y. Li, Jianfeng Fan, Yucheng Wug, Numerical simulation on hydrodynamic lubrication performance of bionic multiscale composite textures inspired by surface patterns of Subcrenata and Clam shells, **Tribology International**, 181 (2023) 108335.
121. Aakash Kumar, Yunqing Tang, D.Y. Li, D.L. Chen, Wei Li, Q.Y. Li, Influence of solution-hardening on the mechanical properties and wear resistance of copper alloys, **Wear**, 523 (2023) 204869.

122. Mingyu Wu, Guijiang Diao, J.F. Yuan, D. Fraser, Jing Li, R. Chung, D.Y. Li, Corrosion and corrosive wear of AlCrFeCoNi and Co-free AlCrFeNi-Tix (x = 0 ~ 1.5) high-entropy alloy in 3.5 wt. % NaCl and H2SO4 (pH = 3) solutions, **Wear**, 523 (2023) 204765.
123. P. Aghdasi, D.Y. Li, Interfacial bonding between iron and Mo- and Cr- doped tungsten carbides, **J. Appl. Phys**., 133 (2023) 045301.
124. Yunqing Tang, D.Y. Li, Influences of C, Si and Mn on the wear resistance of coiled tubing steel, **Wear**, 524-525 (2023) 204854.
125. Wengang Chen, Zexiao Wang; Luzhong Zhang; Dongyang Li; Wenxuan Guo; Yuhao Wang; Yifan Dai; Ynkun Mao; Hao Li; Lili Zheng, Surface texture and heat treatment on the friction performance of cam tappet experimental and fluid-solid coupling numerical study, **Tribology International**, 179 (2023) 108124.
126. Guijiang Diao, Anqiang He, Mingyu Wu, Zhen Xu, D.Y. Li, Using C to enhance the wear resistance of AlCrFe2Ni4Ti2 high-entropy alloy by replacing brittle phases with in-situ TiC in a matrix with improved ductility, **Wear**, 523 (2023) 204822.
127. Dong Zhang, X.H. Tang, Edward Humphries, D.Y. Li, V-substituted $Ti_{1-x}V_xC$ carbides in comparison with Mono-TiC carbide – a study combining first-principle calculations and experiments, **Wear**, 523 (2023) 204808.
128. M.J. Palimi, V. Alvarez, E. Kuru, W.G. Chen, D.Y. Li, Effects of sliding speed on corrosion and tribo-corrosion Of carbon steel in emulsion-based drilling fluids with green corrosion inhibitors, **J of Bio- & Tribo-corrosion**, (2023) 9:2.
129. Yunqing Tang, D.Y. Li, Dynamic response of high-entropy alloys to ballistic impact, **Science Advances** 8, eabp9096 (2022).
130. Yunqing Tang, Dong Zhang, Ruiliang Liu, and Dongyang Li, Protocol for prediction of mechanical properties of multi-element ceramics via machine-learning, **STAR Protocols, Cell Press**, 3 (2022) 101552.
131. Guijiang Diao, Anqiang He, D.Y. Li, Mingyu Wu, Zhen Xu, Wei Li, Q.Y. Li, Tune a highly ductile AlCrFe2Ni4 alloy by Ti addition for desired high mechanical strength, **Mater. Sci. & Eng. A**, 856 (2022) 143910.
132. Dong Zhang, Y.Q. Tang, R. L. Liu, D.Y. Li, Q.Y Li, and Wei Li, "Genes" for material tailoring: begin with the electron work function for MoC carbide modification – a first-principles study, **J. Appl. Phys.**, 132 (2022) 135106.
133. A. He , Y.Q. Tang , M. Y. Wu , D.L. Chen , and D. Y. Li, A simple surface treatment for Mg to gain enhanced resistance to corrosion and corrosive wear by hammering Al powder-covered Mg substrate, **Adv. Mater. Interfaces**, 2022, 2200087.
134. S.S. Dash, D.J. Li, X.Q. Zeng, D.Y. Li, D.L. Chen, Low-cycle fatigue behavior of Silafont®-36 automotive aluminum alloy: Effect of negative strain ratio, **Mater. Sci. & Eng. A**, 852 (2022) 143701.
135. Shuo Yuan, Jiaojuan Zou, Naiming Lin, Hongxia Zhang, Dongyang Li, Yucheng Wu, Understanding the protective role of a gradient titanium oxide ceramic layer on Ti6Al4V against corrosion via analyses of Mott-Schottky curve and electron work function (EWF), **Ceramic International**, 48 (2022) 31896-31901.
136. M.j. Palimi, Y. Tang, M. Wu, V. Alvarez, M. Ghavidel, E. Kuru, Q.Y. Li , W. Li, D.Y. Li, Improve the tribo-corrosion behavior of oil-in-water emulsion-based drilling fluids by new derivatives of fatty acid-based green inhibitors,**Tribology International,** 174 (2022) 107723.
137. Raymond Christopher Setiawan, Mingyu Wu, D.Y. Li, The dependence of interfacial adhesion between substances on their electron work functions, **Langmuir**, 38 (2022) 1672 - 1679.
138. Zhenyang Xu, Junfeng Yuan, Mingyu Wu, Abul Fazal Muhammad Arif, Dongyang Li, Effect of Laser Cladding Parameters on Inconel 718 Coating Performance and Multi-parameter Optimization, **Optics & Laser Technology**, 158 (2022) 108850.
139. Mingyu Wu, Junfeng Yuan, Guijiang Diao, Dongyang Li, Achieving a combination of higher strength and higher ductility for enhanced wear resistance of AlCrFeNiTi0.5 high-entropy alloy by Mo addition, **Metals**, 12 (2022) 1910.
140. Liu Yang, Yu Li, Deguo Wang, Yanbao Guo, Dongyang Li, CFD research of deposition particles transportation with washing tools during wellbore cleanout, **J. of Petroleum Sci. and Eng.**, 219 (2022) 111097.
141. Ke Chen, Hongbo Pan, Mingyu Wu， Xianfa Wang, Dongyang Li, Wear-resistant Fe6AlCoCrNi medium-entropy alloy coating made by laser cladding, **Metals**, 12 (2022) 1686.
142. Wengang chen, Hongze Yin; Dongsheng Xia; Huajie Wu; Peiyao Jing; Long Chen; Luzhong Zhang; Yuhao Wang; Zexiao Wang; Dongyang Li, Friction Properties of Graphite Coating Deposited on Wedge-shaped Textured Aluminum Alloys Prepared by 3D Printing, **J. of Mater. Res. and Technol**., 20 (2022) 4452-4472.

143. M.J. Palimi, Y. Tang, V. Alvarez, E. Kuru, D.Y. Li, Green corrosion inhibitors for drilling operation: new derivatives of fatty acid-based inhibitors in drilling fluids for 1018 carbon steel in CO2-saturated KCl environments, **Mater. Chem. Phys.**, 288 (2022) 126406.
144. R.K. Sim, Z. Xu, M.Y. Wu, A. He, D.L. Chen, D.Y. Li, Microstructure, mechanical properties, corrosion and wear behavior of high-entropy alloy AlCoCrFeNix (x>0) and medium-entropy alloy (x=0), **J. of Mater. Sci.**, 57 (2022) 11949 – 11968.
145. R.L. Liu, D. Zhang, Y.Q. Tang, D.Y. Li, DFT Investigation of physical properties and electronic structure of metastable cubic CrC doped or partially substituted with transitional metals, **J. of Appl. Phys.**, 131 (2022) 085108.
146. Mingyu Wu, Raymond C. Setiawan, D.Y. Li, Benefits of passive element Ti to the resistance of AlCrFeCoNi high-entropy alloy to corrosion and corrosive wear, **Wear**, 492–493 (2022) 204231.
147. Long Chen, Wengang Chen, Dongyang Li, Peiyao Jing, Hongze Yin, Huajie, Wu, Yong Xie, Xiaonan Wang, Effect of nano-La2O3 doping on the tribological behavior of laser cladded WC-12Co coating on 65Mn steel under water lubrication condition, **Tribology International,** 169 (2022) 107428.
148. S.S. Dash, D.J. Li, X.Q. Zeng, D.Y. Li, D.L. Chen, Cyclic deformation behavior and fatigue life prediction of an automotive cast aluminum alloy: A new method of determining intrinsic fatigue toughness, **Fatigue Fract Eng Mater Struct**. 45 (2022) 725–738.
149. Aakash Kumar, D.Y. Li, Clarification of the puzzled effects of cold-work on wear of metals from the viewpoint of wearing energy consumption, **Tribology Letters**, (2022) 70:3.
150. Peiyao Jing, Haijun Wang, Wengang Chen, Long Chen, Hongze Yin, Huajie Wu, Dongyang Li, Effect of Ti addition on microstructure and tribological properties of laser cladding Ni35/WC coating in an oxygen-free environment, **Surface and Coatings Technology,** 440 (2022) 128480.
151. Meisam Nouri and D.Y. Li, The Yttrium-Incorporated Aluminizing of Mg-3%Al Alloy for Improved Tribological and Corrosion Properties, **JMEPEG**, 31 (2022) 3218–3227
152. X.C . Luo, H.L. Liu, L.M. Kang, Z.J. Li, Y.F. Liu, Z.H. Huang, D.T. Zhang, D.Y. Li, D.L. Chen, Achieving superior superplasticity in a Mg-6Al-Zn plate via multi-pass submerged friction stir processing, **Acta Metallurgica Sinica**, 35 (2022) 757–762.
153. Yang Liu, Li Yu, Wang Deguo, Li Dongyang, Particles transportation and deposition behavior during horizontal wellbore exploitation, **J. of Energy Resource Tech.**, 2022. https://doi.org/10.1115/1.4056177
154. Yunqing Tang, Dong Zhang, Ruiliang Liu, Dongyang Li, Designing high-entropy ceramics via incorporation of the bond-mechanical behavior correlation with the machine-learning methodology, **Cell Reports Physical Science**, 2 (2021) 100640.
155. Hongbo Pan, Weiming Liu, Huiting Wang, Yonggang Liu, Yaqiang Tian, Ke Chen, Xiaohui Shen, Hua Zhan, Xiangyang Mao, Yangyang Xiao, D.Y. Li, Understanding crystallographic orientation, microstructure and mechanical properties dependent interaction between recrystallization and phase transformation of a Fe-Al-Mn-Mo-C dual-phase steel, **J. of Mater. Res. and Technol**., 15 (2021) 6190-6203.
156. R.L. Liu, D.Y. Li, Electron work function as an indicator for tuning the bulk modulus of MC carbide by metal-substitution: A first-principles computational study, **Scripta Materialia**, 204 (2021) 114148.
157. Aakash Kumar, D.Y. Li, Can the H/E ratio be generalized as an index for the wear resistance of materials? **Materials Chemistry and Physics**, 275 (2021) 125245.
158. Puquan Wang, Daolun Chen, Yunqi Yan, Xinwei She, Feng Bo, Yang, Ran, He Peng, Dongyang Li, Xianquan Jiang, Hierarchical morphology and formation mechanism of colli-sion surface of Al/steel dissimilar lap joints via electromagnetic pulse welding, **Metals**, 11 (2021) 1468.
159. Jia Liang, Zi-Ran Liu, Kui Rao, Jing-Xin Hu, and Dong-Yang Li, First-principles calculation for displacive phase transition of atomic-scale precipitates in aluminum alloys, **Physics Letters A**, 411 (2021) 127569.
160. Yuzhuo Luo, Yunqing Tang, Tsai-Fu Chung, Cheng-Ling Tai, Chih-Yuan Chen, Jer-Ren Yang, D.Y. Li, Electron work function – an indicative parameter towards a novel material design methodology, **Scientific Repor**ts, (2021) 11:11565
161. Xicai Luo, Haolin Liu, Limei Kang, Jielin Lin, Yifei Liu, Datong Zhang, Dongyang Li and Daolun Chen, Stretch Formability of an AZ61 Alloy Plate Prepared byMulti-Pass Friction Stir Processing, **Materials**, 14 (2021) 3168.
162. Jiaqi Li, Yunqing Tang, X. Tang, D.Y. Li, Promoting in situ formation of core-shell structured carbides in high-Cr cast irons by boron addition, **J. of the American Ceramic Society**, 104 (2021) 4891-4901.
163. Raymond Christopher Setiawan, and D.Y. Li, Tuning the conductivity and electron work function of Spin-

Coated PEDOT:PSS/PEO nanofilm for enhanced interfacial adhesion, **Langmuir**, 37 (2021) 4924-4932.

164. R.L. Liu, D. Zhang, Y.Q. Tang, X.H. Tang, Edward Humphries, D.Y. Li, (W1-x,Mx)C carbides with desired combinations of compatible density and properties – A first-principles study, **J Am Ceram Soc.**, 104 (2021) 4239–4256.
165. R. J. Chung, J.Jiang, C. Pang , B. Yu , R. Eadie , D.Y. Li, Slurry-erosion behaviour of steels used in slurry pipelines, **Wear**, 477 (2021) 203771.
166. Yunqing Tang , Hongbo Pan, D.Y. Li, Contribution of cold-work to the wear resistance of materials and its limitation – A study combining molecular dynamics modeling and experimental investigation, **Wear**, 476 (2021) 203642.
167. Yuzhuo Luo, Yunqing Tang, Liqiu Guo, D.Y. Li, Microstructure – electron work function relationship: a crucial step towards "electronic metallurgy", **Materials Today Communications**, 26 (2021) 101977
168. Liu Yang, Jiaqi Li, Deguo Wang, Yanbao Guo , Qingyang Li , Wei Li , Renbo Xu, D.L. Chen, D.Y. Li, Understand the large difference in properties among coiled tubing steels having similar microstructures via electron work function analysis, **Wear**, 466–467 (2021) 203585.
169. Fenger Sun, Guowei Zhang, Heping Liu, Hong Xu, Yizheng Fu, Dongyang Li, Effect of transition-elements substitution on mechanical properties and electronic structures of B2-AlCu compounds, **Results in Physics**, 21 (2021) 103765.
170. H.P. Liu, Z.H. Yang, L.L. Liu, E.F. Sun, Y.X. Min, D.Y. Li, Microstructure and thermodynamic analysis of graphene-reinforced coating surface, **Mater. Sci. Forum**, 1033 (2021) 56-60.
171. Yunqing Tang, D.Y. Li, Nano-tribological behavior of high-entropy alloys CrMnFeCoNi and CrFeCoNi under different conditions: A molecular dynamics study, **Wear**, 476 (2021) 203583.
172. Zhen Xu, D.Y. Li, Effect of Ti on the wear behavior of AlCoCrFeNi high-entropy alloy during unidirectional and bi-directional sliding wear processes, **Wear**, 476 (2021) 203650.
173. Liqiu Guo, Yunqing Tang, Juan Cui, Jiaqi Li, Jer-Ren Yang, D.Y. Li, Tailoring M7C3 carbide via electron work function-guided modification, **Scripta Materialia**, 190 (2021) 168-173.
174. D.Y. Li, Hongbo Pan, A wearing energy model, **J. of Applied Physics**, 128 (2020) 195105.
175. Yang Yang, X.Z. Dai, X.R. Yang, S.H. Zhang, D.Y. Li, First-principles analysis on the role of rare-earth doping in affecting nitrogen adsorption and diffusion at Fe surface towards clarified catalytic diffusion, **Acta Materialia,** 196 (2020) 347-354.
176. F Sun, G Zhang, X Ren, M Wang, H Xu, Y Fu, Y Tang, D Li, First-principles studies on phase stability, anisotropic elastic and electronic properties of Al-La binary system intermetallic compounds, **Materials Today Communications**, 24 (2020) 101101.
177. Mingyu Wu, Ke Chen, Zhen Xu, D.Y. Li, Effect of Ti addition on the sliding wear behavior of AlCrFeCoNi high-entropy alloy, **Wear**, 462–463 (2020) 203493.
178. Ze Wang, D.Y. Li, Yuan-Yuan Yao, Yu-Lin Kuo, Chun-Hway Hsueh, Wettability, electron work function and corrosion behavior of CoCrFeMnNi high entropy alloy films, **Surface and Coatings Technology**, 400 (2020) 126222.
179. S.M.A.K.Mohammed, Y.D.Jaya, A.Albedah, X.Q.Jiang, D.Y.Li, D.L.Chen, Ultrasonic spot welding of a clad 7075 aluminum alloy: Strength and fatigue life, **International Journal of Fatigue**, 141 (2020) 105869.
180. Runfang Hou , Mingyu Wu, Qingyang Li, Wei Li, D.L. Chen, D.Y. Li, Effects of Mo and B additives on hardness and the resistance of Cu-Ni alloy to wear, corrosion and corrosive wear, **Metals and Materials International**, 27 (2020) 4911–4921.
181. Hongbo Pan, Xiaohui Shen, Dongyang Li, Yonggang Liu, Jinghua Cao, Yaqinag Tian, Hua Zhan, Huiting Wang, Zhigang Wang, Yangyang Xiao, Effect of annealing process on microstructure, texture, and mechanical properties of a Fe-Si-Cr-Mo-C deep drawing dual-phase steel, **Crystals**, 10 (2020) 777.
182. Shu-hao Deng, Hao Lu, D.Y. Li, Influence of UV light irradiation on the corrosion behavior of electrodeposited Ni and Cu nanocrystalline foils, **Scientific Reports - Nature**, (2020) 10:3049 |
183. R.H. Li, Y.L. Lv, M.M. Xue, X.Q. Deng, D.Y. Li, Yanchun Dong, Microstructure and properties of reactive plasma sprayed nano-TixCr1-xN ceramic coating, **Surface and Coatings Technology,** 391 (2020) 125658.
184. JianYu Suna, XiangYang Mao, Xiaomeng Zhou, XiuMingZhao, DongYang Li, Effect of loads on wear behavior of carbon steel surface with gradient microstructure at high temperature, **Materials Letters**, 261 (2020) 126999.
185. H. Peng, D.L. Chen, X.F. Bai, P.Q. Wang, D.Y. Li, X.Q. Jiang, Microstructure and mechanical properties of

Mg -to-Al dissimilar welded joints with an Ag interlayer using ultrasonic spot welding, **J. of Magnesium and Alloys**, 8 (2020) 552-563.

186. Guomin Hua, Linbo Chen, Jianhong Yang, Yang Qi, Xinglong Dong, Dongyang Li, Shuai Zhang, Xiaonong Cheng, Effect of Co-alloying Ti and V on microstructure, mechanical andtribological properties of (Wx,Tiy,V1 -x-y)CeCo alloys: A combined theoretical and experimental study, **JALCOM**, 803 (2019) 379-393.
187. Hongbo Pan, Yong Wan, Huiting Wang, Xiaohui Shen, Bin Fu, DY. Li, Yongjuan Dai, Jun Yan, An Investigation of Friction Coefficient on Microstructure and Texture Evolution of Interstitial-Free Steel during Warm Rolling and Subsequent Annealing, **Crystals**, 9 (2019) 565.
188. Kun Wang, D.Y. Li, Zejie Fei, Xianfeng Ma, Xiaoqing Zeng, Discovery of a new crystal structure of LiBeF3 and its thermodynamic and optical properties, **Comput. Mater. Sci.** 169 (2019) 109077.
189. Abu H.M.A. Rahman , D.Y. Li, R. Xu , Daolun Chen, Qingyang Li, Wei Li, Nonlinearity of material loss versus the wearing force, **JOM**, 71 (2019) 4274–4283.
190. Liqiu Guo, Lei, Li, Qingyang Li, Wei Li, D. Chen, D.Y. Li, *In situ* AFM analysis of surface electron behaviors of strain-free and deformed ferrite and austenite in duplex steel and their correlation with electron work function, **Phys. Status Solidi A,** 2019, 1800933.
191. S.M.A.K. Mohammed, S.S. Dash, X.Q. Jiang, D.Y. Li, D.L. Chen, Ultrasonic spot welding of 5182 aluminum alloy: Evolution of microstructure and mechanical properties, **Materials Science & Engineering A**, 756 (2019) 417–429.
192. Lei Li, D.Y. Li, A Computational Study on the Effect of Minor Yttrium on the Interfacial Adherence of Al Oxide film to Aluminum Substrate, **J. Phys.: Condens. Matter**, 31 (2019) 295003.
193. L.X. Ying, K.Wu, D.Y. Li, C.X. Wu , Z. Fu, TiO2 Sol strengthened Cu-Sn-PTFE composite coatings with high homogeneity and superior resistance to wear, **Wear**, 426-427 (2019) 258-264.
194. Liqiu Guo, Hao Lu, D.Y. Li, Q.X. Huang, Xu Wang, J.A. Szpunar, Crystallographic anisotropy in surface properties of brass and its dependence on the electron work function, **J. of Appl. Crystallography**, 51 (2019) 1715-1720.
195. Qingda Li, H. Lu, D.Y. Li, Effect of recovery treatment on the wear resistance of surface hammered AZ31 Mg alloy, **Wear**, 426-427 (2019) 981-988.
196. T.Z.Li, Lei Li, H.Lu, L.Parent, Henrry Tian, R.J. Chung, D.Y.Li, Effect of trace Ni on the resistance of high-Cr cast iron to slurry erosion, **Wear**, 426-427 (2019) 605-611.
197. Qingyang Li, Maozhong An, Dongyang Li, In situ growth of ZnO nanowire film on nanocrystalline zinc electrodeposit via a 2 low-temperature hydrothermal reaction, **Results in Physics**, 12 (2019) 1446-1449.
198. H. Peng, D.L. Chen, X.F. Bai, X.W. She, D.Y. Li, X.Q. Jiangc, Ultrasonic spot welding of magnesium-to-aluminum alloys with a copper interlayer: Microstructural evolution and tensile properties, **Journal of Manufacturing Processes**, 31 (2019) 91-100.
199. Linlin Zhu, Jing Wang, Xianqiang Deng, Yanchun Dong, Yong Yang, Dongyang Li, Comparison of microstructure and properties of in-situ TiN and WC reinforced NiCrBSi composite coatings prepared by plasma spraying, **Materials**, 11 (2018): doi: 10.3790/ ma11112182.
200. Vikas Kumar, Lei Li, Hailian Gui, Xiaogang Wang, Qingxue Huang, Qingyang Li, Fatma Mokdad, D.L. Chen, D.Y. Li, Tribological properties of AZ31 alloy pre-deformed at low and high strain rates via the work function, **Wear**, 414-415 (2018) 126-135.
201. Shu-hao Deng, Hao Lü, Dongyang Li, Effect of UV light illumination on the corrosion behavior of electrodeposited TiO2-Ni composite foils, **Applied Surface Science**, 462 (2018) 291-302.
202. Kun Wang. Dongyang Li, Formation of core (M7C3)-shell (M23C6) structured carbides in white cast irons: a thermo-kinetic analysis, **Comput. Mater. Sci.**, 1542 (2018) 111-121.
203. Jiaquan Xie, Zhibin Yao, Hailian Gui, Fuqiang Zhao, Dongyang Li, A two-dimensional Chebyshev wavelets approach for solving the Fokker-Planck equations of time and space fractional derivatives type with variable coefficients, **Applied Mathematics and Computation**, 332 (2018) 197–208.
204. Heyu Zhu, Shan Liu, Ziran Liu, and Dongyang Li, Tailoring the stability of twinning in magnesium with solute segregation at the twin boundary and strain path control, **Comput. Mater. Sci.**, 152 (2018) 113–117.
205. Qingda Li, Guomin Hua, Hao Lu, Bin Yu, D.Y.Li, Understand the effect of plastic deformation on elastic modulus of metals based on a percolation model with electron work function, **JOM**, 70 (2018) 1130-1135.
206. H. Lu, X.C Huang, R.F. Hou, D.Y. Li, Understanding the Effect of Ni on Mechanical and Wear Properties of Low-Carbon Steel from a View-Point of Electron Work Function, **Metall. Mater. Trans. A**, 49 (2018) 2612–

2621.

207. Qingyang Li, Hao Lu, Juan Cui, Maozhong Anc and D.Y. Li, Elevate the corrosion potential of Zn coatings using ceramic nanoparticles, **J. of Solid State Electrochemistry**, 2018, https://doi.org/10.1007/s10008-018-3878-2.
208. Hao Lu, Lei Li, Xiaochen Huang and Dongyang Li, An electron work function based mechanism for solid solution hardening, **JALCOM**, 737 (2018) 323-329.
209. Jingbai Chen, Yanchun Dong, Lining Wan, Yong Yang, Zhenhua Chu, Jianxin Zhang, Jining He, D.Y. Li, Effect of induction remelting on the microstructure and properties of *in situ* TiN-reinforced NiCrBSi composite coatings, **Surface & Coatings Technology,** 340 (2018) 159-166.
210. H. Peng, X.Q. Jiang, X.F. Bai, D.Y. Li, and D.L. Chen, Microstructure and Mechanical Properties of Ultrasonic Spot Welded Mg/Al Alloy Dissimilar Joints, **Metals**, 8 (2018) 229.
211. Rangasayee Kannan, Yiyu Wang, Meisam Nouri, Dongyang Li, Leijun Li, Instrumented Indentation Study of Bainite/Martensite Duplex Microstructure, **Materials Science & Engineering A**, 713 (2018) 1-6.
212. F. Mokdad, D.L. Chen, D.Y. Li, Twin-twin interactions and contraction twin formation in an extruded magnesium alloy subjected to an alteration of compressive direction, **JALCOM**, 737 (2018) 549-560.
213. N. Tahreen, D.F. Zhang, F.S. Pan, X.Q. Jiang, D.Y. Li, D.L. Chen, Strengthening mechanisms in magnesium alloys containing ternary I, W and LPSO phases, **J Mater. Sci. & Tech**., 34 (2018) 1110-1118.
214. Guomin Hua, Changsheng Li, Xiaonong Cheng, Xinluo Zhao, Quan Feng, Zhijie Li, Dongyang Li, Jerzy A. Szpunar, First-principles study on influence of molybdenum on acicular ferrite formation on TiC particles in microallyed steels, **Solid State Communications**, 269 (2018) 102–107.
215. Yang Yang, M.F. Yan, S.D. Zhang, J.H Guo, S.S. Jiang, D.Y. Li, Diffusion behavior of carbon and its hardening effect on plasma carburized M50NiL steel: influences of treatment temperature and duration, **Surface & Coatings Technology**, 333 (2018) 96.
216. Yang Yang, Juan Cui, Lei Li, Hao Lu, D.Y. Li, M.F. Yan, Carbon adsorption on doped cementite surfaces for effective catalytic growth of diamond-like carbon: A first-principles study, **Physical Chemistry Chemical Physics**, 19 (2017) 32341-32348; DOI: 10.1039/C7CP06598A.
217. D.Y. Li, Liqiu Guo, Lei Li, Hao Lu, Electron work function – a probe for interfacial diagnosis, **Scientific Report-Nature**, 2017, DOI: 10.1038/s41598-017-08841-x.
218. Yang Yang, M.F. Yan, Y.X. Zhang, D.Y. Li, C.S. Zhang, Y.D. Zhu, Y.X. Wang, Catalytic growth of diamond-like carbon on Fe3C-containing carburized layer through a single-step plasma-assisted carburizing process, **CARBON**, 122 (2017) 1–8.
219. Yanchun Dong, Hao Lu, Juan Cui, Dianran Yan, FuXing Yin, Dongyang Li, Mechanical Characteristics of FeAl2O4 and AlFe2O4 spinel phases in coatings – A study combining experimental evaluation and first-principles calculations, **Ceramics International**, 2017, DOI: 10.1016/j.ceramint.2017.08.142.
220. Yanchun Dong, Yong Yang, Zhenhua Chu, Jianxin Zhang, Jining He, Dianran Yan, Dongyang Li, Effect of annealing in Ar on the microstructure and properties of thick nano-grained TiN ceramic coatings, **Ceramics International**, 43 (2017) 9303-9309.
221. J.J. Li, X.G. Yan, X.Y. Liang, D.Y. Li, Influence of different cryogenic treatment on high-temperature wear characteristics of M2 steel, **Wear**, 376-377 (2017) 1112–1121.
222. Hao Lu, Tingzhong Li, Juan Cui, Qingyang Li, D.Y. Li, Improvement in Erosion-Corrosion Resistance of High-Chromium Cast Irons by Trace Boron, **Wear**, 376-377 (2017) 578–586.
223. F. Mokdad, D.L. Chen, D.Y. Li, Single and double twin nucleation, growth, and interaction in an extruded magnesium alloy, **Materials and Design**, 119 (2017) 376-396.
224. Qingyang Li, Hao Lu, Juan Cui, Maozhong An, D.Y. Li, Improve the performance of Cr-free passivation film through nano- electrodeposition for replacement of toxic Cr6+ passivation in electrogalvanizing process, **Surface & Coatings Technology**, 324 (2017) 146–152; doi: 10.1016/j.surfcoat.2017.05.081.
225. Meisam Nouri, D.Y. Li, Maximizing the benefit of aluminizing to AZ31 alloy by surface nanocrystallization for elevated resistance to wear and corrosive wear, **Tribology International**, 111 (2017) 211–219.
226. Hao Lu, Chenxin Ouyang, Xianguo Yan, Jian Wang, Guomin Hua, Reinaldo Chung, Dongyang (D.Y.) Li, Potential application of electron work function in analyzing fracture toughness of materials, **J Mater. Sci. & Tech.**, 33 (2017) 1128-1133.
227. Qingyang Li, Hao Lu, Juan Cui, Maozhong An, Dongyang (D.Y.) Li, A simple template-free immersion process to fabricate ZnO nanowire films on nanocrystalline zinc substrate at room temperature, **Mater. Lett.**, 192 (2017) 68–71.

228. J. Cui, L. Guo, H. Lu, D.Y. Li, Understand effects of Cr content on the slurry erosion behavior of high-Cr cast irons through local property mapping and computational analysis, **Wear**, 376–377 (2017) 587–594.
229. Qingyang Li, Hao Lu, Juan Cui, Vikas Kumar, Maozhong An, and D.Y. Li, Produce mirror-shining surface of electrogalvanized steel with significantly elevated scratch resistance through combined nanoelectrodeposition and passivation treatment, **Wear**, 376 (2017) 1707–1712.
230. L. Wang, J. X. Ni, F. Shao, J. S. Yang, X. H. Zhong, H. Y. Zhao, C. G. Liu, S. Y. Tao, Y. Wang, D. Y. Li, Failure Behavior of Plasma-Sprayed Yttria-Stabilized Zirconia Thermal Barrier Coatings Under Three-Point Bending Test via Acoustic Emission Technique, J Therm Spray Tech, 26 (2017) 116-131.
231. Yan Zhang, Tao Zhang, Kaiyang Li and Dongyang Li, Protection of 310l Stainless Steel from Wear at Elevated Temperatures using Conicraly Thermal Spray Coatings with and without Sic Addition, **IOP Conf. Series: Materials Science and Engineering**, 250 (2017) 012003.
232. S. Mosleh-Shirazi, F. Akhlaghi, D.Y. Li, Effect of graphite content on the wear behavior of Al/2SiC/Gr hybrid nano-composites respectively in the ambient environment and an acidic solution, **Tribology International**, 103 (2016) 620–628.
233. Qingyang Li, Hao Lu, Juan Cui, M. An and D.Y. Li, Understanding the low corrosion potential and high corrosion resistance of nano-zinc electrodeposit based on electron work function and interfacial potential difference, **RSC Advances**, 6 (2016)97606 - 97612.
234. H.S. Teng, D.Y. Li, A mathematical model of frictional damage to parachute canopy, **Tribology International**, 2016. DOI: http://dx.doi.org/10.1016/j.triboint.2016.09.030.
235. Juan Cui, Hong Guo, J.W. Li, D.Y. Li, Leo Parent, H. Tian, A computational study on the benefit of core-shell structured carbides to the erosion resistance of high-Cr cast irons, **Tribology International**, 103 (2016) 432-39.
236. N. Tahreen, D.F. Zhang, F.S. Pan, X.Q. Jiang, D.Y. Li, D.L. Chen, Texture evolution and deformation activity of an extruded magnesium alloy: Effect of yttrium and deformation temperature, **Journal of Alloys and Compounds**, 688 (2016) 270-284.
237. Qingyang Li, Hao Lu. Juan Cui, Maozhong An, and Dongyang Li, Electrodeposition of nanocrystalline zinc on steel for enhanced resistance to corrosive wear, **Surface and Coatings Technology**, 304 (2016) 567–573.
238. N. Tahreen, D.F. Zhang, F.S. Pan, X.Q. Jiang, D.Y. Li, D.L. Chen, Microstructure and texture evolution in a yttrium-containing ZM31 alloy: Effect of pre-and post-deformation annealing, **Metall. & Mater. Trans**., 47B (2016) 3318-3325.
239. Meisam Nouri, Ziran Liu, Dongyang Li, Xiaoguo Yan, Nabila Tahreen, Daolun Chen, The role of minor yttrium in tailoring the failure resistance of surface oxide film formed on Mg alloy, **Thin Solid Films**, 2016, DOI: 10.1016/j.tsf.2016.06.045.
240. Jiang Wang, Hao Lu, Bin Yu, Rongfeng Wang, Guomin Hua, Xianguo Yan, Leo Parent, Harry Tian, Reinaldo Chung, Dongyang Li, Explore the electron work function as a promising indicative parameter for supplementary clues towards tailoring of wear-resistant materials, **Materials Science & Engineering A**, 669 (2016) 396–402.
241. Hao Lu, Ziran Liu, Xianguo Yan, Dongyang Li, Leo Parent, Harry Tian, Electron work function – a promising guiding parameter for material design, **Scientific Report - Nature**, 2016; 6: 24366. doi: 10.1038/srep24366.
242. L.Q. Guo, Y.W. Hu, B. Yu, E. Davis, R. Irvin, X.G. Yan, and D.Y. Li, Incorporating TiO2 nanotubes with a peptide of D-amino K122-4 (D) for enhanced mechanical and photocatalytic properties, **Scientific Report – Nature**, 2016, DOI: 10.1038/srep22247.
243. X.C. Huang, H. Lu and D.Y. Li, Understand the corrosion behavior of isomorphous Cu-Ni alloy from its electron work function, **Materials Chemistry and Physics**, 2016, DOI: 10.1016/j.matchemphys.2016.02.009.
244. Guomin Hua and Dongyang Li, Electron Work Function: A Novel Probe for Toughness, **PCCP**, 18 (2016) 4753– 4759.
245. Zirun Yang, Hao Lu, Ziran Liu, Xianguo Yan, Dongyang Li, Effect of particle size on the surface activity of TiC-Ni composite coating via the interfacial valence electron localization, **RSC Advances**, 6 (2016) 18793-18799.
246. Liqiu Guo, Guomin Hua, Binjie Yang, Hao Lu, Lijie Qiao, Xianguo Yan, and Dongyang Li, Electron work functions and adhesive behaviors of ferrite and austenite phases in a duplex stainless steel, **Scientific Report - Nature**, 2016, doi:10.1038/srep20660.
247. Xiaochen Huang , Bin Yu , X.G. Yan , D.Y. Li, Variations in erosive wear of metallic materials with Temperature via the electron work function, **Materials Chemistry and Physics**, (2016) 197-201.

248. Sareh MOSLEH-SHIRAZI, Farshad AKHLAGHI, Dong-yang LI, Effect of SiC content on dry sliding wear, corrosion and corrosive wear of Al/SiC nanocomposites, **Trans. Nonferrous Met. Soc. China**, 26(2016) 1801−1808.
249. Hong Xiao, Ke Tang, Zhe-Zhu Xu, Dongyang Li, Sung-Ki Lyu, Numerical study of shock/vortex interaction in diatomic gas flows, **Intl. J. Precision Eng. and Manuf**., 17 (2016) 27-34.
250. X.Y. Mao, H. Chen, D.Y. Li, X.M. Zhao, Z.Z. Wang, Corrosion behaviour of cupronickel alloy with gradient microstructure induced by surface mechanical punching deformation and recovery treatment, **Trans. Mater. & Heat Treatment.**, 2 (2016) 198-203.
251. Junji Li, Xianguo Yan, Haizhen Zhang, D.Y. Li, Simulation and experimental verification of W9Mo3Cr4V HSS emperature field in cryogenic treatment, **Key Eng. Mater.**, 693 (2016) 884-891.
252. Sareh Mosleh-Shirazi, Guomin Hua, Farshad Akhlaghi, Xianguo Yan, Dongyang Li, Interfacial valence electron localization and the corrosion resistance of Al-SiC nanocomposite, **Scientific Report - Nature**, 2015, DOI: 10.1038/srep18154.
253. Guomin Hua, Dongyang Li, A First-Principle Study on Mechanical and Thermodynamic Properties of (Nb1-xTix)C Complex Carbides Based on Virtual Crystal Approximation, **RSC Advances - Royal Society of Chemistry,** 2015, DOI: 10.1039/C5RA22756A.
254. N. Tahreen, D.F. Zhang, F.S. Pan, X.Q. Jiang, D.Y. Li, D.L. Chen, Hot deformation and processing map of an as-extruded Mg-Zn-Mn-Y alloy containing I and W phases, **Materials and Design**, 87 (2015) 245-255.
255. N. Tahreen, D.F. Zhang, F.S. Pan, X.Q. Jiang, D.Y. Li, D.L. Chen, Hot deformation and work hardening behavior of an extruded Mg-Zn-Mn-Y alloy, **J. of Mater. Sci. & Technol.** 31 (2015) 1161-1170.
256. X.C. Huang, H. Lu, H.B. He, X.G. Yan, and D.Y. Li, Correlation between the wear resistance of Cu-Ni alloy and its electron work function, **Philosophical Magazine**, 2015, DOI: 10.1080/14786435.2015.1108532.
257. Xiangyang Mao, D.Y. Li, Zhangzhong Wang, Xiuming Zhao, Hongyan Yang, A study on nanoscale gradient alloying induced by a punching deformation process on low carbon steel, **Materials Letters**, 158 (2015) 45–48.
258. Shiyi Liu, Hao Lu, D.Y. Li, The relationship between the electron work function and friction behavior of passive alloys under different conditions, **Appl. Surf, Sci**., 351 (2015) 316–319.
259. X.H. Tang, Lei Li, B. Hinckley, K. Dolman, L. Parent, D.Y. Li, Beneficial effects of the core-shell structure of primary carbides in high-Cr (45wt%) white cast irons on their mechanical behavior and wear resistance, **Tribology Lett.**, (2015) 58:44. DOI 10.1007/s11249-015-0522-5.
260. Zhe-Zhu Xu, Chang Choi, Long-jun Liang, Dong-yang Li, and Sung-Ki Lyu, Study on a Novel Thermal Error Compensation System for High-Precision Ball Screw Feed Drive, **Intl. J. of Precision Eng. and Manuf**. 16 (2015) 2005-2011.
261. Z. R. Liu and D. Y. Li, The electronic origin of strengthening and ductilizing magnesium by solid solutes, **Acta Materialia**, 2015, 89 (2015) 225-233.
262. Xuhang Tong, Hao Zhang, D. Y. Li, Effect of Annealing Treatment on Mechanical Properties of Nanocrystalline α-iron: an Atomistic Study, **Scientific Report-Nature**, 2015, 5 : 8459 | DOI: 10.1038/srep08459.
263. N. Tahreen, D.F. Zhang, F.S. Pan, X.Q. Jiang, C. Li, D.Y. Li, D.L. Chen, Characterization of hot deformation behavior of an extruded Mg-Zn-Mn-Y alloy containing LPSO phase, **JALCOM**, 644 (2015) 814-823.
264. Z. R. Liu and D. Y. Li, Stability and formation of long period stacking order structure in Mg-based ternary alloys, **Comput. Mater. Sci.**, 103 (2015) 90–96.
265. Zhe-Zhu Xu, Jun-seong Kim, Lae-Sung Kim, D.Y. Li, and Sung-Ki Lyu, Study on Modular Modeling and Performance Evaluation of a Conical Gear for Marine Transmission System, **Intl. J. of Precision Eng. And Manuf**. 16 (2015) 1123-1128.
266. N. Tahreen, D.L. Chen, M. Nouri, D.Y. Li, Influence of aluminum content on twinning and texture development of cast Mg-Al- Zn alloy during compression, **JALCOM**, 623 (2015) 15–23.
267. Hong Xiao, Zhe-Zhu Xu, Lae-Sung Kim, Dongyang Li, Sung-Ki Lyu, Experimental research on a hypersonic configuration with blunt forebody edges, **Intl. J. of Precision Eng. and Manuf**. 16 (2015) 2115-2120.
268. Hao Lu, Xiaochen Huang, D.Y. Li, Understanding the bond-energy, hardness and adhesive force from the phase diagram via the electron work function, **J. Appl. Phys.,** 116, 173506 (2014).
269. Hong Xiao, Yang-Yang Shi, Zhe-Zhu Xu, Lae-Sung Kim, D.Y. Li, and Sung-Ki Lyu, Atomization Characteristics of Gelled Hypergolic Propellant Simulants, **Intl J. of Precision Eng., & Manuf.** 16 (2015)

743-747.

270. Xiaoguang Sun, You Wang, D.Y. Li, Chaohui Wang, Xuewei Li, Zhiwei Zou, Solid particle erosion behavior of carbidic austempered ductile iron modified by nanoscale ceria particles, **Materials and design**, 62 (2014) 367-374.
271. Hong Xiao, Zhe-Zhu Xu, Lae-Sung Kim, D.Y. Li, and Sung-Ki Lyu, Optimization Scheme of Genetic Algorithm and Its Application on Aeroengine Fault Diagnosis, **Intl J. of Precision Eng., & Manuf**. 16 (2015) 735-741.
272. Reza Rahemi, Dongyang Li, Variation in electron work function with temperature and its effect on Young's modulus of metals, **Scripta Materialia**, 99 (2015) 41 - 44.
273. Z.Z. Xu, C. Choi, L.J Liang, D.Y. Li, and Sung-Ki Lyu, Study on a Novel Thermal Error Compensation System for High-Precision Ball Screw Feed Drive (2nd Report: Experimental Verification), **Intl J. of Precision Eng., & Manuf**. 16 (2015) 2139-2145.
274. Junji LI, Xiaojun HAN, Xuqiang WANG, Dongyang LI and Xianguo YAN, Effect of cryogenic treatment on the residual surface stress introduced by grinding, **J. of Adv. Mech. Design, Systems, and Manufacturing**, 9 (2015) 15-00234.
275. Yao-Chun Zhang, Chao Chen, Cheng-Jia Shang, Dong-Yang Li, Surface Nanocrystallization of Nb-Ti Stabilized 439M Ferritic Stainless Steel, **J. of Iron and Steel Research International**, 21 (2014) 891–896.
276. Hong Xiao, Yang-Yang Shi, Zhe-Zhu Xu, Dongyang Li, Sung-Ki Lyu, Study on flow and heat transfer of small scale gas flow for air cooling system, **Intl. J. of Precision Eng. and Manuf.** 16 (2015), 2491-2498
277. H. Asgari, A.G. Odeshi, J.A. Szpunar, L.J. Zeng, E. Olsson, D.Y. Li, Effect of yttrium on the twinning and plastic deformation of AE magnesium alloy under ballistic impact, **Mater. Sci. Eng. A**, 2014, DOI: http://dx.doi.org/10.1016/j.msea.2014.11.025.
278. Guomin Hua, Hojat Ahmadi, M. Nouri, D.Y. Li, Positive Effect of Yttrium on the Reduction of Pores in Cast Al Alloy, **Mater. Chem. & Phys.**, 2014, 10.1016/j.matchemphys.2014.09.056.
279. X. Tong, H. Zhang, D.Y. Li, Effects of Misorientation and Inclination on Mechanical Response of <110> Tilt Grain Boundaries in α-Fe to External Stresses, **Modelling Simul. Mater. Sci. Eng.,** 2014, doi:10.1088/0965-0393/22/6/065016
280. N. Tahreen, D.F. Zhang, X.Q. Jiang, C. Li, D.Y. Li, D.L. Chen， Influence of yttrium content on phase formation and strain hardening behavior of Mg-Zn-Mn magnesium alloy， **JALCOM**, 615 (2014) 424–432.
281. N. Fu, X. Tang, D. Y. Li, L. Parent, H. Tian, In-situ investigation of local corrosion at inter-phase boundary under an electrochemical-atomic force microscope, **J. Solid State Electrochem.**, 2014, DOI 10.1007/s10008-014-2601-1.
282. Chenxin Ouyang, Shigen Zhu, D.Y. Li, Corrosion and corrosive wear behavior of WC-MgO composites with and without grain-growth inhibitors, **JALCOM**, 615 (2014) 146–155.
283. Y.F. Liu, W. Yang, Q.L. Qin, Y.C. Wu, W. Wen, T. Zhai, B. Yu, D.Y. Li, A. Luo, G.-L. Song, Microstructure and corrosion behavior of die-cast AM60B magnesium alloys in a complex salt solution: A slow positron beam study, **Corrosion Science**, 81 (2014) 65–74.
284. H.B. He, W.Q. Han, H.Y. Li, D.Y. Li, J. Yang, T. Deng, Effect of Deep Cryogenic Treatment on Machinability and Wear Mechanism of TiAlN Coated Tools during Dry Turning, **Intl. J. Precision Eng. & Manuf.**, 15 (2014) 655-660.
285. H. Lu, G. Hua, D.Y. Li, Dependence of the mechanical behavior on the electron work function – an alternative parameter for materials design, **Appl. Phys. Lett.**, 103, 261902 (2013); doi: 10.1063/1.4852675.
286. Nabila Tahreen, D. Chen, M. Nouri, D.Y. Li, Effect of Aluminum Content and Strain Rate on Strain Hardening Behavior of Cast Magnesium Alloys during Compression, **Materials Science & Engineering A**, 594C (2014), pp. 235-245
287. H. Lu, D.Y. Li, Correlation between the electron work function of metals and their bulk moduli, thermal expansion and heat capacity via the Lennard-Jones potential, **Phys. Stat. Sol. (b)**, 251 (2014) 815-820, DOI 10.1002/pssb.201350017.
288. Chenxin Ouyang, Shigen Zhu, D.Y. Li, Experimental and simulation study on the solid particle erosion of WC-MgO composites, **Tribology Letters**, 52 (2013) 501-510.
289. D. Zhu, H. Zhang, D.Y. Li, Effects of nano-scale grain boundaries in Cu on its Bauschinger's effect and response to cyclic Deformation, **Mater. Sci. Eng. A**, 583(2013)140–150.
290. X.G. Sun, M. Nouri, Y. Wang, D.Y. Li, Corrosive wear of Mg-Al-Zn alloys with alloyed yttrium, **Wear**, 303 (2013) 1624–1632

291. D.Y. Li, Electron work function – an effective parameter for in-situ reflection of electron activities in various processes, editorial, **Journal of Biosensors & Bioelectronics**, 2013, doi:10.4172/2155-6210.1000e123.
292. Licai Fu and Dongyang Li, Surface Nanocrystalline of Martensite Steel Induced by Sandblasting at High Temperature, **Adv. Eng. Mater.**, 15 (2013) 476-479.
293. Meisam Nouri, Xiaoguang Sun, D.Y. Li Beneficial effects of yttrium on the performance of Mg–3%Al alloy during wear, corrosion and corrosive wear, **Tribology International**, 67(2013)154–163.
294. Xiaoguang Sun, You Wang, D.Y.Li, G.D. Wang, Modification of carbidic austempered ductile iron with nano ceria for improved mechanical properties and abrasive wear resistance, **Wear**, 301 (2013) 116–121.
295. D. Zhu, H. Zhang, D.Y. Li, Influence of twin-boundary on the Bauschinger's effect in Cu - A molecular dynamics simulation study, **Metall. Mater. Trans. A**, 44 (2013) 4207-4217
296. Davis, E.M., Li, DY, Shahrooei, M, Yu, B., Muruve, D. and Irvin, R.T. 2012. Evidence of extensive diversity in bacterial adherence mechanisms that exploit unanticipated stainless steel surface structural complexity for biofilm formation. **Acta Biomaterials,** 9 (2012) 6236–6244.
297. X.G. Yan, D.Y. Li, Effects of the sub-zero treatment condition on microstructure, mechanical behavior and wear resistance of W9Mo3Cr4V high speed steel, **Wear**, 302 (2013) 854–862.
298. X.P. Wang, D.Y. Li, L. Parent, H. Tian, Performances of hybrid high-entropy high-Cr cast irons during sliding wear and air-jet solid-particle erosion, **Wear**, 301 (2013) 390–397.
299. Lei Li, D.Y. Li, Understanding the influence of microstructure features on the erosion resistance of low-carbon pipeline steel through computational simulation, **Wear**, 301 (2013) 70–75.
300. B. Yu, D.Y. Li, and Amélie Grondin, Effects of the dissolved oxygen and slurry velocity on erosion-corrosion of carbon steel in aqueous slurries with carbon dioxide and silica sand, **Wear**, 302 (2013) 1609–1614.
301. Licai Fu, Lei Li, D.Y. Li, A further look at the correlation between ASTM G65 rubber-wheel abrasion and pin-on-disc wear tests for data conversion, **Tribology – Surface, Interfaces and Materials**, 7 (2013) 109-113.
302. Leo Parent, D.Y. Li, Wear of Hydrotransport Lines in Athabasca Oil Sands, **Wear**, 301 (2013) 477 - 482.
303. R. J. Chung, X. Tang, D.Y. Li, B. Hinckley, K. Dolman, Microstructure refinement of hypereutectic high Cr cast irons using hard carbide-forming elements for improved wear resistance, **Wear**, 301 (2013) 695-706.
304. Xiang-yang MAO, Dongyang LI, Zhang-zhong WANG, Xiu-ming ZHAO, Lu CAI, Surface nanocrystallization by mechanical punching process for improving microstructure and properties of Cu-30Ni alloy, **Trans. Of Nonferrous Metals Soc. of China**, 23 (2013) 1694-1700.
305. D.Y. Li, Nanostructuring Materials towards Conventionally Unachievable Combination of Desired Properties, **J. Nanomater Mol Nanotechnol**, editorial, 2012, 1:1; http://dx.doi.org/10.4172/jnmn.1000e102.
306. Xiaoguang Sun, You Wang, D.Y. Li, Mechanical Properties and Erosion Resistance of ceria nanoparticles doped ultrafine WC-12Co composite prepared by spark plasma sintering**, Wear**, 301 (2013) 406–414
307. Ning Fu, Xinhu Tang, Dongyang Li, Application of *in-situ* measurement of photo-induced variations in electron work function for in-depth understanding of the photocatalytic activity of TiO2 nanotubes, **Nanotechnology**, 23 (2012) 275704.
308. Guomin Hua and Dongyang Li, The correlation between the electron work function and yield strength of metals, **Phys. Stat. Sol. (b)**, 2012, DOI 10.1002/pssb.201248051.
309. Ning Fu, Xinhu Tang, Dongyang Li, Is it effective to harvest visible light by decreasing the band gap of photocatalytic materials? **Appl. Phys. Lett.**, 100 (2012) 093901; doi: 10.1063/1.3690052.
310. Zhu Di; Zhang H.; Li D. Y., Molecular dynamics simulation of Bauschinger's effect in deformed copper single crystal in different strain ranges, **J Appl. Phys**., 110 (2011) 124911; DOI: 10.1063/1.3672414
311. Zhang Jie; Tang Xinhu; Li Dongyang , One-Step Formation of Crystalline TiO(2) Nanotubular Arrays with Intrinsic p-n Junctions, **J. Phys. Chem. C**, 115 (2011) 21529-21534
312. Guomin Hua and Dongyang Li, Generic Relation between the Electron Work Function and Young's Modulus of Metals, **Appl. Phys. Lett.**, 2011, DOI: 10.1063/1.3614475.
313. Bin Yu, Elisabeth Davis, Adam E. Lesiuk, Randall T. Irvin, D.Y. Li, Nanocrystallization of Ag-incorporated stainless steel surface for enhanced resistances to corrosion and bacterial colonization, **Phil. Mag. Lett.**, 91 (2011) 697-704.
314. Elisabeth M.,Davis, D.Y. Li, R.I T. Irvin, A peptide - stainless steel reaction that yields a new bioorganic – metal state of matter, **Biomaterials**, 32 (2011) 5311-5319.
315. N. Fu, Z. Jin, Y. Wu, G.X Lu, D.Y. Li, Z-scheme Photocatalytic System Utilizing Separate Reaction Centers

by Directional Movement of Electrons, **J. Phys. Chem. C,** 115 (2011) 8586.

316. C.Y. Tang, D.Y. Li, G.W. Wen, A follow-up study on Bauschinger's effect in bidirectional wear of Cu-40%Zn against different types of counter-face, **Tribology Lett**., 43 (2011) 101-106.
317. X. Tang, D.Y. Li, Evaluation of Asphaltane degradation on highly ordered TiO2 nanotubular arrays via variations in wettability, **Langmuir**, *27 (*2011)1218–1223.
318. C.Y. Tang, D.Y. Li, G.W. Wen, Baushinger's Effect in Wear of Materials, **Tribology Lett**., 41 (2011) 569-572.
319. Lei Li, D.Y. Li, Simulation of corrosion-erosion of passive metals using a micro-scale dynamical model, **Wear**, 271 (2011) 1404-1410.
320. Y.P. Wang, D.Y. Li, L. Parent, H. Tian, Improving the wear resistance of white cast iron using a new concept – High-entropy microstructure, **Wear**, 271 (2011) 1623-1628.
321. XH Tang, R Chung, CJ Pang, DY Li, B Hinckley, K Dolman, Microstructure of High (45 wt%) Chromium Cast Irons and Their Resistance to Wear and Corrosion, **Wear**, 271 (2011) 1426-1431.
322. Y. Pan, D.Y. Li, H. Zhang, Enhancing the wear resistance of sintered WC-Co composite by adding pseudo-elastic TiNi constituent, **Wear**, 271 (2011) 1916-1921.
323. Reinaldo Chung, D.Y. Li, B Hinckley, K Dolman, Abnormal erosion – slurry velocity relationship of high chromium cast iron with high carbon concentrations, **Wear**, 271 (2011) 1454-1461.
324. D.Y. Li, Q. Chen, Bruce Cook, A further simulation study on the dual role of porosity in solid-particle erosion of materials, **Wear**, 271 (2011) 1325-1330.
325. X.Y. Mao, D.Y. Li , F. Fang, R. S. Tan, J. Q. Jiang, Simple surface nanocrystallization of Cu alloys for enhanced resistances to corrosive wear, **Wear**, 271 (2011) 1224-1230.
326. L. Yue, H. Zhang, D.Y. Li, Defect generation in nano-twinned, nano-grained and single-crystal Cu systems caused by wear - a molecular dynamics study, **Scripta Mater.**, 63 (2010) 1116-1119.
327. Bin Yu, Adam Lesiuk, Elisabeth Davis, Randall T. Irvin, D.Y. Li, Surface nanocrystallization for bacterial control, **Langmuir**, 26 (2010) 10930–10934.
328. L. Yue, H. Zhang, D.Y. Li, A closer look at the local responses of twin and grain boundaries in Cu to stress at the nanoscale with possible transition from the P–H to the inverse P–H relation, **Acta Materialia**, 58 (2010) 2677–2684
329. X.Y. Mao, D.Y. Li, F. Fang, R.S. Tan and J.Q. Jiang, Does severe plastic deformation (SPD) alone generate a nano-crystallinestructure?, **Phil. Mag. Lett.**, 90 (2010) 349–360.
330. Y. Pan, D.Y. Li, H. Zhang, Enhancing the wear resistance of sintered WC-Co composite by adding pseudo-elastic TiNi constituent, **Wear**, 271 (2011) 1916-1921.
331. C. Tang, J.M. Wang, G.W. Wen, Y. Wang, D.Y. Li, Bauschinger effect in wear of Cu–40Zn alloy and its variations with the wear condition, **Wear**, 271 (2011) 1237-1243.
332. X. Y. Mao, D.Y. Li, F. Fang, R. S. Tan, J. Q. Jiang, A simple technique of nanocrystallizing metallic surfaces for enhanced resistances to mechanical and electrochemical attacks, **Mater. Sci. & Eng. A**, 527 (2010) 2875-2880.
333. C. Chen, C.J. Shang, J.Y. Weng, D.Y. Li, Corrosion Behavior of A New Ferritic Stainless Steel used in Automobile Exhaust System, **Adv. Mater. Res**., 89 (2010) 102 – 106.
334. Q. Chen, D.Y. Li, K. Oiwa**,** Phenomenological Simulation of self-organization of microtubule driven by dynein C, **J. Chem. Physics**, 130, 214107 (2009); DOI: 10.1063/1.3139300.
335. X. Tang and D.Y. Li, Fabrication, Geometry, and Mechanical Properties of Highly Ordered TiO2 Nanotubular arrays, **The J. of Phys. Chem. C**, (2009)10.1021/jp900311d.
336. Q. Chen, D.Y. Li, Y. Shitaka, and K. Oiwa, Behaviors of microtubules driven by axonemal dynein c at their collisions against micro-fabricated tracks, **J. Nanosci. Nanotechnol.** 9, 5123-5133 (2009).
337. C. Chen, D. Y. Li, C. J. Shang, Nanocrystallization of aluminized surface of carbon steel for enhanced resistances to corrosion and corrosive wear, **Electrochimica Acta**, 55 (2009) 118–124.
338. C. Chen, C. J. Shang, D. Y. Li, A Combination of Al diffusion and Surface Nanocrystallization of Carbon Steel for Enhanced Corrosion Resistance, **Phil. Mag. Lett.**, 89 (2009) 231–240.
339. H. Zhang, D.Y. Li, Optimization of micro-indentation conditions for evaluation of interfacial bond strength: a finite element approach, **Thin Solid Films**, 517 (2009) 5259.
340. Q. Chen, D.Y. Li, Bruce Cook, Is Porosity Always Detrimental To The Wear Resistance Of Materials? – A Computational Study, **Wear**, 267 (2009) 1153–1159.
341. C. Chen, C. J. Shang, D. Y. Li, Surface nanocrystallization of Al-plated steel for application in the exhaust

system of vehicles, **Wear**, 267 (2009) 345–349.

342. Linmao Qian, Shuang Zhang, D.Y. Li, Zhongrong Zhou, Spherical indentation for determining the phase transition properties of shape memory alloys, **Journal of Materials Research**, 24 (2009) 1082-1086.
343. X. Tang, R. Chung, D.Y. Li, B. Hinckley, K. Dolman, Variations in microstructure of high chromium cast irons and resultant changes in resistance to wear, corrosion and corrosive wear, **Wear**, 267 (2009) 116-121.
344. R. J. Chung, X. Tang, D.Y. Li, Hinckley, K. Dolman, Effects of titanium addition on microstructure and wear resistance of hypereutectic high chromium cast iron Fe-25wt.%Cr-4wt.%C, **Wear**, 267 (2009) 356-361.
345. Q. Chen, D.Y. Li, K. Oiwa, Roles of Microtubule Bias and Joining in the Self-Organization of Microtubule Driven by Dynein C – A Modeling Study，978-1-4244-2902-8/09，2009 IEEE.
346. H. Ahmadi, D. Y. Li, M. Nouri, "Effects of yttria addition on microstructure, mechanical properties, wear resistance and corrosive wear resistance of TiNi alloy", **J. of Mater. Sci. & Tech**., 25 (2009) 645-648.
347. H. Zhang and D.Y. Li, The Mechanisms of Interfacial Failure for Lateral Force-sensing Microindentation Test: Finite Element analysis, **Acta Materialia**, 56 (2008) 6197-6204.
348. X. Tang and D.Y. Li, Sulfur-doped Highly Ordered Long TiO2-nanotubular Arrays with Visible Light Response, **The J. of Phys. Chem. C**, 112 (2008) 5405-5409.
349. Bin Yu, Robert S. Hodges, Elisabeth Davis, Randall T. Irvin, D.Y. Li, Surface nanocrystallization of stainless steel for reduced bio-film' adherence, **Nanotechnology**, **19** (2008) 335101.
350. S. Tao and D.Y. Li, Nanocrystallization Effect on the Surface Electron Work Function of Copper and Its Corrosion Behaviour, **Phil. Mag. Lett.**, 88 (2008) 137-144.
351. X. Tang and D.Y. Li, Production of Alloyed Nanocrystalline Surfaces by Combined Punching, Sandblasting and Recovery Treatments, **Scripta Mater.**, 58 (2008) 1090–1093.
352. I. Radu, D.Y. Li, A further study of the beneficial effects of yttrium on oxide scale properties and high-temperature wear of Stellite 21, **Tribology Lett**., 30 (2008) 27–34.
353. S. Yin, D.Y. Li, A new phenomenon observed in measuring corrosion component in the wear-corrosion synergy using a corrosive sliding wear test, **Tribology Letters**, 29 (2008) 45-52.
354. Yanping Li and D.Y. Li, Prediction of elastic-contact friction of transition metals under light loads based on their electron work functions, **J. of Physics D: Applied Physics**, 40 (2007) 5980–5983.
355. Bin Yu, C.L. Giltner, E.J. van Schaik, D.L. Bautista, R.S. Hodges, G.F. Audette, D.Y. Li, R. T. Irvin, A Novel Biometallic Interface: High Affinity Tip-Associated Binding by Pilin-Derived Protein Nanotubes, **J. Bionanoscience**, 1(2007) 73-83.
356. I. Radu, D.Y. Li, D. MacLaren, A statistical method for evaluating and ranking lubricants through micro-mechanical Hetero-geneity mapping of surfaces experienced lubricated sliding, **Tribology – Materials, Surfaces & Interfaces,** 1(2007) 80-86.
357. Q.Chen, D.Y.Li, K.Oiwa, A computational study on the movement of microtubule driven by dynein motors, **Biophysical chemistry**, 129 (2007) 60-69.
358. S. Yin, D.Y. Li, R. Bouchard, Effects of strain rate of prior deformation on the corrosion and corrosive wear of AISI 1045 steel in a 3.5% NaCl solution, **Metall. Mater. Trans. A**, 38A (2007) 1032-1040.
359. Q. Chen and D.Y. Li, A computational study of the improvement in wear resistance of pseudo-elastic TiNi-matrix Composite By adding nano TiN particles, **Smart Struc. & Mater.**, 16 (2007) S63-S70.
360. K. Oiwa, D.Y. Li, Y. Shitaka, R. Nakamori and H. Sakakibara, Molecular and Nanometer-Scale Self-Organized System Generated by Protein Motor Functions, **Mater. Sci. Forum**., 539 (2007) 3290.
361. W. B. Bouaeshi and D. Y. Li, Effects of Y_2O_3 Addition on Microstructure, Mechanical Properties, Electrochemical Behavior, and Corrosive Wear Resistance of Aluminum, **Tribology International**, 40 (2007) 188-199.
362. Y. Li and D.Y Li, An energy consumption model based on the electron work function and Fermi energy for predicting adhesion and low-load friction between 3d transition metals, **Wear**, 263 (2007) 1610-1615.
363. S. Tao and D.Y. Li, Investigation of corrosion-wear synergistic attack on nanocrystalline Cu coatings, **Wear,** 263 (2007) 363.
364. S. Yin, D.Y. Li, and R. Bouchard, Effects of the strain rate of prior deformation on the wear-corrosion synergy of carbon steel, **Wear**, 263 (2007) 801-807.
365. J. Hu, D.Y. Li, R. Lllywellen, Synergistic effects of microstructure and abrasion condition on abrasive wear of composites - a modeling study, **Wear**, 263 (2007) 218-227.
366. Iulian Radu and D.Y. Li, The wear performance of yttrium-modified stellite 712 at elevated temperatures,

Tribology International, 40 (2007) 254-265.

367. I. Radu and D.Y. Li, Enlarging the Temperature Range for Maximum Wear Resistance of TiNi Alloy Using a NTE Phase, **Mater. Sci. Forum**., 539 (2007) 3261.
368. H. Ahmadi, A. M. Borgheei, A. R. Alimardani, A. Rajabeeipour and D.Y. Li, Effect of Aluminide Coatings and Wheat Handling Parameters on Erosion in Wheat Storage Bins, J. Agric. Sci. Technol. 9 (2007) 199-210.
369. I. Radu and *D.Y. Li*, The self-stress-adjusting capability of TiNi Alloy with a NTE Phase, **Wear**, 263 (2007) 858.
370. D.Y. Li, Q. Chen, X.Y. Wang, Will crystallographic faces of a crystal keep their order in strength and friction coefficient when the contact force is reduced to nano/micro-Newton scales? **J. of Appl. Phys.**, 99 (2006) 044305.
371. S. Tao and D.Y. Li, Tribological, mechanical and electrochemical properties of nanocrystalline copper deposits produced by pulse electrodeposition, **Nanotechnology**, 17 (2006) 65-78.
372. W. Li and D.Y. Li, In situ measurements of simultaneous electronic behavior of Cu and Al induced by mechanical deformation, **J. of Appl. Phys.**, 99 (2006) 073502.
373. M.Reza Bateni, J.A. Szpunar, X. Wang, and D.Y. Li, Wear and corrosive wear of medium carbon steel and stainless steel, **Wear**, 260 (2006) 116-122.
374. W. Li and D.Y. Li, Influence of surface morphology on corrosion and electron behavior, **Acta Materialia.**, 54 (2006) 445-452.
375. D.Y. Li, Electron work function at grain boundary and the corrosion behavior of nanocrystalline metallic materials, **Mat. Res. Soc. Symp.** , 887 (2006) 0887-Q05-03.1.
376. X. P. Jiang, X.Y. Huang, J. X. Li, D. Y. Li, C.-S. Man, M. J. Shepard, T. Zhai, Enhancement of Fatigue and Corrosion Properties of Pure Ti by Sandblasting, **Mater. Sci. Eng. A**, 429 (2006) pp. 30-35.
377. W. LI and D.Y. Li, Effect of surface geometrical configurations induced by microcracks on the electron work function, **Acta Materialia,** 53 (2005) 3871-3878.
378. X.S. Guan, Z.F. Dong and D.Y. Li, Surface nanocrystallization by sandblasting and annealing for improved mechanical and tribological properties, **Nanotechnology**, 16 (2005) 2963-2971.
379. H. Zhang and D.Y. Li, Application of a novel lateral force-sensing indentation method for evaluation of the bond strength of thermal sprayed coatings, **Surface & Coatings technology**, 197 (2005) 137.
380. W. Li and D.Y. Li, Characterization of interfacial bonding using a scanning Kelvin probe, **J. of Appl. Phys.**,97, 014909 (2005).
381. S. Yin and D.Y. Li, Effects of prior cold work on corrosion corrosive wear of pure copper in HNO_3 and NaCl solutions, **Mater. Sci. & Eng. A**, 394 (2005) 266-276.
382. W. Li and D.Y. Li, The correlation between surface roughness and work function in copper, **J. of Chemical Physics**, 122 (6) (2005) 064708.
383. M.Reza Bateni, J.A. Szpunar, X. Wang, and D.Y. Li, The effect of wear and corrosive wear on internal crystalline texture of carbon steel and stainless steel, **Wear**, 259 (2005) 400 – 404.
384. S.B. Yin and D.Y. Li, Corrosion and corrosive wear of annealed, impact-fractured and slow bending-fractured surface layers of AISI 1045 steel in a 3.5% NaCl Solution, **Wear**, 259 (2005) 383-390.
385. S.B. Akonko, D.Y. Li, M. Ziomek-Moroz, J. Hawk, A. Miller, K. Cadien, Effects of K3[Fe(CN)6] slurry's pH value and applied potential on tungsten removal rate for chemical-mechanical planarization application, **Wear,** 259 (2005) 1299.
386. W. Li and D.Y. Li, Variations of work function and corrosion behaviour of deformed copper surfaces, **Appl. Surf. Sci.**, 240 (2005) 388-395.
387. J. Hu, D.Y. Li, and R.Llewellyn, Computational investigation of microstructural effects on abrasive wear of composite materials, **Wear**, 259 (2005) 6 - 17.
388. Yanping Li and D.Y. Li, Electron work function, adhesion, and friction between 3d transition metals under light loads, **Wear,** 259 (2005) 1432-1436.
389. Saheed Akonko, D.Y. Li, and M. Ziomek-Moroz, Effects of cathodic protection on corrosive wear of 304 stainless steel, **Tribology Lett**., 18 (2005) 405–410.
390. M.R. Bateni, J.A. Szpunar, X.Y. Wang, and D.Y. Li, Texture change in carbon steel and stainless steel as a result of wear, **Mater. Sci. Forum**, 495 (2005) 441-446.
391. M.R. Bateni, M. Azzi, J.A. Szpunar, X.Y. Wang, and D.Y. Li, The effect of grain orientation on micro friction of medium carbon steel, **Mater. Sci. Forum**, 495 (2005) 203-206.
392. Q. Chen and D.Y. Li, A computational study of frictional heating and energy conversion during sliding

processes, **Wear,** 259 (2005) 1382-1391.

393. X.Y. Wang and D.Y. Li, Application of an electrochemical scratch technique to evaluate contributions of mechanical and electro- chemical attacks to corrosive wear of materials, **Wear**, 259 (2005) 1490-1496.
394. Iulian Radu and D.Y. Li, Investigation of the role of oxide scale on stellite 21 modified with yttrium in resisting wear at elevated temperatures, **Wear**, 259 (2005) 453-458.
395. Yanping Li and D. Y. Li, Experimental studies on electron work function - adhesion - friction relationships for 3-d transition metals, **J. of Appl. Phys**., 12 (2004) 7961-7965.
396. H. Zhang, Q. Chen and D.Y. Li, Development of a novel lateral force-sensing indentation technique for determination of interfacial bonding strength, **Acta Mater**., 52 (2004), 2037-2046.
397. Wen Li and D.Y. Li, Determination of the yield locus using a Kelvin probing method, **J. of Phys. D: Applied Physics**, 37 (2004) 948 - 951.
398. Q. Chen and D.Y. Li, Computer simulation of erosion-corrosion of a non-passive alloy using a micro-scale dynamic model, **Mater. Sci. & Eng. A**, 369 (2004) 284-293.
399. W. Li and D.Y. Li, Effects of elastic and plastic deformations on the electron work function of metals during bending tests, **Phil. Mag. A**., 84 (2004) 3717-3727.
400. X. Y. Wang, H. Zhang, and D. Y. Li, Characterization of lubricated worn surfaces using a nano/micro indenter, **Mater. Sci. & Eng. A**, 371(2004) 222-228.
401. W. Li and D.Y. Li, Effect of grain size on the electron work function of Cu and Al, **Surf. Rev. and Lett.**, 11 (2004) 173-178.
402. D.Y. Li, L. Wang, W. Li, Effects of grain size from micro- to nano- scales on the yield strain under tensile and compressive stresses using a Kelvin probing technique, **Mater. Sci. & Eng. A.**, 384 (2004) 355-360.
403. Iulian Radu, D.Y. Li, and R. Llewellyn, Tribological behavior of stellite 21 modified with yttrium, **Wear**, 257 (2004) 1154.
404. W. Li, Y. Wang and D.Y. Li, Response of the electron work function to deformation and yielding of copper under different stress states, **Phys. Stat. Sol. A**, 201 (2004) 2005- 2012.
405. H. Zhang, D. Y. Li, Effects of Sputtering Condition on Tribological Properties of Tungsten Coatings, **Wear**, 255 (2003) 924 .
406. Linchun Wang, D.Y. Li, Mechanical, electrochemical and tribological properties of nanocrystalline surface of brass produced by sandblasting and annealing, **Surface & Coatings techl.**, 167 (2003) 188-196.
407. M. Ziomek-Moroz, A. Miller, J. Hawk, K. Cadien, D.Y. Li, An overview of corrosion-wear interaction for planarizing metallic thin films, **Wear**, 255 (2003) 869-874.
408. Q. Chen and D.Y. Li, Computer simulation of solid-particle erosion of composite materials, **Wear**, 255 (2003) 78.
409. D.Y. Li, Determination of the Interfacial Bond Strength for Composite Materials (invited overview article), **Mater. Sci. Forum,** 426 (2003) 2053.
410. D.Y. Li, Development of novel tribo composites with TiNi shape memory alloy matrix, **Wear**, 255 (2003) 617.
411. Linchun Wang and D.Y. Li, Effects of yttrium on microstructure, mechanical properties and high-temperature wear behavior of cast Stellite 6 alloy, **Wear**, 255 (2003) 535-544.
412. Wen Li and D.Y. Li, A simple method for determination of the electron work function of different crystallographic faces of copper, **Phys. Stat. Sol. (a)**, 196 (2003) 390-395.
413. X. Wang and D.Y. Li, Mechanical, electrochemical and tribological properties of nanocrystalline surface of 304 stainless steel, **Wear**, 255 (2003) 836-845.
414. Hojat Ahmadi and D.Y. Li, Beneficial effects of yttrium on the mechanical behavior and high-temperature wear performance of surface aluminized 1045 steel, **Wear**, 255 (2003) 933-942.
415. H.Z. Ye, D. Y. Li and R. Eadie, The phase transformation and wear behavior of TiNi matrix composite, **J. Mater. Sci. Tech.**, 11 (2003) 19 - 34.
416. Wen Li and D.Y. Li, A study on the kinetic response of the electron work function to wear, **Wear**, 225 (2003) 333.
417. T. Zhang and D.Y. Li, The effect of YCl_3 and $LaCl_3$ additives on wear of 1045 and 304 steels in dilute chloride solution, **Mater. Sci. & Eng. A**, 345 (2003) 179-189.
418. Q. Chen and D.Y. Li, Computer simulation of solid particle erosion, **Wear**, 254 (2003) 203-210.
419. W. Li and D.Y. Li, Exploring the application of the Kelvin method in studying the history prior to wear and the onset of wear, **Wear**, 253 (2002) 746-751.
420. W. Li, D.Y. Li, Effects of Dislocation on the Electron Work Function of a Metal Surface, **Mater. Sci. & Tech**.,18 (2002) 1057.

421. Hojat Ahmadi and D.Y. Li, Mechanical and Tribological Properties of Aluminide Coating Modified with Yttrium, **Surface & Coatings technology**, 161 (2002) 210-217.
422. D.Y. Li, Kelvin probing technique: a promising method for determination of the yield strain of a solid under different types of stress, **Phys. Stat. Sol. (a)**, 191 (2002) 427.
423. X.Y. Wang and D.Y. Li, Mechanical and electrochemical behavior of nanocrystalline surface of 304 stainless steel, **Electrochem. Acta**, 47 (2002) 3939-3947.
424. W. Li and D.Y. Li, Explorating the application of the Kelvin method in studying the history prior to wear and the onset of wear, **wear**, 253 (2002) 746-751.
425. H. Zhang and D.Y. Li, Determination of the interfacial bonding strength on microscopic level by bending test with *in situ* monitoring acoustic emission, **Surface & Coatings technology**, 155 (2002) 190.
426. X. Wang and D.Y. Li, Effects of yttrium on mechanical properties and chemical stability of passive film of aluminide coating on 1045 steel, **Surface & Coatings technology**, 160 (2002) 20.
427. T. Zhang and D.Y. Li, Modification of 27Cr Cast Iron with Alloying Yttrium for Enhanced Resistance to Sliding Wear in Corrosive Media, **Metall. Mater. Trans. A**, 33 (2002) 1981.
428. Y.C. Luo, R. Liu and D.Y. Li, Investigation of the mechanism for the improvement in wear resistance of nano-TiN/TiC/TiNi composite: A study combining experiment and FEM analysis, **Mater. Sci. & Eng. A**, 329-331 (2002) 768.242.
429. D.Y. Li and Y. Luo, Effects of TiN nano-particles on porosity and wear behavior of TiC/TiNi tribo composite, **J. of Mater. Sci. Lett.**, (2002) 2249.
430. T. Zhang and D.Y. Li, Effect of Alloying Yttrium on Corrosion-Erosion Behavior of 27Cr Cast white Iron in Different corrosive Slurries, **Mater. Sci. & Eng. A**, 325 (2002) 87.
431. H. Z. Ye, D. Y. Li, and R. L. Eadie, Improvement in wear resistance of TiNi-based composite by hot isostatic pressing, **Materials Science & Engineering A**, 329-331 (2002) 750
432. T. Zhang, D.Y. Li, Variation in erosion resistance of pseudoelastic TiNi alloy with respect to temperature, **Mater. Sci. & Eng. A**, (2002) 563.
433. D.Y. Li, X. Ma, Pavel Mikula, and M. Vrana, Effects of aging on martensitic transformation and tribological properties of TiNi alloy using DSC, neutron diffraction, and micro-mechanical probe, **Mater. Sci. & Tech.**,18 (2002) 995.
434. D.Y. Li and Wen Li, Electron work function: a parameter sensitive to the adhesive behavior of crystallographic surfaces, **Appl. Phys. Lett.**, 79 (2001) 4337.
435. Y. Luo and D.Y. Li, New Wear- Resistant Material: Nano-TiN/TiC/TiNi Composite, **J. of Mater. Sci.**, 36 (2001) 4695.
436. X. Wang and D.Y. Li, Investigation of the synergism of wear and corrosion using an electro-chemicalscratch technique, **Tribology Lett.**, 11 (2001) 117.
437. K. Elalem and D.Y. Li, Variations in wear loss with respect to applied load and sliding speed under dry sand/rubber-wheel abrasion condition: a modeling study, **Wear**, 250 (2001) 59-65.
438. R. Liu and D.Y. Li, Modification of Archard's Equation by Taking Account of Elastic/ Pseudoelastic Properties of Materials, **Wear**, 251 (2001) 956-964.
439. T. Zhang and D.Y. Li, Improvement in the corrosion-erosion resistance of 304 stainless steel with alloyed yttrium, **J. of Mater. Sci.**, 36 (2001) 3479.
440. D.Y. Li, Pseudoelastic Tribo Materials, **ASTM STP** 1339 (2001), 382.
441. H.Z. Ye, D.Y. Li, and R. Eadie, Influence of Porosity on Mechanical and wear Properties of Sintered TiNi- matrix composites, **J. of Mater. Eng. & Performance**, 10 (2001) 178.
442. X. Wang, D.Y. Li, Beneficial effects of yttrium on mechanical failure and chemical stability of passive film on stainless steel, **Mater. Sci. & Eng. A**, 315 (2001) 158.
443. H. Ye, R. Liu, D.Y. Li and R. Eadie, Wear and friction of a new type wear-resistant material: TiNi-based composites, **Composite Science & Technology**, 61(7) (2001) 987.
444. T. Zhang, D.Y. Li, Improvement in the resistance of Al with yttria to sliding wear in air and in a corrosive medium, **Wear**, 251 (2001) 1250-1256.
445. K. Elalem, D.Y. Li, M.J. Anderson, and S. Chiovelli, Modeling Abrasive Wear of Homogeneous and Heterogeneous Materials, **ASTM STP** 1339 (2001) 90.
446. R. Liu and D.Y. Li, A study of the mechanism for beneficial effects of yttrium additive in lubricant on corrosive wear and friction of metals, **ASTM STP** 1339 (2001) 549.

447. T. Zhang and D.Y. Li, Corrosive Wear Behavior of 304 Stainless Steel and Its Variation with Alloyed Oxygen – Active Element Yttrium, **ASTM STP** 1339 (2001) 535.
448. D.Y. Li, Exploration of TiNi Shape Memory Alloy for Potential Application in A New Area: Tribological Engineering, **Smart Materials and Structure**, 9 No 5 (2000) 717-726.
449. R. Liu, D.Y. Li, Experimental Studies on Tribological Properties of Pseudoelastic TiNi Alloy with Comparison to Stainless Steel 304, **Metall. Mater. Trans. A**, 31A (2000) 2773.
450. R. Liu and D.Y. Li, A Finite Element Model Study on Wear Resistance of Pseudoelastic TiNi Alloy, **Mater.Sci.& Eng. A**, 277 (2000) 169.
451. T. Zhang and D.Y. Li, Effects of Yttrium on Corrosive Erosion and Dry Sand Erosion of FeAlCr(Y) DiffusionCoatings on 1030 Steel, **Mater. Sci. & Eng. A**, 277 (2000) 18.
452. R. Liu and D.Y. Li, Effects of Yttrium and Cerium Additives in Lubricants on Corrosive Wear of 304 Stainless Steel and Al Alloy 6061, **J. of Mater. Sci.**, 35 (2000) 633.
453. T. Zhang and D.Y. Li, Effects of Ce on Dry Sand Erosion and Corrosive Erosion of Aluminide Coating on 1030 Steel, **J. Mater. Sci. Lett**, 19 (2000) 429.
454. R. Liu and D.Y. Li, Indentation behaviour and wear resistance of pseudoelastic TiNi alloy, **Mater. Sci. & Tech**., 16 (2000) 328.
455. T. Zhang, Y. Luo and D.Y. Li, Erosion behavior of aluminide coating modified with Y addition under different erosion conditions, **Surface and Coatings Technology**, 126 (2000) 102.
456. D.Y. Li and X. Ma, Variations in wear resistance of pseudoelastic tribo-alloy as a funtion of psudoelasticity and hardness, **J. Mater. Sci. & Tech.**, 17 (2000) 45.
457. T. Zhang and D.Y. Li, Beneficial effect of oxygen-active elements on the resistance of aluminide coatings to corrosive erosion and dry erosion, **Surface and Coatings Technology**, 130 (2000) 57.
458. D.Y. Li, Development of Novel Wear-resistant Materials: TiNi-based Pseudoelastic Materials, **Materials & Design**, 21(2000) 551.
459. X. Ma, R. Liu, and D.Y. Li, Abrasive wear behavior of D2 tool steel with respect to load and sliding speed under dry sand/rubber wheel abrasion condition, **Wear**, 241 (2000) 79.
460. T. Zhang, D.Y. Li, An Experimental Study on the Erosion Behavior of Pseudoelastic TiNi Alloy in Dry Sand and in Aggressive Media, **Mater. Sci & Eng. A**, 293 (2000) 208.
461. D.Y. Li, Morphological Evolution of Coherent Ti11Ni14 Precipitate under Inhomogeneous Stress, **Phil. Mag. A,** 79 (1999) 2603.
462. D.Y. Li and L.Q. Chen, Shape Evolution and Splitting of Coherent Particles under Applied Stresses, **Acta Materialia**, 47 (1999) 247.
463. R. Liu, D.Y. Li, Y.S. Xie, R. Liewellyn, H.M. Hawthorne, Indentation Behaviour of Pseudoelastic TiNi Alloy, **Scripta Mater.**, 41 (1999) 691.
464. R. Liu and D.Y. Li, Protective Effect of Yttrium in Lubricants on Corrosive Wear, **Wear**, 225-229, 968 (1999).
465. D.Y. Li and R. Liu, The Mechanism Responsible for High Wear Resistance of Pseudo-elastic TiNi Alloy – A Novel Tribo-Material, **Wear**, 225-229, 777 (1999).
466. H. Z. Ye, R. Liu, D. Y. Li and R. Eadie, Development of A New Wear-resistant Material: TiC/TiNi Composite, **Scripta Mater.**, 41 (1999) 1039.
467. D.Y. Li, K. Elalem, M.J. Anderson, S. Chiovelli, A Micro-scale Dynamical Model for Wear Simulation, **Wear,** 225 -229, 380 (1999).
468. T. Zhang, Y. Luo, and D.Y. Li, Modification of Aluminide Coating with Yttrium for Improved Resistance to Corrosive Erosion, **J. of Mater. Eng. & Performance**, 8 (1999) 635.
469. T. Zhang and D.Y. Li, Effects of Yttrium on Sliding Wear of 304 Stainless Steel in Dilute sulphuric acid and in Air, **Mater. Sci. & Tech**., 15 (1999) 1441.
470. K. Elalem and D.Y. Li, Computer Modeling of Abrasive Wear, **J. of Computer-Aided Materials Design**, 6 (1999) 185.
471. D.Y. Li and L.Q. Chen, Computer simulation of microstructural evolution under external stresses, in "Computer-Aided Design of High-Temperature Materials", Oxford University Press, 1999, PP.212-228.
472. R Liu, HZ Ye, DY Li, RL Eadie, Advanced TiC/TiNi Tribo-Composites, **ADVANCES IN POWDERMETALLURGY AND PARTICULATE MATERIALS**, 3 (1999) 12.
473. D.Y. Li, A New Type of Wear-resistant Material: Pseudo-elastic TiNi Alloy, **Wear**, 221, 116 (1998).
474. D.Y. Li and L.Q. Chen, Computer Simulation of Stress-Oriented Nucleation and Growth of Theta Precipitates

in Al-Cu Alloys, **Acta Materialia**, 46, 2573 (1998).

475. D.Y. Li and L.Q. Chen, Morphological Evolution of Coherent Multi-variant Ti11Ni14 Precipitates in TiNi Alloys under An Applied Stress - A Computer Simulation Study, **Acta Materialia**, 46, 639 (1998).
476. D.Y. Li and L.Q. Chen, Selective Variant Growth of Coherent Precipitate under External Constraints, **J. of Phase Equilibria,** 19, 523 (1998).
477. D.Y. Li and L.Q. Chen, Shape of A Rhombohedral Coherent Ti11Ni14 Precipitate in A Cubic Matrix and Its Growth and Dissolution under Applied Stresses, **Acta Materialia,** 45, 2435 (1997).
478. D.Y. Li and J.A. Szpunar, A Monte Carlo Simulation Approach to the Texture Formation during Electro-deposition - I. The Simulation Model, **Electrochim. Acta**, 42, 37 (1997).
479. D.Y. Li and J.A. Szpunar, A Monte Carlo Simulation Approach to the Texture Formation during Electro-deposition – II. Simulation and Experiment, **Electroch im. Acta**, 42, 47 (1997).
480. D.Y. Li and L.Q. Chen, Morpholorgical Evolution and Stress-induced Raft-like Arrangement of Gama PrimerPrecipitates in A High-temperature Ni-based Alloy, **Scripta Materialia**, 31, 1271 (1997).
481. D.Y. Li and L.Q. Chen, Selective Variant Growth of Coherent Ti11Ni14 Precipitates in A TiNi Alloy under Applied Stresses, **Acta Materialia**, 45, 471 (1997).
482. D.Y. Li and J.A. Szpunar, Textural evolution in electrodeposits under the influence of adsorbed foreign species,Part I - Textural evolution in iron electrodeposits affected by hydrogen co-deposition, **J. Mater. Sci**., 32, 5513 (1997).
483. D.Y. Li, et.al., Textural evolution in electrodeposits under the influence of adsorbed foreign species, Part II – A simulation study on effects of potassium chloride on textural evolution in copper electrodeposits, **J. Mater. Sci.**, 32, 5525 (1997).
484. D.Y. Li, J.A. Szpunar, and D. Brouno, A Study on Solid/Melt Interfaces and the Formation of <100 Texture in Solidified FCC Metals, **J. Mater. Sci. & Tech.**, 13, 457 (1997).
485. D.Y. Li, Wear Behaviour of TiNi Shape Memory Alloys, **Script. Mater.**, 34, 195-200 (1996).
486. D.Y. Li and J.A. Szpunar, Modelling of Textural Evolution in Electrodeposited Metal Films, **Mater.Sci. Forum**, 204, 343-349 (1996).
487. D.Y. Li and J.A. Szpunar, A Possible Role of Surface-packing Density in Texture Growth during Solidification of FCC Metals, **J. Mater. Sci. Lett.**, 13, 1521 (1994).
488. D.Y. Li and J.A. Szpunar, Modelling of the Texture Evolution During Iron Electrodeposition, **Mater. Sci.Forum**, 157,1827 (1994).
489. D.Y. Li, C. Rocaniere, and J.A. Szpunar, Texture of Al-Si Alloy Ingots, **Mater. Sci. Forum**, 157 (1994) 555.
490. D.Y. Li and J.A. Szpunar, Texture competition during Solidification Processes, **Mater. Sci. Forum**, 157 (1994) 547.
491. D.Y. Li, C. Rocaniere, S. Das and J.A. Szpunar, The Texture Formation in Al-7%Si Ingots, **J. Mater. Sci. Lett.**,13, 453 (1994).
492. D.Y. Li and J.A. Szpunar, The Texture of Electrodeposited Iron Films, **J. Electr. Mater**., 22, 645 (1993).
493. D.Y. Li and J.A. Szpunar, Computer Simulation of Electrodeposition Process, **J. Electr. Mater.**, 22, 653 (1993).
494. D.Y. Li and J.A. Szpunar, Surface <111> Fibre Texture of A Strip-Cast Al Alloy, **Script Metall. Mater.**, 28, 1377 (1993).
495. D.Y. Li and J.A. Szpunar, A Texture Formation Mechanism During Electrodeposition, **J. Mater. Sci.**, 28, 5554 (1993).
496. D.Y. Li and J.A. Szpunar, The Slip System in An Ordered TiNi Alloy, **J. Mater. Sci. Lett.,** 11, 510 (1992).
497. D.Y. Li and J.A. Szpunar, Determination of Single Crystals' Elastic Constants from the Measurement of Ultrasonic Velocities in Polycrystalline Materials, **Acta Metall. Mater.**, 40, 3277 (1992).
498. D.Y. Li, X.F. Wu and T. Ko, The Effect of Stress on Soft Modes for Phase Transformations in A Ti-Ni Alloy I. Stress-induced Transformations and Soft Modes, **Phil. Mag., A,** 63, 585 (1991).
499. D.Y. Li, X.F. Wu and T. Ko, The Effect of Stress on Soft Modes for Phase Transformations in A Ti-Ni Alloy II. Effects of Ageing and Thermal Cycling on the Phase Transformations, **Phil. Mag. A**, 63, 603 (1991).
500. D.Y. Li, X.F. Wu and T. Ko, The Texture of Ti-51.5at%Ni Rolled Plate and Its Effect on the All-Round Shape Memory Effect, **Acta Mater.**, 38, 19 (1990).
501. D.Y. Li, X.F. Wu, T. Ko, The Effect of Stress on the Lattice Instability of An Equiatomic TiNi Alloy, **Phys. Stat. Sol.**, (b), 154, 85 (1989).
502. D.Y. Li, G. Lin, Thermodynamic Studies on Phase Transformation in TiNi Alloy, **Acta Sci. Natur**., 7(1987) 51.

503. G. Lin and D.Y. Li, Thermodynamic Study of Phase Transformations in TiNi-based Alloys, **Rare Metals**, No.6, 296 (1987).
504. D. Y. Li and G. Lin, Effects of Thermal Cycling on Phase Transformation Behaviour and Deformation Behaviour of Ti- 50.3at%Ni Alloy, **Acta Sci. Natur**. (J. Zhongshan Univ.), No.4, 6 (1985).

- Handbooks:

505. D.Y. Li, Corrosive Wear Failure, **ASM Handbook,** ASM International, Materials Park, Ohio, 2020, DOI 10.31399/asm.hb.v.11a0006605.
506. D.Y. Li, Abrasive Wear, in **ASM Handbook,** Vol.18: Friction, Lubrication, and Wear Technology, Volume Editor, George E. Totten, 2017, ASM International, Materials Park, Ohio 44073-0002.
507. D.Y. Li, Corrosive Wear, in ***Encyclopedia of Tribology,*** Springer, 2013, ISBN 10: 0387928960 ISBN 13: 9780387928968.
508. D.Y. Li, Chapter 24 - Lubricants, **The Smithells Metals Reference Book, 8th edition**, 2004, Elsevier Ltd, Kidlington, Oxford, UK, PP.24-1 ~ 24-15.
509. D.Y. Li, Chapter 25 - Friction and wear, **The Smithells Metals Reference Book, 8th edition,** 2004, Elsevier Ltd, Kidlington, Oxford, UK, PP.25-1 ~ 25-26.

- Special issues

510. Special Issue "Wear and Corrosion Behavior of High-Entropy Alloy", Guest Editors: Dongyang Li, Yunqing Tang, Mingyu Wu, **Metals**, 2021-2023.
511. Special Issue “Mechanical Properties and Wear Resistance of Multi-component Alloys and Composites”, Guest Editors: G. Diao, D.Y. Li, Y.Q. Tang, **Lubricants**, 2025.
512. Special Issue “Progress in advanced high-entropy alloy design and applications: microstructures, mechanical, electrochemical and tribological properties”, Guest Editors: A. He, D.Y. Li, **Metals**, 2025.

- Patents:

P1. Randall T. Irvin, Elisabeth M. Davis, Dongyang Li, **“Surface-coated structures and methods”.** Patent No: 9096775, US Patent and Trademark Office.

P2. D.Y. Li, Y.Q. Tang, Ruiliang Liu, Dong Zhang, Tiger Tang, “**Complex and high-entropy carbides**”, 2022, Authorization Number: WO2022109685A1; AU2021386468B2; CN116568838A; CA3196754A1; US20230406713A1; EP4225717A4, ZA202304778B. Place of Authorization (Country/Region): International, Australia, China, Canada, United States, European, and South Africa.
IPC Classification: C22C 29/02, C04B 35/56 G16C 20/30 G16C 20/70 G16C 60/00.

P3. B. Hua, D.Y. Li, Y.Q. Tang, F. Hua, F. Han,”**A hybrid oil-electric mobile crushing and screening machine**”, Patent #: ZL202311608970.5, China National Intellectual Property Administration.

P4. B. Hua, D.Y. Li, Y.Q. Tang, F. Hua, F. Han,”**A variable frequency tamping machine with stable running**”, Patent #: ZL202410170448.1, China National Intellectual Property Administration.