

Ali Mostaed

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Research Interests

- Atomic resolution STEM/TEM/EELS/EDX, Crystallography, Dislocations, Defects, Interfaces.

Education

PhD | Current

University of Warwick, Coventry, UK

- *Major*: Physics, Condensed Matter
- *Title of Thesis*: Atomic Structure Study of Pyrochlore Ytterbium Titanate
- *Supervisors*: Dr. R. Beanland and Prof. G. Balakrishnan
- *Grant*: Chancellor's International Scholarships (Full Scholarship)

M.Sc. | 2006-2009

K.N. Toosi University of Technology (KNTU), Tehran, Iran

- *Major*: Materials Science and Engineering
- *Title of Thesis*: Fabrication of Al-4.5wt%Cu/SiC Nanocomposite via Mechanical Milling Process; Evaluation & Comparison of its Precipitation hardening Behavior with Al-4.5wt%Cu Alloy's
- *Supervisors*: Prof. A. Shokuhfar and Dr. H. Saghafian
- *GPA*: 17.23 out of 20

B.Sc. | 2002-2006

Isfahan University of Technology (IUT), Isfahan, Iran

- *Major*: Materials Engineering
- *Title of Thesis*: Cathodic Protection of Reinforced Concrete
- *Supervisors*: Prof. M. A. Golozar and Dr. K. Raiessi

Publications

Journals

- [1] **A. Mostaed***, G. Balakrishnan, M. R. Lees, Y. Yasui, L. J. Chang, and R. Beanland, *Physical Review B*, Vol. 95, 094431 (2017). [<https://journals.aps.org/prb/abstract/10.1103/PhysRevB.95.094431>]
- [2] M. Sikora-Jasinska, E. Mostaed*, **A. Mostaed**, R. Beanland, D. Mantovani and M. Vedani, *Materials Science and Engineering C*, Vol.77, p.1170(2017). [<http://www.sciencedirect.com/science/article/pii/S0928493116324390>]
- [3] E. Mostaed*, M. Sikora-Jasinska, **A. Mostaed**, S. Loffredo, A.G. Demir, B. Previtali, D. Mantovani, R. Beanland and M. Vedani, *Journal of the Mechanical Behavior of Biomedical Materials*, Vol. 60, p. 581 (2016). [<http://www.sciencedirect.com/science/article/pii/S1751616116300388>]
- [4] **A. Mostaed***, H.Saghafian, E.Mostaed, A.Shokuhfar and H.R. Rezaie, *Materials characterization*, Vol. 76, p. 76 (2013). [<http://www.sciencedirect.com/science/article/pii/S1044580312003300>]
- [5] E.Mostaed, H.Saghafian, **A. Mostaed***, A.Shokuhfar and H.R. Rezaie, *Powders Technology*, Vol. 221, p. 278 (2012). [<http://www.sciencedirect.com/science/article/pii/S0032591012000150?v=s5>]

* Corresponding Author

- [6] A. Shokuhfar*, O. Ozhdelnia, **A. Mostaed** and E. Mostaed, *Journal of Nano Research*, Vol. 13, p.1 (2011). [http://www.scientific.net/]NanoR.13.1]
- [7] H. Kaffash*, A. Shokuhfar, H. R. Rezaie, E. Mostaed and **A. Mostaed**, *Defect and Diffusion Forum*, Vols. 297-301, p.1262 (2010). [http://www.scientific.net/DDF.297-301.1262]
- [8] **A. Mostaed***, E. Mostaed, A. Shokuhfar, H. Saghafian and H. R. Rezaie, *Defect and Diffusion Forum*, Vols. 283-286, p.494 (2009). [http://www.scientific.net/DDF.283-286.494]
- [9] E. Mostaed*, **A. Mostaed**, H. Saghafian, A. Shokuhfar and H. R. Rezaie, *Defect and Diffusion Forum*, Vols. 283-286, p.499 (2009). [http://www.scientific.net/DDF.283-286.499]

Selected Conferences

- [1] **A. Mostaed**, G. Balakrishnan, M.R. Lees and R. Beanland, "The effect of oxygen on the contrast of ADF-STEM images", Electron Microscopy and Analysis Group (EMAG) conference, **Durham, UK, 2016**.
- [2] **A. Mostaed**, G. Balakrishnan, M R Lees and R Beanland, "Atomic structure study of the Quantum Spin-ice Pyrochlore $\text{Yb}_2\text{Ti}_2\text{O}_7$ ", American Physical Society (APS) March meeting, **Baltimore, USA, 2016**.
- [3] E. Mostaed, M. Sikora-Jasinska, **A. Mostaed**, D. Mantovani, R. Beanland and M. Vedani, "Characterization of novel Zn-based alloys for biodegradable stent application", 10th World Biomaterials Congress, **Montréal, Canada, 2016**.
- [4] **A. Mostaed**, R Beanland, M R Lees and G. Balakrishnan, "Transmission electron microscopy study of $\text{Yb}_2\text{Ti}_2\text{O}_7$ ", Microscience Microscopy Congress (MMC2014), **Manchester, UK, 2014**.
- [5] O. Ozhdelnia, A. Shokuhfar, **A. Mostaed** and E. Mostaed, "Preparation of Nanostructured Al-4.5wt%Mg Powder via Mechanical Alloying Process", 6th International Conference on Diffusion in Solids and Liquids (DSL2010), **Paris, France, 2010**.
- [6] E. Mostaed, **A. Mostaed**, H. Saghafian, A. Shokuhfar and H. R. Rezaie "The Influence of Milling Time, Impact Force and SiC Particles Volume Fraction on the Crystallite Size During Fabrication of Al-4.5wt%Cu Alloy and Al-4.5wt%Cu/SiC via Mechanical Alloying", *International Conference on Materials for Advanced Technologies (ICMAT2009)*, **Singapore, 2009**.
- [7] **A. Mostaed**, E. Mostaed, A. Shokuhfar, H. Saghafian and H. R. Rezaie "Effects of Reinforcing Particles Volume Fraction on the Crystallites Size of Al and Cu During Synthesis of Al-4.5wt%Cu Alloy Based Nanocomposites via Mechanical Alloying", 5th International Conference on Diffusion in Solids and Liquids (DSL2009), **Rome, Italy, 2009**.
- [8] E. Mostaed, **A. Mostaed**, H. Saghafian, A. Shokuhfar and H. R. Rezaie "The Influence of TiC Particles Volume Fraction on Wear Behavior of Al-4.5wt%Cu/TiC Nanocomposite Synthesized via Mechanical Alloying", 5th International Conference on Diffusion in Solids and Liquids (DSL2009), **Rome, Italy, 2009**.
- [9] A. Shokuhfar, H. R. Rezaie, H. Kaffash, E. Mostaed and **A. Mostaed** "Effects of Milling Time and Impact Force on the Mutual Diffusion of Cu and Fe During Synthesis of Nanostructured Fe-50%Cu Alloy via Mechanical Alloying Process", 5th International Conference on Diffusion in Solids and Liquids (DSL2009), **Rome, Italy, 2009**.
- [10] **A. Mostaed**, E. Mostaed, A. Shokuhfar, H. Saghafian and H. R. Rezaie "The Influence of Milling Time and Impact Force on the Mutual Diffusion of Al and Cu During Synthesis of Al-4.5wt%Cu Alloy via Mechanical Alloying", 4th International Conference on Diffusion in Solids and Liquids (DSL2008), **Barcelona, Spain, 2008**.
- [11] E. Mostaed, **A. Mostaed**, H. Saghafian, A. Shokuhfar and H. R. Rezaie "Effect of SiC Particles Volume Fraction on the Mutual Diffusion of Al and Cu During Fabrication of Al-4.5wt%Cu/SiC via Mechanical Alloying", 4th International Conference on Diffusion in Solids and Liquids (DSL2008), **Barcelona, Spain, 2008**.

Honor and Awards

- ✓ Warwick Chancellor's scholarship for postgraduate studies (2013-2017).
- ✓ Received a grant (travel & accommodation) to participate in the training program entitled "Nanoanalysis using focused ion and electron beams" (Based on CV and examination) from the University of Luxembourg (2012-2013).
- ✓ Best posters: The second joint conference of 12th Iranian metallurgical engineers' society annual congress and 20th Iranian foundry society seminar, Karaj, Iran.
- ✓ Admitted in Bachelor program in Isfahan University of Technology (one of the 5 top universities in Iran) through the national entrance exam called Konkour (Rank: below 1%).

- ✓ Admitted in Master's program in K.N.Toosi University of Technology (one of the 5 top universities in Iran) through the national entrance exam.

Work Experience

- ✓ Laboratory for Nanostructure Epitaxy and Spintronics on Silicon (L-NESS), Como, Italy (2013).
- ✓ Nondestructive Testing Techniques to Evaluate Material Properties in "Laboratorio di Analisi Fototermiche", University of Rome Tor Vergata, Rome, Italy (2011–2012).
- ✓ Lecturer: Department of Mechanical Engineering, Azad University - Damavand Branch, Damavand, Iran (2010).
- ✓ Teaching Assistance: Materials Science Laboratory - Faculty of Mechanical Engineering, K.N. Toosi University of Technology, Tehran, Iran (2006–2009).

Technical Skills

- ✓ Skillful at operating the following instruments:
 - JEOL ARM200F (atomic resolution imaging (TEM, STEM), diffraction, atomic resolution EELS/EDS, etc.)
 - JEOL 2100 TEM (imaging, diffraction, EDS)
 - JEOL2000fx TEM
 - Zeiss FEG-SEM (imaging, EBSD, EDS)
 - JEOL 4500 FIB-SEM

Computer Skills

- ✓ I am expert in MATLAB programming (image processing, GUI)
- ✓ I developed a program, BurgersVector, used to calculate the Burgers vector of defects in the TEM/STEM images.
- ✓ Proficient user of (S)TEM image simulation software (QSTEM, STEMsim, Jems, etc.)

Workshops and Training

- ✓ Training program for electron energy loss spectroscopy (EELS) and energy-filtered transmission electron microscope (EFTEM), GATAN UK EELS School 2015.
- ✓ Advanced Topics in Aberration-Corrected STEM, SuperSTEM Summer School 2014.
- ✓ Nanoanalysis using focused ion and electron beams, Nanobeams PhD School, Luxembourg, 2012.

Extra Activities & Hobbies

- ✓ Mountain climbing
- ✓ Traveling

References

- ✓ Dr. R. Beanland: r.beanland@warwick.ac.uk
- ✓ Prof. G. Balakrishnan: g.balakrishnan@warwick.ac.uk
- ✓ Dr. A. Sanchez: a.m.sanchez@warwick.ac.uk
- ✓ Dr. H. Saghafian: saghafian@iust.ac.ir
- ✓ Prof. H. R. Rezaie: hrezaie@iust.ac.ir
- ✓ Prof. A. Shokuhfar: shokuhfar@kntu.ac.ir
- ✓ Prof. M. A. Golozar: golozar@cc.iut.ac.ir
- ✓ Dr. K. Raissei: k_raeissi@cc.iut.ac.ir