

Morteza Abedini

Address: Department of Metallurgy and Materials Engineering, Faculty of Engineering, University of Kashan, Kashan, Iran

Scientific Position: Assistant Professor

Phone: 0098-3155912455

E-mail: mabedini@kashanu.ac.ir

Education

2009-2015 University of Tehran

- PhD in Metallurgy and Materials Engineering

2006-2009 University of Tehran

- MSc in Metallurgy and Materials Engineering

2002-2006 Amirkabir University of Technology (Tehran Polytechnic)

- BSc in Metallurgy and Materials Engineering

Research history

- University of Kashan, Since 2015
- University Duisburg-Essen, Germany, 2018
- Otto-von-Guericke University Magdeburg, Germany, 2021
- University Duisburg-Essen, Germany, 2021-2023

Teaching Experiences

- **Mechanical aspects of Corrosion**, Islamic Azad University, Neyshabur Branch
- **Cathodic and anodic protection**, Islamic Azad University, Neyshabur Branch
- **Thermodynamics of Materials**, Islamic Azad University of Roodehen
- **2012-2013 Solidification of Metals**, Islamic Azad University of Roodehen
- **2015-2017 Mechanical aspects of Corrosion**, University of Kashan
- **2015-2018 Thermodynamics of Materials**, University of Kashan
- **2015-2018 Corrosion and Oxidation**, University of Kashan
- **2015-2018 Transport Phenomena**, University of Kashan
- **2015-2017 Materials Science**, University of Kashan
- **2015-2018 Surface Metallurgy and Coatings**, University of Kashan

Publication list

- 1- **Abedini, M.**, Hanke, S., Reuter, M., (2023): In situ measurement of cavitation damage from single bubble collapse using high-speed chronoamperometry, *Ultrasonics Sonochemistry* 92, 106272
- 2- Cheraghali, B., Ghasemi, H.M., **Abedini, M.**, Yazdi, R. (2022): Functionally graded oxygen-containing coating on CP-titanium for bio-applications: characterization, biocompatibility and tribocorrosion behavior, *Journal of Materials Research and Technology* 21, 104-120

- 3- **Abedini, M.**, Ghasemi, H.M. (2021): Electrochemical noise and polarization analyses on corrosion of Al-Brass alloy during erosion-corrosion, *Journal of Bio- and Tribo-Corrosion* 7, 68.
- 4- Yazdi, R., Ghasemi, H.M., **Abedini, M.**, Monshi, M. (2020): Interplay between mechanical wear and electrochemical corrosion during tribocorrosion of oxygen diffusion layer on Ti–6Al–4V in PBS solution, *Applied Surface Science* 518, 146048.
- 5- Cheraghali, B., Ghasemi, H.M., **Abedini, M.**, Yazdi, R. (2020): A functionalized duplex coating on CP-titanium for biomedical applications, *Surface and Coatings Technology*, 399, 126117.
- 6- Yazdi, R., Ghasemi, H.M., **Abedini, M.**, Wang, C., Neville, A. (2020): Tribocorrosion behaviour of Ti6Al4V under various normal loads in phosphate buffered saline solution, *Transactions of Nonferrous Metals Society of China*, 30, 1300–1314.
- 7- **Abedini, M.**, Reuter, F., Hanke, S. (2019): Corrosion and material alterations of a CuZn38Pb3 brass under acoustic cavitation, *Ultrasonics Sonochemistry* 58, 104628.
- 8- Yazdi, R., Ghasemi, H.M., **Abedini, M.** Wang, C., Neville, A. (2019): Oxygen diffusion layer on Ti–6Al–4V alloy: scratch and dry wear resistance, *Tribology Letters* 67: 101. <https://doi.org/10.1007/s11249-019-1214-3>
- 9- Barati, M., Abbasi, M., **Abedini, M.** (2019): The effects of friction stir processing and friction stir vibration processing on mechanical, wear and corrosion characteristics of Al6061/SiO₂ surface composite, *Journal of Manufacturing Processes* 45, 491-497.
- 10- Shahali, H., Ghasemi, H.M., **Abedini, M.** (2019): Contributions of corrosion and erosion in the erosion-corrosion of Sanicro 28. *Materials Chemistry and Physics* 233, 366–377.
- 11- **Abedini, M.**, Jahangiri, M.R., Karimi, P. (2019): Rejuvenation of the microstructure and mechanical properties of a service-exposed IN939 superalloy by heat treatments. *Materials at High Temperatures* 36, 19-26.
- 12- Khayatan, N., Ghasemi, H.M., **Abedini, M.** (2018): Study of erosion-corrosion and corrosion behavior of CP-Ti during slurry erosion. *Journal of Tribology* 140, DOI: 10.1115/1.4040156.
- 13- Yazdi, R., Ghasemi, H.M., **Abedini, M.**, Wang, C., Neville, A. (2018): Mechanism of tribofilm formation on Ti6Al4V oxygen diffusion layer in a simulated body fluid. *Journal of the Mechanical Behavior of Biomedical Materials* 77, 660-670.
- 14- **Abedini, M.**, Jahangiri, M.R., Karimi, P. (2018): Oxidation and hot corrosion behaviors of service-exposed and heat-treated gas turbine vanes made of IN939 alloy. *Oxidation of Metals* 90, 469-484.
- 15- Khayatan, N., Ghasemi, H.M., **Abedini, M.** (2017): Synergistic erosion-corrosion behavior of commercially pure titanium at various impingement angles. *Wear* 380-381, 154–162.
- 16- Fouladi, S., Ghasemi, A.H., Abbasi, M., **Abedini, M.**, Khorasani, A.M., Gibson, I. (2017): The effect of vibration during friction stir welding on corrosion behavior, mechanical properties, and machining characteristics of stir zone. *Metals* 7:10, 421.

- 17- **Abedini, M.**, Ghasemi, H.M. (2017): Erosion and erosion-corrosion of Al-brass alloy: effects of jet velocity, sand concentration and impingement angle on surface roughness. Transactions of Nonferrous Metals Society of China 27, 2371-2380.
- 18- **Abedini, M.**, Ghasemi, H.M. (2016): Corrosion behavior of Al-brass alloy during erosion-corrosion process: effects of jet velocity and sand concentration. Materials and Corrosion 67, 513-521.
- 19- Nasehi, J., Ghasem, H.M., **Abedini, M.** (2016): Effects of aging treatments on the high temperature wear behavior of 60Nitinol alloy. Tribology Transactions 59, 286-291.
- 20- Ranjbar, M., Ghasemi, H.M., **Abedini, M.** (2015): Effect of impact angle on the erosion-corrosion behavior of AISI420 stainless steel in 3.5 wt.% NaCl solution. Journal of Tribology 137:3.
- 21- **Abedini, M.**, Ghasemi, H.M. (2014): Synergistic erosion-corrosion behavior of Al-brass alloy at various impingement angles. Wear 319, 49-55.
- 22- Jahangiri, M.R., **Abedini, M.** (2014): Effect of long time service exposure on microstructure and mechanical properties of gas turbine vanes made of IN939 alloy. Materials & Design 64, 588-600.
- 23- **Abedini, M.**, Ghasemi, H.M., Nili Ahmadabadi, M. (2012): Effect of normal load and sliding distance on the wear behavior of NiTi alloy. Tribology Transactions 55, 677-684.
- 24- Aliasgarian, R., Ghasemi, H.M., **Abedini, M.** (2011): Tribological behavior of heat treated Ni-rich NiTi alloys", Journal of Tribology 133:3.
- 25- Ghasemi, H.M., Karimi, M., Pasha, A., **Abedini, M.** (2011): Erosion-corrosion behavior of 316-SS in seawater simulated environment at various impingement angles. International Journal of Mechanical and Materials Engineering 6, 400-404.
- 26- **Abedini, M.**, Ghasemi, H.M., Nili Ahmadabadi, M. (2010): Self-Healing effect on the worn surface of NiTi shape memory alloy. Materials Science and Technology, 26:3, 285-288.
- 27- **Abedini, M.**, Ghasemi, H.M., Nili Ahmadabadi, M. (2010): High temperature tribological behavior of NiTi alloy against 52100 steel and WC. Materials Characterization 61, 689-695.
- 28- **Abedini, M.**, Ghasemi, H.M., Nili Ahmadabadi, M., Mahmudi, R. (2010): Effect of phase transformation on the mechanical and wear behavior of NiTi alloy. Journal of Engineering Materials and Technology 132, 1-6.
- 29- **Abedini, M.**, Ghasemi, H.M., Nili Ahmadabadi, M. (2009): Tribological behavior of NiTi alloy in martensitic and austenitic states. Materials & Design 30, 4493-4497.
- 30- Asadi Kouhanjani, S., Zare-bidaki, A., **Abedini, M.**, Parvin, N. (2009): Influence of prior cold working on the tribological behavior of Cu-0.65 wt.%Cr alloy. Journal of Alloys and Compounds 480, 505-509.

Invited Peer Review

- Wear
- Corrosion Science
- Tribology Transactions
- Ultrasonics Sonochemistry
- Transactions of Nonferrous Metals Society of China
- Journal of Mechanical Science and Technology
- International Conference on Ultrafine Grained and Nanostructured Materials
- National Corrosion Congress
- Wear of Materials Conference