

CURRICULUM VITAE

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EDUCATION

Ph.D Islamic Azad university, Iran, Materials Engineering, 2013
M.Sc. Amirkabir university of technology, Iran, Materials Engineering, 2003
B.Sc. Sharif university of technology, Iran, Materials Engineering, 2000

ACADEMIC APPOINTMENTS

2006- present **Associate Professor**
Faculty of Engineering, Islamic Azad University, Saveh Branch, Iran

2006-2015, **Lecturer**
Department of Materials Engineering, Islamic Azad University, Science and Research Branch, Iran

2008-2013, **Lecturer**
Department of Engineering, University of Applied Science and Technology, Safa Industrial Group Co., Iran

2011-2012, **Lecturer**
Department of Engineering, Zabol University, Iran

2013-2014, **Lecturer**
Department of Engineering, Technical and Vocational Training Organization, Saveh Branch, Iran

2014-2015, **Lecturer**
Department of Welding Engineering, University of Applied Science and Technology, Welding Engineering and Research Center, Iran

RESEARCH INTERESTS

- Welding and joining
- Physical metallurgy of steels
- Thermomechanical processing

Professional Service Activities

- Educational, Student and Cultural Affairs Deputy, Islamic Azad University, Zarandieh Branch, Ma'moonieh, Iran, 2015-2016.
- Director of Welding Engineering Department, University of Applied Science and Technology, Welding Engineering and Research Center, Tehran, Iran, 2014-2015.
- Tech-Market Services Corridor Consultant and Member of the Standards Committee, Iran Nanotechnology Initiative Council, Tehran, Iran, 2013-2014.
- Head of Young Researchers and Elites Club, Islamic Azad University, Saveh Branch, Iran, 2012-2013.
- Technical inspection expert, Pars Oil and Gas Company, Tehran, Iran, 2005-2006.
- Expertise on quality assurance of Safa Rolling and Pipe Mills Company, Saveh, Iran, 2003-2004.

PROFESSIONAL MEMBERSHIPS

- A member of The Specialized Commission on Planning and Compilation of Metallurgy Textbooks, Ministry of Education, Iran, (2006-present)
- A member of The Young Researchers and Elites Club, Islamic Azad University (2010-present)

SELECTED MAJOR RESEARCH ACTIVITIES

1. Constrained groove pressing and annealing in Al-Mn-Si alloy (with M.R. Jandaghi and H. Pouraliakbar, WorldTech Scientific Research Center (WT-SRC), Iran) 2011-present.
2. Application of artificial intelligence in predicting material properties (WorldTech Scientific Research Center (WT-SRC), Iran) 2011-present.
3. Explosive welding and post weld heat treatment (with Dr. M.R. Khanzadeh, Islamic Azad university, Iran) 2015- present.
4. Corrosion in pipeline steels (WorldTech Scientific Research Center (WT-SRC) and Safa Industrial Group, Iran) 2015-present.
5. The feasibility of multi-wall carbon nanotube synthesis on red mud without the use of a catalyst, (Islamic Azad University, Iran), 2014.
6. Characterization and modelling of phase transformation in HSLA steels (with Dr. A. Khodabandeh, Islamic Azad University, Iran). 2009-2013.
7. Geopolymers (with Dr. A. Nazari, WorldTech Scientific Research Center (WT-SRC), Iran) 2008-2013.
8. Corrosion in oil refining components (Pars Oil & Gas Company, Iran), 2006 – 2007.
9. Fracture toughness of X65 pipeline steel (Safa Rolling and Pipe Mills Co., Iran), 2005 - 2006.
10. Thermo-reactive deposition and diffusion coatings (with Prof. S.M. Mousavi Khoei, Iran), 2003-2006.

Major Outcomes of Above Projects

1. **Constrained groove pressing:** 7 journal publications in *Materials and Design*, *Journal of Alloys and Compounds*, *MSEA*, *Journal of Advanced Manufacturing Technology* and

Archives of Civil and Mechanical Engineering reporting microstructure evolutions, crystallographic transformations, mechanical properties, electrical conductivity and corrosion behaviour of constrained groove pressed and annealed Al-Mn-Si alloy.

2. **Explosive welding:** 4 journal publications in *Journal of Manufacturing Processes, Journal of Central South University, International Journal of Minerals, Metallurgy, and Materials and Materials Research* reporting characterizing welding and post weld heat treating effects on the interface microstructure and mechanical properties in explosive welded joints.
3. **HSLA steels:** 7 journal publications in *International Journal of Pressure Vessels and Piping, Measurement, Journal of Iron and Steel Research International, Materials Science and Technology and Neural Computing and Applications* reporting microstructure evolution and phase transformations in microalloyed pipeline steels.
4. **Geopolymers:** 9 journal publications in *International Journal of Damage Mechanics, Ceramics International, Materials and Design, Composites Part B* reporting the construction and examination of physical and mechanical properties in geopolymers.
5. **TRD coatings:** 8 journal publications in *Surface and Coatings Technology, Ceramics International, Neural Computing and Applications, Measurement* addressing microstructure evolutions, mechanical properties, thermodynamics, kinetics and modelling of TRD coatings.
6. **Artificial intelligence:** 8 journal publications in *Ceramics International, Measurement, Neural Computing and Applications, Journal of Mining and Metallurgy, Journal of Iron and Steel Research International, International Journal of Materials Research* reporting modelling the correlation between different structures, properties and processes in steels.
7. **Corrosion in pipeline steels:** 3 journal publications in *International Journal of Pressure Vessels and Piping and Measurement* reporting corrosion of the pipeline steels in aerated carbonate solution by electrochemical methods.

TEACHING AND SUPERVISION EXPERIENCE

Classes Taught

- 1) For undergraduate students in the Engineering Faculty: 2003 - Present, Islamic Azad University, Saveh Branch.

Heat treatment, Physical metallurgy, Mechanical metallurgy, Surface engineering, Welding metallurgy, English for materials science and engineering, Heat transfer, Selection of engineering materials, Materials science
- 2) For postgraduate students in the Engineering Faculty: 2013 - Present, Islamic Azad University, Saveh Branch.

Nondestructive testing, Advanced corrosion, Corrosion kinetics, Cathodic protection, Composites, Metallurgy in manufacturing
- 3) For undergraduate students in the Engineering Faculty: 2006 to 2014, Islamic Azad University, Science and Research Branch.

Heat treatment, English for materials science and engineering, Heat treatment lab., Metallography lab., Welding lab., Solidification and casting lab

- 4) For undergraduate students in the Welding Engineering Department: 2014-2015, University of Applied Science and Technology, Welding Engineering and Research Center.

Welding metallurgy, Residual stress and distortion control, Heat treatment, Inspection and quality control of materials, Selection of welding processes, Special welding processes.

- 5) For undergraduate students in the Engineering Faculty: 2011 to 2012, Zabol University.

Metal Forming, Founding metallurgy, Welding metallurgy

- 6) For undergraduate students in the Engineering Faculty: 2008-2013, University of Applied Science and Technology, Safa Industrial Group Co.

Rolling mills, Reheating furnaces, Materials selection

- 7) For undergraduate students in the Engineering Faculty: 2013-2014, Technical and Vocational Training Organization, Saveh branch

Welding metallurgy, Materials science, Heat treatment

THESES SUPERVISED

- Ali Fadaei, Investigation of post weld heat treatment effects on properties of explosively welded three layers Al5000 series -Al1000 series -Steel interface, 2015
- Abbas Gholami, Evaluation of Effects of post-weld heat treatment cycles on microstructure and mechanical properties at Heat Affected Zone in high Frequency induction welded Process of API X60 Steel, 2015
- Reza Mohammadi Sanavi, Effect of type and number of coating layers on Wear properties of steel A216 in Plug valve abstractor in oil and gas industry, 2015
- Moslem Soltanieh, Evaluation of nickel cladding hardness and wear properties by GTAW on low carbon steel, 2016
- Ali Asadollahzadeh, Effect of welding parameters on microstructure and mechanical properties of spot resistance weld of 304 stainless steel, 2016
- Ahmad Madmoli-Moradi, Effect of post weld heat treatment on mechanical properties of dissimilar joining of magnesium alloy AZ31 to aluminum 2024 by friction stir welding method, 2016
- Naser Nazari, Effect of Friction stir welding process parameters on the mechanical properties of dissimilar weld of 5083 aluminum and 2024 aluminum alloys, 2016
- Sirous Bahri, Influence of flux composition and A-TIG welding parameters on microstructure and mechanical properties in 304 stainless steel, 2017
- Mohammad Zaman Zokaei, Investigation of the effect of short glass fiber and talc mineral filler on mechanical behavior of polypropylene base composite, 2017
- Jaafar Ahmadi-rad, Comparison of phase transformation and structure of simulated heat affected zone in API-X65 and X70 pipeline steels, 2017
- Amir Rasouli, Corrosion study of composite coating (Ni-Cr-B-Si) with tungsten carbide particles by spraying electrochemical electrodes on ductile cast, 2017

- Alireza Aliakbarzadeh, Conjunction of Al 2124-7075 alloys by friction stir welding and investigation of their microstructure and mechanical behaviour, 2017
- Farshid Mahoori, Investigation of effects of velocity and current of submerged arc welding on the microstructure, tensile strength and toughness of ASTM A516 GRADE 70 steel, 2017
- Saeid Ghamari, Investigating on properties of Ni based coatings (NiCrBSi) and composite coating (WC + NiCrBSi) produced on ductile iron by spray coating method and evaluation its structure, hardness and wear resistance, 2018
- Bahman Mahboobi, Investigating of Carbon Nanotubes Coating by Magnesium Oxide Phase by Chemical Deposition Method to Improve the Oxidation, 2018
- Hamed Ghamari Heidarpor, Influence of flux composition and A-TIG welding parameters on microstructure and microhardness in low carbon steel, 2018
- Hadi Farahmand, Phase and microstructural analysis of nickel base superalloy bonding (Inconel 718) by inertia friction welding method, 2018
- Hadi Abdollahzadeh, Investigation of the Effect of Titanium Dioxide Additive in the Process of Submerged Arc Welding on the Mechanical and Structural Properties of Weld Metal in A516Gr70 Steel, 2018
- Javad Saberi, Construction and study of 1050 aluminum matrix composite with Al₂O₃ and TiO₂ reinforcing particles using accumulative roll bonding (ARB), 2018

Current M.Sc. Project

- Mohammad-Javad Sadeghi, Investigation of Effect of severe plastic deformation (CGP and rolling) on corrosion behaviour of Al-Mn aluminum alloys
- Ebrahim Asadian, Investigation on effect of rolling on microstructure and hardness of copper-304stainless steel explosively bonded plates

HONOURS, AWARDS, AND SPECIAL RECOGNITIONS

- 2018 Top researcher, 6th Festival of Islamic Azad University, Tehran, Iran
- 2017 Top paper, 5th Festival of Islamic Azad University, Tehran, Iran
- 2017 Top researcher, Islamic Azad University, Markazi Province, Iran
- 2016 Top paper, Islamic Azad University, Markazi Province, Iran
- 2015 Top researcher, Islamic Azad University, Markazi Province, Iran
- 2011 – 2017 Top researcher, Islamic Azad University, Saveh branch

Referee for Journals

- Corrosion Science (Elsevier)
- Cement and Concrete Composites (Elsevier)
- Materials & Design (Elsevier)
- Neural Computing and Applications (Springer)
- Steel & Composite structures (Techno Press)
- Construction and Building Materials (Elsevier)

- Ceramics International (Elsevier)
- Surface and Coatings Technology (Elsevier)
- Materials Characterization (Elsevier)
- Vacuum (Elsevier)
- Transactions of Nonferrous Metals Society of China (Elsevier)
- Journal of Materials Engineering and Performance (Springer)
- Journal of Zhejiang University SCIENCE A (Springer)
- Journal of Iron and Steel Research International (Springer)
- Materials Research (SciELO.br)
- Ingeniería E Investigación (SciELO Colombia)
- The Open Construction and Building Technology Journal (benthamopen)
- Journal of Applied Mathematics and Physics (Scrip)
- Heliyon (Elsevier)
- African Journal of Science, Technology, Innovation and Development (Taylor & Francis)
- Indian Chemical Engineer (Taylor & Francis)
- Archives of Foundry Engineering (Politechnika Śląska)

PUBLICATIONS

Books

- Technical/Professional Knowledge (in persian), The General Bureau for Textbooks Printing and Distribution, Tehran, 2018, <http://chap.sch.ir/books/6678>.
- Technical/Professional Knowledge -Teacher's Guide (in persian), The General Bureau for Textbooks Printing and Distribution, Tehran, 2018
- Student Data Book (in persian), The General Bureau for Textbooks Printing and Distribution, Tehran, 2018, <http://chap.sch.ir/books/6733>.
- Manufacturing of metal parts by casting method (in persian), The General Bureau for Textbooks Printing and Distribution, Tehran, 2016, <http://chap.sch.ir/books/5957>.
- Manufacturing of metal parts by casting method-Teacher's Guide (in persian), The General Bureau for Textbooks Printing and Distribution, Tehran, 2016, <http://chap.sch.ir/books/6097>.
- Patent No. 17992, Standardization National Iran Organization (INSO): Nanotechnologies – Guidance on Voluntary labeling for consumers products containing manufactured nano-objects (in persian), 2014. <http://standard.isiri.gov.ir/StandardView.aspx?Id=36760>
- Translation of the book into Persian: "Science and Material Engineering", D.R. Askeland, 2014.
- Translation of the book into Persian: "Steel Heat Treatment: Metallurgy and Technologies", George E. Totten, 2014.
- Identifying of Metals (in persian), The General Bureau for Textbooks Printing and Distribution, Tehran, 2010, <http://chap.sch.ir/books/3439>.

1. Shiran, M.K.G., **Khalaj, G.**, Pouraliakbar, H., Jandaghi, M.R., Dehnavi, A.S., Bakhtiari, H., Multilayer Cu/Al/Cu explosive welded joints: Characterizing heat treatment effect on the interface microstructure and mechanical properties, *Journal of Manufacturing Processes*, 35, 2018, 657-663, <https://doi.org/10.1016/j.jmapro.2018.09.014>
2. Khanzadeh Gharahshiran, M.R., Khoshakhlagh, A., **Khalaj, G.**, Bakhtiari, H., Banihashemi, A.R., Effect of postweld heat treatment on interface microstructure and metallurgical properties of explosively welded bronze—carbon steel, *Journal of Central South University*, 25, 2018, 1849-1861, <https://doi.org/10.1007/s11771-018-3874-9>
3. Kiahosseini, S.R., Mohammadi Baygi, S.J., **Khalaj, G.**, Khoshakhlagh, A., Samadipour, R., A Study on Structural, Corrosion, and Sensitization Behaviour of Ultrafine and Coarse Grain 316 Stainless Steel Processed by Multiaxial Forging and Heat Treatment, *Journal of Materials Engineering and Performance*, 27, 2018, 271-281, <https://doi.org/10.1007/s11665-017-3095-7>
4. Shiran, M.K.G., **Khalaj, G.**, Pouraliakbar, H., Jandaghi, M., Bakhtiari, H., Shirazi, M., Effects of heat treatment on the intermetallic compounds and mechanical properties of the stainless steel 321–aluminum 1230 explosive-welding interface, *International Journal of Minerals, Metallurgy and Materials*, 24, 2017, 1267–1277, <https://doi.org/10.1007/s12613-017-1519-x>
5. Pouraliakbar, H., Jandaghi, M.R., **Khalaj, G.**, Constrained groove pressing and subsequent annealing of Al-Mn-Si alloy: Microstructure evolutions, crystallographic transformations, mechanical properties, electrical conductivity and corrosion resistance, *Materials and Design*, 124, 2017, 34-46, <https://doi.org/10.1016/j.matdes.2017.03.053>
6. **Khalaj, G.**, Pouraliakbar, H., Jandaghi, M.R., Gholami, A., Microalloyed steel welds by HF-ERW technique: Novel PWHT cycles, microstructure evolution and mechanical properties enhancement, *International Journal of Pressure Vessels and Piping*, 152, 2017, 15-26, <https://doi.org/10.1016/j.ijpvp.2017.04.003>
7. Shiran, M.R.K.G., Bakhtiari, H., Mousavi, S.A.-A.A., **Khalaj, G.**, Mirhashemi, S.M., Effect of stand-off distance on the mechanical and metallurgical properties of explosively bonded 321 austenitic stainless steel - 1230 aluminum alloy tubes, *Materials Research*, 20, 2017, 291-302, <https://doi.org/10.1590/1980-5373-MR-2016-0516>
8. Pouraliakbar, H., Jandaghi, M.R., Mohammadi Baygi, S.J., **Khalaj, G.**, Microanalysis of crystallographic characteristics and structural transformations in SPDeD Al-Mn-Si alloy by dual-straining, *Journal of Alloys and Compounds*, 696, 2017, 1189-1198, <https://doi.org/10.1016/j.jallcom.2016.12.086>
9. Mesgari Abbasi, S., Rashidi, A., Ghorbani, A., **Khalaj, G.**, Synthesis, processing, characterization, and applications of red mud/carbon nanotube composites, *Ceramics International*, 42, 2016, 16738-16743, <https://doi.org/10.1016/j.ceramint.2016.07.146>
10. Abbasi, S.M., Ahmadi, H., **Khalaj, G.**, Ghasemi, B., Microstructure and mechanical properties of a metakaolinite-based geopolymer nanocomposite reinforced with carbon

nanotubes, *Ceramics International*, 42, 2016, 15171-15176,
<https://doi.org/10.1016/j.ceramint.2016.06.080>

11. **Khalaj, G.**, Khalaj, M.-J., Investigating the corrosion of the Heat-Affected Zones (HAZs) of API-X70 pipeline steels in aerated carbonate solution by electrochemical methods, *International Journal of Pressure Vessels and Piping*, 145, 2016, 1-12,
<https://doi.org/10.1016/j.ijpvp.2016.06.001>
12. Jandaghi, M.R., Pouraliakbar, H., **Khalaj, G.**, Khalaj, M.-J., Heidarzadeh, A., Study on the post-rolling direction of severely plastic deformed Aluminum-Manganese-Silicon alloy, *Archives of Civil and Mechanical Engineering*, 16, 2016, 876-887,
<https://doi.org/10.1016/j.acme.2016.06.005>
13. Pouraliakbar, H., Firooz, S., Jandaghi, M.R., **Khalaj, G.**, Nazari, A., Predicting the ultimate grain size of aluminum sheets undergone constrained groove pressing, *International Journal of Advanced Manufacturing Technology*, 86, 2016, 1639-1658,
<https://doi.org/10.1007/s00170-015-8212-x>
14. Khalaj, M.-J., Ahmadi, H., Lesankhosh, R., **Khalaj, G.**, Study of physical and mechanical properties of polypropylene nanocomposites for food packaging application: Nano-clay modified with iron nanoparticles, *Trends in Food Science and Technology*, 51, 2016, 41-48, <https://doi.org/10.1016/j.tifs.2016.03.007>
15. Jandaghi, M.R., Pouraliakbar, H., Shiran, M.K.G., **Khalaj, G.**, Shirazi, M., On the effect of non-isothermal annealing and multi-directional forging on the microstructural evolutions and correlated mechanical and electrical characteristics of hot-deformed Al-Mg alloy, *Materials Science and Engineering A*, 657, 2016, 431-440,
<https://doi.org/10.1016/j.msea.2016.01.056>
16. Pouraliakbar, H., Pakbaz, M., Firooz, S., Jandaghi, M.R., **Khalaj, G.**, Study on the dynamic and static softening phenomena in Al-6Mg alloy during two-stage deformation through interrupted hot compression test, *Measurement: Journal of the International Measurement Confederation*, 77, 2016, 50-53,
<https://doi.org/10.1016/j.measurement.2015.08.033>
17. **Khalaj, G.**, Pouraliakbar, H., Arab, N., Nazerfakhari, M., Correlation of passivation current density and potential by using chemical composition and corrosion cell characteristics in HSLA steels, *Measurement: Journal of the International Measurement Confederation*, 75, 2015, 5-11, <https://doi.org/10.1016/j.measurement.2015.07.048>
18. Etaat, M., Pouraliakbar, H., **Khalaj, G.**, Ghambari, M., Adhesion strength measurement of nickel layer on the iron-based P/M parts influenced by different surface pre-treatment operations, *Measurement: Journal of the International Measurement Confederation*, 66, 2015, 204-211, <https://doi.org/10.1016/j.measurement.2015.02.006>
19. Pouraliakbar, H., **Khalaj, G.**, Jandaghi, M.R., Khalaj, M.J., Study on the correlation of toughness with chemical composition and tensile test results in microalloyed API pipeline steels, *Journal of Mining and Metallurgy, Section B: Metallurgy*, 51, 2015, 173-178,
<https://doi.org/10.2298/JMMB140525025P>

20. Pouraliakbar, H., Khalaj, M.-J., Nazerfakhari, M., **Khalaj, G.**, Artificial Neural Networks for Hardness Prediction of HAZ with Chemical Composition and Tensile Test of X70 Pipeline Steels, *Journal of Iron and Steel Research International*, 22, 2015, 446-450, [https://doi.org/10.1016/S1006-706X\(15\)30025-X](https://doi.org/10.1016/S1006-706X(15)30025-X)
21. Narimani, N., Zarei, B., Pouraliakbar, H., **Khalaj, G.**, Predictions of corrosion current density and potential by using chemical composition and corrosion cell characteristics in microalloyed pipeline steels, *Measurement: Journal of the International Measurement Confederation*, 62, 2015, 97-107, <https://doi.org/10.1016/j.measurement.2014.11.011>
22. Pouraliakbar, H., **Khalaj, G.**, Gomidželović, L., Khalaj, M.-J., Nazerfakhari, M., Duplex ceramic coating produced by low temperature thermo-reactive deposition and diffusion on the cold work tool steel substrate: Thermodynamics, kinetics and modeling, *Ceramics International*, 41, 2015, 9350-9360, <https://doi.org/10.1016/j.ceramint.2015.03.306>
23. Pouraliakbar, H., Firooz, S., Jandaghi, M.R., **Khalaj, G.**, Amirafshar, A., Combined effect of heat treatment and rolling on pre-strained and SPDed aluminum sheet, *Materials Science and Engineering A*, 612, 2014, 371-379, <https://doi.org/10.1016/j.msea.2014.06.044>
24. **Khalaj, G.**, Pouraliakbar, H., Computer-aided modeling for predicting layer thickness of a duplex treated ceramic coating on tool steels, *Ceramics International*, 40, 2014, 5515-5522, <https://doi.org/10.1016/j.ceramint.2013.10.141>
25. **Khalaj, G.**, Yoozbashizadeh, H., Khodabandeh, A., Tamizifar, M., Austenite grain growth modelling in weld heat affected zone of Nb/Ti microalloyed linepipe steel, *Materials Science and Technology (United Kingdom)*, 30, 2014, 424-433, <https://doi.org/10.1179/1743284713Y.0000000364>
26. **Khalaj, G.**, Khalaj, M.-J., Application of ANFIS for modeling of layer thickness of chromium carbonitride coating, *Neural Computing and Applications*, 24, 2014, 685-694, <https://doi.org/10.1007/s00521-012-1290-x>
27. **Khalaj, G.**, Nazari, A., Yoozbashizadeh, H., Khodabandeh, A., Jahazi, M., ANN model to predict the effects of composition and heat treatment parameters on transformation start temperature of microalloyed steels, *Neural Computing and Applications*, 24, 2014, 301-308, <https://doi.org/10.1007/s00521-012-1233-6>
28. **Khalaj, G.**, Khalaj, M.-J., Modeling layer thickness of duplex ceramic (chromium carbonitride) coating on cold work tool steel using fuzzy logic, *Journal of Intelligent and Fuzzy Systems*, 26, 2014, 2229-2237, <https://doi.org/10.3233/IFS-130896>
29. Sharifi, M., Arab, N., **Khalaj, G.**, Prediction of toughness through evaluation of alloying elements distribution pattern at heat-affected zone in submerged-arc welding process of API X70 steel, *Applied Mechanics and Materials*, 467, 2014, 35-40, <https://doi.org/10.4028/www.scientific.net/AMM.467.35>
30. **Khalaj, G.**, Hassani, S.E.S., Khezarloo, A., Haratifar, E.-A.-D., Split tensile strength of OPC-based geopolymers: Application of DOE method in evaluating the effect of production parameters and their optimum condition, *Ceramics International*, 40, 2014, 10945-10952, <https://doi.org/10.1016/j.ceramint.2014.03.094>

31. Faizabadi, M.J., **Khalaj, G.**, Pouraliakbar, H., Jandaghi, M.R., Predictions of toughness and hardness by using chemical composition and tensile properties in microalloyed line pipe steels, *Neural Computing and Applications*, 25, 2014, 1993-1999, <https://doi.org/10.1007/s00521-014-1687-9>
32. Gomidželović, L., Pouraliakbar, H., **Khalaj, G.**, Kostov, A., Thermodynamic analysis of ternary Al-Cu-Ni system, *Journal of Chemical Technology and Metallurgy*, 49, 2014, 402-408, <http://dl.uctm.edu/journal/j2014-4>
33. Khani Moghanaki, S., Pouraliakbar, H., Jandaghi, M.R., Bagheri, R., **Khalaj, G.**, Calculating post-uniform deformation energy using tensile parameters, *Materials Science and Technology (United Kingdom)*, 30, 2014, 715-718, <https://doi.org/10.1179/1743284713Y.0000000390>
34. Pouraliakbar, H., Hosseini Monazzah, A., Bagheri, R., Seyed Reihani, S.M., **Khalaj, G.**, Nazari, A., Jandaghi, M.R., Toughness prediction in functionally graded Al6061/SiCp composites produced by roll-bonding, *Ceramics International*, 40, 2014, 8809-8825, <https://doi.org/10.1016/j.ceramint.2014.01.103>
35. **Khalaj, G.**, Azimzadegan, T., Khoeini, M., Etaat, M., Artificial neural networks application to predict the ultimate tensile strength of X70 pipeline steels, *Neural Computing and Applications*, 23, 2013, 2301-2308, <https://doi.org/10.1007/s00521-012-1182-0>
36. **Khalaj, G.**, Pouraliakbar, H., Mamaghani, K.R., Khalaj, M.-J., Modeling the correlation between heat treatment, chemical composition and bainite fraction of pipeline steels by means of artificial neural networks, *Neural Network World*, 23, 2013, 351-367, www.nnw.cz/doi/2013/NNW.2013.23.022.pdf
37. **Khalaj, G.**, Artificial neural network to predict the effects of coating parameters on layer thickness of chromium carbonitride coating on pre-nitrided steels, *Neural Computing and Applications*, 23, 2013, 779-786, <https://doi.org/10.1007/s00521-012-0994-2>
38. **Khalaj, G.**, Khoeini, M., Khakian-Qomi, M., ANN-based prediction of ferrite fraction in continuous cooling of microalloyed steels, *Neural Computing and Applications*, 23, 2013, 769-777, <https://doi.org/10.1007/s00521-012-0992-4>
39. **Khalaj, G.**, Khalaj, M.-J., Modeling the correlation between yield strength, chemical composition and ultimate tensile strength of X70 pipeline steels by means of gene expression programming, *International Journal of Materials Research*, 104, 2013, 697-702, <https://doi.org/10.3139/146.110910>
40. **Khalaj, G.**, Yoozbashizadeh, H., Khodabandeh, A., Nazari, A., Modeling hardness of Nb-microalloyed steels using fuzzy logic, *Neural Computing and Applications*, 23, 2013, 207-214, <https://doi.org/10.1007/s00521-011-0802-4>
41. **Khalaj, G.**, Nazari, A., Khoie, S.M.M., Khalaj, M.J., Pouraliakbar, H., Chromium carbonitride coating produced on DIN 1.2210 steel by thermo-reactive deposition technique: Thermodynamics, kinetics and modeling, *Surface and Coatings Technology*, 225, 2013, 1-10, <https://doi.org/10.1016/j.surfcoat.2013.02.030>

42. **Khalaj, G.**, Nazari, A., Pouraliakbar, H., Prediction of martensite fraction of microalloyed steel by artificial neural networks, *Neural Network World*, 23, 2013, 93-102, www.nnw.cz/doi/2013/NNW.2013.23.009.pdf
43. Nazari, A., **Khalaj, G.**, Riahi, S., ANFIS-based prediction of the compressive strength of geopolymers with seeded fly ash and rice husk-bark ash, *Neural Computing and Applications*, 22, 2013, 689-701, <https://doi.org/10.1007/s00521-011-0751-y>
44. **Khalaj, G.**, Nazari, A., Karimi-Livari, A., Application of ANFIS for Modeling of Microhardness of High Strength Low Alloy (HSLA) steels in Continuous Cooling, *Materials Research*, 16, 2013, 721-730, <https://doi.org/10.1590/S1516-14392013005000052>
45. **Khalaj, G.**, Yoozbashizadeh, H., Khodabandeh, A., Nazari, A., Artificial neural network to predict the effect of heat treatments on Vickers microhardness of low-carbon Nb microalloyed steels, *Neural Computing and Applications*, 22, 2013, 879-888, <https://doi.org/10.1007/s00521-011-0779-z>
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