

Curriculum Vitae: Jizi Liu

CONTACT INFORMATION

- Affiliation: Herbert Gleiter Institute of Nanoscience, Nanjing University of Science & Technology
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EDUCATION

PhD: Materials physics, College of Materials Science & Engineering, *Hunan University*, China, 2007 ~ 2014
Electron microscopy, Center for Microscopy and Microanalysis, *The university of Queensland*, Australia, 2009
Atomic imaging, Beijing National Center for Electron Microscopy, *Tsinghua University*, 2010
Focusing on: Advanced electron microscopy and its application in materials science
Thesis: The study on phase transformation of hardening precipitates in Al-Zn-Mg-(Cu) alloys during aging

MEng: Powder Metallurgy, College of Materials Science & Engineering, *Hunan University*, China, 2005 ~ 2007
Focusing on: Metal powder injection; Plastic working of metals

BEng: Materials Processing and Control Engineering, College of Materials Science & Engineering, *Hunan University*, China, 2001 ~ 2005

PROFESSIONAL RESEARCH EXPERIENCE

Herbert Gleiter Institute of Nanoscience, Nanjing University of Science & Technology

Permanent Scientist (Jan 2015 - Present)

- **(S)TEM:** Advanced atomic imaging; In-situ TEM; TEM holder design and fabrication; TEM combined with APT
- **Materials:** Metals and alloys (Al, Mg, Cu, Ti, BCC structure); Nanomaterials
- **Scientific problems:** Alloy design and phase transformation; Atomic structure and defects; Multiscale structures design of materials

College of Materials Science & Engineering, Hunan University

Assistant Researcher (Apr 2012 – Mar 2015)

- Electron microscopy in materials Science
- Composition design and precipitates in Al-Zn-Mg-(Cu) alloys
- The structural evolution of metastable phase in Al-Cu-Li and Al-Cu-Mg alloys studied by quantitative electron microscopy
- Mechanical properties and corrosion resistance of Al alloys

College of Materials Science & Engineering, Hunan University

Graduate Student Researcher (Sep 2005 – Mar 2012)

- Electron microscopy in materials science
 - Metal powder injection
 - Metal processing including rolling and forge
 - Mechanical tests of metals and alloys
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AWARDS AND HONORS

- Excellent Paper Award of Symposium in IUMRS-ICAM2013, Qingdao, China
- Participation Grant in THERMEC'2011, Quebec, Canada
- The State Scholarship awarded by Chinese Scholarship Council
- Annual Excellent Employee in 2013 awarded by The College of Materials Science & Engineering at Hunan University

CURRENT RESEARCH GRANTS

- J.Z. Liu, The structures and the evolution of the strengthening nanoprecipitates in Al-Zn-Mg-(Cu) alloys, 2014-2016, supported by the National Natural Science Foundation of China (NSFC), No. 51301064
- J.Z. Liu, The study on how to improve the performance of domestic aluminum alloys used in high-speed train as structural materials, supported by CRRC.
- J.Z. Liu, The design and fabrication of TEM-APT holder, supported by Jiangsu LEBO Science Instrument Co., Ltd
- J.Z. Liu, The application of graphene in metals and alloys, supported by Suzhou Gaotong New Materials Co., Ltd
- J.Z. Liu, The study on structures of nanoprecipitates in Al-Zn-Mg-(Cu) alloys using atomic imaging techniques, 2012-2016, supported by Young Teachers Growth Foundation of Hunan University, the Fundamental Research Funds for the Central Universities.
- J.Z. Liu, The study on the strengthening mechanism of Al-Zn-Mg-(Cu) alloys during ageing, 2014, supported by Hunan Province Key Laboratory for Spay Deposition Technology and Application.

PUBLICATIONS

- Liang Hao, Sujun Guan, Yun Lu, Wenzhi Qiu, Yiqiang He, **Jizi Liu***, Surface topography evolution of TiO₂/SnO₂ coatings during thermal oxidation of Ti/Sn composite coatings, **Surface & Coatings Technology** 291, 325-333, 2016.
- Liang Hao, Zhenwei Wang, Yaoqing Zheng, Qianqian Li, Sujun Guan, Qian Zhao, Lijun Cheng, Yun Lu, **Jizi Liu***, **Applied Surface Science**, *in press*, 2016.
- **J.Z. Liu**, J.H. Chen*, D.W. Yuan, C.L. Wu, T. Hu, J. Zhu, Z.Y. Cheng, Fine precipitation scenarios of AlZnMg(Cu) alloys revealed by advanced atomic-resolution electron microscopy study Part I: Structure determination of the precipitates in AlZnMg(Cu) alloys, **Materials Characterization** 99, 277-286, 2015.
- **J.Z. Liu**, J.H. Chen*, D.W. Yuan, C.L. Wu, T. Hu, J. Zhu, Z.Y. Cheng, Fine precipitation scenarios of AlZnMg(Cu) alloys revealed by advanced atomic-resolution electron microscopy study Part II: Fine precipitation scenarios in AlZnMg(Cu) alloys, **Materials Characterization** 99, 142-149, 2015.
- Z. Gao, **J.Z. Liu***, J.H. Chen, S.Y. Duan, Z.R. Liu, W.Q. Ming, C.L. Wu, Formation mechanism of precipitate T1 in AlCuLi alloys, **Journal of Alloys and Compounds** 624, 22-26, 2015.
- **J.Z. Liu***, S.S. Yang, S.B. Wang, J.H. Chen, C.L. Wu, The influence of Cu/Mg atomic ratios on precipitation scenarios and mechanical properties of Al-Cu-Mg alloys, **Journal of Alloys and Compounds** 613, 139-142, 2014.
- Xiubo Yang, **Jizi Liu***, Jianghua Chen, Caiyun Wan, Lei Fang, Ping Liu, Cuilan Wu, Relationship between the strengthening effect and the morphology of precipitates in Al-7.4Zn-1.7Mg-2.0Cu (wt. %) alloy, **Acta Metallurgica Sinica (English Letters)** 27(6), 1070-1077, 2014.
- X.B. Yang, J.H. Chen, **J.Z. Liu***, F. Qin, J. Xie, C.L. Wu, A high-strength AlZnMg alloy hardened by the T-phase precipitates, **Journal of Alloys and Compounds** 610, 69-73, 2014.
- X.B. Yang, J.H. Chen, **J.Z. Liu***, P. Liu, F. Qin, Y.L. Cheng, C.L. Wu, Spherical constituent particles formed by a multistage solution treatment in Al-Zn-Mg-Cu alloys, **Materials Characterization** 83, 79-88, 2013.
- T. Hu, J.H. Chen*, **J.Z. Liu**, Z.R. Liu, C.L. Wu*, The crystallographic and morphologic evolution of the strengthening precipitates in Cu-Ni-Si alloys, **Acta Materialia** 61, 1210-1219, 2013.
- Chen ZhenHua; Zhang LiKe; **Liu JiZi**; Chen Ding*, Cryogenic treatment induced hardening for Cu-Zr-Ag-Al bulk metallic glasses, **SCIENCE CHINA-TECHNOLOGICAL SCIENCES** 56(3): 637-641, 2013. S.B. Wang, J.H. Chen*, M.J. Yin, Z.R. Liu, D.W. Yuan, **J.Z. Liu**, C.H. Liu, C.L. Wu*, Double-atomic-wall-based dynamic precipitates of the early-stage S-phase in AlCuMg alloys, **Acta Materialia** 60, 6573-6580, 2012.
- Pei Yuan, Junliang Sun, Hongyi Xu, Liang Zhou, **Jizi Liu**, DaLiang Zhang, Yunhua Wang, Kevin S. Jack, John Drennan, Dongyuan Zhao, Gaoqing Lu, Xiaodong Zou*, Jin Zou* and Chengzhong Yu*, Extensive Inspection of an Unconventional Mesoporous Silica Material at All Length-Scales, **Chemistry of Materials** 23: 229-238, 2011.

- **J.Z. Liu**, J.H. Chen*, X.B. Yang, S. Ren, C.L. Wu, H.Y. Xu, J. Zou, Revisiting the precipitation sequence in Al-Zn-Mg-based alloys by high-resolution transmission electron microscopy, **Scripta Materialia** 63(11), 1061-1064, 2010.
- S.Q. Zhu, H.G. Yan*, J.H. Chen, Y.Z. Wu, **J.Z. Liu**, J. Tian, Effect of twinning and dynamic recrystallization on the high strain rate rolling process, **Scripta Materialia** 63(10): 985-988, 2010.
- Zhi-Gang Chen, Lina Cheng, Hong-Yi Xu, **Ji-Zi Liu**, Jin Zou*, Takashi Sekiguchi, Gao Qing (Max) Lu* and Hui-Ming