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DATE OF BIRTH: 28/08/1964



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PROFESSIONAL PROFILE:

Professor of Materials Science and Engineering in Shahid Chamran University (SCU) of Ahvaz.

EDUCATION BACKGROUND:

Ph.D., Indian Institute of Technology (IIT), Bombay, India, 1994.

Thesis Title:

“Microstructural, Mechanical, and Tribological Behavior of ZDA Ceramic Composites.”

M. Tech., (Master of Technology) Indian Institute of Technology (IIT), Bombay, India, 1990.

Dissertation Title:

“Sintering and characterization of alumina ceramics with Magnesia addition”

B. Tech., (Bachelor of Technology), Indian Institute of Technology (IIT), Bombay, India, 1988.

Scientific Profiles:

<https://orcid.org/0000-0003-3836-5921>

<https://scholar.google.com/citations?user=vROQjQcAAAAJ&hl=en>

TEACHING AND TRAINING EXPERIENCE:

- Heat Treatment principles
- Powder metallurgy principles
- Advanced Pm and mechanical alloying
- Science and technology of engineering ceramics
- Advanced manufacturing technologies
- Engineering Failure Analysis

HONOURS AND AWARDS:

Awarded as:

- Top researcher in SCU in 2016-2017
- Top researcher in SCU in 2019-2020
- Top professor in SCU in 2018-2019

INTERESTS AND RESEARCH FIELDS:

- Industrial Failure Analysis
- Applied heat treatment
- Powder metallurgy and MA
- Solid state welding and joining
- Additive manufacturing

RESEARCH ACTIVITIES:

PUBLICATIONS:

INTERNATIONAL JOURNAL:

1. Khalil Ranjbar, B.T. Rao, TRR Rama Mohan, and C.S. Harendranath, "Effect of chemically added zirconia and Yttria on the mechanical Properties of ZDA", Bulletin of American Ceramic society, 73(2), 1994, PP 63-66.
2. Khalil Ranjbar, BT. Rao, and TRR. Rama Mohan, " Effect of zirconia allotropes on fracture toughness of alpha alumina, Ceramics transactions, Vo.38, advances in CMC, Am. Ceram. Soc., OH. USA, 1993, PP.473-484.
3. N.Bravankar, Khalil Ranjbar, BT. Rao, and TRR. Rama Mohan, "Sintering and mechanical Properties of pure and magnesia doped ZTA", Transaction of PMAI, INDIA, Vol.20, 1993, PP.49-53.
4. Khalil Ranjbar, " Failure analysis of boiler cold and hot reheater tubes", Engineering Failure Analysis, Volume 14, No. 4, June 2007, pages 620-625.
5. V. Abuee, H. Saghafian, Sh. Kheirandish, and Khalil Ranjbar , "A study on the Wear

- Behaviour of dual Phase Steels", Journal of Material Science and Technology, (JMST), 2007, Vol. 23, No.1, 107-110.
6. V. Abuee, H. Saghafian, Sh. Kheirandish, and Khalil Ranjbar, Mixed Oxidative Wear behavior of plain carbon Dual-phase steel, Steel Research International, 78 (2007), NO. 6, 505-511.
 7. V. Abuee, H. Saghafian, Sh. Kheirandish, and Khalil Ranjbar, "An investigation of the wear of 0.2% C dual phase steels", Journal of Materials Processing and Technology, 203, (2008), 107-102.
 8. S. Moradi and Khalil Ranjbar, "Experimental and computational failure analysis of drill strings", Engineering Failure Analysis, 16, (2009), 923-933.
 9. Khalil Ranjbar, "Effect of flow induced corrosion and erosion on failure of a tubular heat exchanger", Materials and Design, 31, 2010, 613-619.
 10. Khalil Ranjbar, "Failure assessment of composite cooler tubes in a gas boosting station", Engineering Failure Analysis 18 (2011) 192–201.
 11. R. Taherzadeh Mousavian, E. Hajjari, D. Ghasemi, M. Kojouri Manesh, K. Ranjbar, "Failure analysis of a shell and tube oil cooler", Engineering Failure Analysis 18 (2011) 202–211.
 12. Khalil Ranjbar, "Microstructural Evaluation of Zirconia Dispersed Alumina Composites", Journal of Powder Metallurgy and Metal Ceramics (PMMC), Vol.49, No. 11-12, March 2011, 722-729.
 13. A.Hedayati, Z.Golestan, K. Ranjbar, G.H.Borhani, "Affect of ball milling on formation of ZnAl₂O₄ by displacement reaction of ZnO and Al powder mixture", Journal of Powder Metallurgy and Metal Ceramics (PMMC), Vol. 50, Nos. 5-6, September, 2011, 268-274.
 14. S. Moratab, K. Ranjbar, and M. Reihanian, "On the mechanical properties and microstructure of commercially pure Al fabricated by semi constrained groove pressing", Journal of Materials Science and Engineering A, Volume 528, Issues 22-23, 25 August 2011, 6912-6918.
 15. A. Hassani, K. Ranjbar, S. Sami, "Microstructural Evolution and Intermetallic Formation in Al-8% Si-0.8%Fe alloy due to grain Refiner and modifier additions", International Journal of Minerals, Metallurgy and Materials, 2012, 19(8), 739-745.
 16. K. Ranjbar, M. Sababi, "Failure assessment of the hard chrome coated rotors in the downhole drilling motors", Engineering Failure Analysis, 20, 2012, 147-155.
 17. S. Moradi, K. Ranjbar, H. Makvandi, "Failure Analysis of a Drilling Wire Rope", ASM Journal of Failure Analysis and prevention, 2012, 12:558–566.
 18. K. Ranjbar, "Failure assessment of crude oil preheating tubes in mono ethylene glycol–water mixture solution", Engineering Failure Analysis 31, 2013, 161–167.
 19. A. Shoushtari • K. Ranjbar • S. M. Mousavi • D. A. Yancheshmeh, "Study on Failure Analyses and Material Characterizations of a Damaged Booster Pump", J. Fail. Anal. and Preven. (2013) 13:489–495.
 20. Sayed A Hosseini, Khalil Ranjbar, Reza Dehmolaie, Ali R Amirani, Fabrication of Al5083 surface composites reinforced by CNTs and cerium oxide nano particles via friction stir processing, Journal of Alloys and Compound, 622 (2015) 725–733.
 21. M. Amra, Khalil Ranjbar, R. Dehmolaie, Mechanical properties and corrosion behavior of CeO₂ and SiC incorporated Al5083 alloy surface composites, Journal of Materials Engineering and Performance, JMEPEG (2015) 24:3169–3179.
 22. M.R. Shayan, Khalil Ranjbar, E. Haji Davaloo, R. Heidari kydan, On the Failure Analysis of an Air Preheater in a Steam Power Plant, Journal of Failure Analysis and Prevention,

Vol.15 No.6, 2015,941–951.

23. Mansoor Farbod, Alireza, Mohammadian, Khalil Ranjbar & Razieh Kouhpeymani Asl, Effect of Sintering on the Properties of Y-Brass Nanoparticles Produced by the Electric Arc Discharge Method and the Thermal Conductivity...., METALLURGICAL AND MATERIALS TRANSACTIONS A , VOLUME 47A, MARCH 2016,1409-1412.
 24. Mohammad Hadi Moghim, Seyed Hojat Mosavat and Khalil Ranjbar, Effect of the addition of different sintering aids on the densification behavior of zirconia-toughened alumina nanocomposite powder, International Journal of Materials Research, 2016, Vol. 107, No. 8: Pages 741-746.
 25. M. Amra, Khalil Ranjbar , S.A. Hossieni, Microstructure and wear performance of Al5083/CeO₂/SiC mono and hybrid surface composites fabricated by friction stir processing, Trans. Nonferrous Met. Soc. China 28(2018) 866–878
 26. Zadali kotiani, Khalil Ranjbar, R. Dehmolaie, Insitu formation of Al₃Zr by FSP, Materials Characterization 131 (2017) 78–90.
 27. Sara Rastgarnia , Khalil Ranjbar , Khalil A. Gheisari , Gholam H. Borhani, Synthesis and characterization of mechanically alloyed cerium oxide reinforced Al-4.5 Mg alloy composite, International Journal of Materials research, 108, 2017,12, 1081-1089.
 28. Arezoo Firouzeh, Khalil Ranjbar, S.M. Lari Baghal, A. Heidari Kaidan, Enayatolah Mohemi,
 29. Failure assessment of ASTM A213-T12 superheater boiler tubes in a natural gas liquid plant, Engineering Failure Analysis 89 (2018) 15–27.
 30. Khalil Ranjbar, Reza Dehmolaie, M.Amra, I. kyvan Rad, Microstructure and properties of a dissimilar weld between alloy 617 and A387 steel using different filler metals, International Journal of Welding in the world, Vol.62, No. 6, 2018, 1121-1136.
 31. Mohamad Alipour Behzadi, Khalil Ranjbar, Reza Dehmolaie, E. Bagherpour , Friction stir welded overaged 7020-T6 alloy joint: an investigation on the effect of rotational speed on the microstructure and mechanical properties”, International Journal of Minerals, Metallurgy and Materials, Volume 26, Number 5, May 2019, Page 622.
 32. S.Rezaee, Khalil Ranjbar, A. kiasat, The effect of surfactant on the sol–gel synthesis of alumina-zirconia nanopowders , Ceramics International, 44 (2018) 19963–19969.
 33. Khalil Ranjbar, M.Zad Ali, Wear and corrosion of the in situ formed Al₃Zr aluminide reinforced Al3003 surface composite, International Journal of Materials research (IJMR), 110, 2019, 1-11.
 34. S. Rashnoo, Khalil Ranjbar, M. Reihaninan, Impression creep characterization of cast Al–7Si–0.3Mg alloy, Mater. Res. Express, 6 (2019) 0865e6.
 35. Samaneh Rezaee, Khalil Ranjbar, A. R. Kiasat, Characterization and strengthening of porous alumina-20 wt% zirconia ceramic composites, Ceramics International, 46 (2020) 893–902.
 36. S. Rashno, M. Reihanian, Khalil Ranjbar, Effect of Rare Earth Er on Microstructure and Creep Behavior of Al–7Si–0.3Mg Alloy, Metals and Materials International, <https://doi.org/10.1007/s12540-019-00562-2>
 37. M. Reihanian, Khalil Ranjbar, S. Rashno, Microstructure and Impression Creep Behavior of Al–7Si–0.3Mg Alloy with Zr Addition, Metals and Materials International, 2020, <https://doi.org/10.1007/s12540-020-00628-6>
- Mohammad Faghfour, Khalil Ranjbar, Reza Dehmolaie, Amir Hosseini Kaloorazi, , Preventing Crack Formation at the Vicinity of the Fusion Zone in the Welding of Crane Rail Steel by Preheating Treatment, Metallography, Microstructure, and Analysis, 51,

2020, 541-552.

38. S. Rezaee, Khalil Ranjbar, Thermal conductivity of porous Alumina-20 wt% zirconia ceramic composite, *Ceramics international*, 46, 2020, 16557-16564.
S. Rashno, M. Reihanian, Khalil Ranjbar, Tensile and creep properties of Al-7Si-0.3Mg Alloy with Zr and Er additions, *Materials Science and Technology*, 36, 2020, 1603-1613
39. Khalil Ranjbar, Ali Taghavian, M. Amra, Failure Assessment of an Admiralty Brass Oil Exchanger Tubes, *Journal of Failure Analysis and Prevention*, 20, 2020, 218-225.
40. Mahyar Darivandpour, Reza Dehmolaee, Khalil Ranjbar, Investigating the heat input effect of the GTAW process upon the microstructure and HAZ extension of HSLA-100 steel weld joints using thermal cycles, *International Journal of ISSI*, Vol. 17(2020), No. 1, pp. 57-69.
41. Khalil Ranjbar, S.R. Alavi Zaree, Longitudinal fracture and water accumulation at 6 o'clock position of an API 5L X52 oil pipeline, submitted to *EFA*, Under Review (July 2021).

PAPERS PUBLISHED IN IRANIAN JOURNALS INDEXED BY ISC:

1. Nasim Nasirian, K. Ranjbar, "On the mechanical and structural properties of Al-Brass composite processed by cumulative roll bonding", *Journal of Emerging Materials (Mavade Novin)*, vol. 3, NO.1, 2012, 45-54.
2. A. Hassani, S. Samie, K. Ranjbar, "Microstructural Evolution and Intermetallic Formation in an Al Casting Alloy Due to Addition of Grain Refiner and Modifier", *Australian Journal of Basic and Applied Sciences*, 5(8): 2011, 344-350.
3. S. H. Mirkarimi, Khalil Ranjbar, R. Dehmolaee, M. Roshani, Evaluating the microstructure and mechanical properties of dissimilar welding between A240-TP. 316 and A387-Gr. 11, *Journal of Metallurgy and Materials Engineering*, vol. 27, No.1, 2015, 23-37.
4. Mostafa Amra, Khalil Ranjbar, Sayed Ali Hossieni, Effect of Cerium Oxide on Wear and Corrosion Behavior of Al5083/CeO₂ Surface Composite Fabricated by Friction Stir Processing, *Iranian Journal of surface Engineering*, 32, 2017, 51-63.
5. Khalil Ranjbar, M.Zad Ali, Microstructural assessment and wear behavior of Al 3003/Al₃Ti in-situ formed surface composite fabricated by friction stir processing technique, Accepted for publication in *Iranian Journal of Surface Engineering, IJSSE*, 36 (14), 2018, 65-78.
6. M.Zad Ali, Khalil Ranjbar, Thermodynamically Prediction of in-Situ Al₃Zr and Al₃Ti Aluminides Formation in Friction Stir Processing Based on Effective Gibbs Free Energy Change of Formation (ΔG^e) Model, *Journal of Metallurgy and Materials Engineering*, 32, 1399, 1-14.
7. Mohamad Alipour Behzadi, Khalil Ranjbar, Effect of heat input on microstructure and mechanical properties of 7020-T6 Al alloy joints welded by TIG, accepted for publication in *Journal of Metallurgy and Materials Engineering, Mashad*, 31, 1398, 135-148.
8. M.Zad Ali, Kh. Ranjbar, The Effect of Heat Treatment on the Microstructure and Mechanical Properties of Al/Al₃Zr + Al₃Ti In-situ Hybrid Composite Fabricated by FSP, *Journal of Advanced Materials Engineering (JAME)*, 38, 1, 1398, 49-64.
9. M.Zadali, Khalil Ranjbar, Effect of annealing interpass treatment on microstructure and mechanical properties of Al3003- Al/Al₃Ti in situ formed composites by FSP, *Nano Materials*, 11,38, 1398, 105-116.
10. H. kharazmipour, Khalil Ranjbar, Effect of oxides (ZrO₂, Nb₂O₅, Cr₂O₃) on physical properties of alumina ceramics, *Iranian Journal of Ceramics Science and Engineering, IJCSE*, Vol.5, No.2, 2016, 47-59.

11. Mojtaba Zadali, Khalil Ranjbar, Effect of heat treatment on microstructure and wear behavior of in-situ formed Al 3003/Al₃Zr + Al₃Ti composite fabricated via friction stir processing, accepted for publication in : Iranian Journal of Science and Technology of Composite, <http://jstc.iust.ac.ir>, 2019.
12. Hossein naseri, Reza dehmolaie, Khalil Ranjar, The Effect of Electromagnetic Vibration on The Microstructural Variations and Erosion Behavior of The HSLA-100 Steel Weld Metal, Iranian Journal of Surface Engineering, IJSSE, 36(14), 2018, 79-91.
13. Z. Shahryari, I. Keivanrad, K. Gheisar , Khalil Ranjbar, R. Dehmolaie, S. R. Mousavi, Corrosion behavior of dissimilar welded joint between Inconel 617 alloy and A387-Gr.11 low-alloy steel, Iranian Journal of welding Science and Technology, 6(2), 2020, 119-135.

CONFERENCE PRESENTATIONS:

More than 100 conference paper (not included here).

RESEARCH PROJECTS:

	Title of projects or Research works	Concerned Industry	Status
1	Corrosion and Erosion study of sea water pumps in RAZI Petrochemical plant	RAZI Petro Chemical Plant, Mohshahr	Completed
2	Study on erosion and corrosion of boiler cold and hot reheat tubes in RAMIN POWR PLANT	RAMIN STEAM POWR PLANT, Ahvaz	Completed
3	Study on corrosion of heat exchanger tubes in start boiler condensers	RAMIN STEAM POWR PLANT, Ahvaz	Completed
4	Corrosion investigation on oil heat exchangers in KHARKHEH POWER PLANT	KHARKHEH POWER PLANT	Completed
5	Pitting and spalling of rotor and stator in Down Hole Drilling Motors	National Iranian Drilling Company	Completed
6	Failure analysis of the air cooler heat exchangers in a gas boosting station, MAROON 3 and 4	National Iranian Oil Company	Completed
7	Failure analysis of LP blades of RAMIN POWER PLANT- AHVAZ	RAMIN STEAM POWR PLANT, Ahvaz	Completed
8	Study on premature failure of steady state first stage nozzles in ABADAN POWER PLANT	ABADAN GAS POWER PLANT	Completed
9	Failure analysis of Air preheaters in Ramin Power Plant	RAMIN STEAM POWR PLANT, Ahvaz	Completed
10	On Fabrication of lab scale zirconia	Ministry of Science and Higher	Completed

Curriculum Vitae



	toughened alumina ceramics	Education	
11	Root case failure analysis of Amine circulating pump`s main shaft in Bid Boland gas refinery plant	NISOC- Gas company	completed
12	Technical and economical assessment of completed projects in Ramin Power Plant,	Ramin power plant,	completed
13	Failure analysis of API 5L-X52 oil transmission pipe lines, identification and prevention methods (Abadan-Andimeshk)	Pakhsh National Co, Ahvaz	Completed
14	Failure analysis of blade stage 27 in Ramin Power Plant	Ramin power plant,	Running
15	Design,fabrication and testing of internal cooling systems (chillers), consulting project	Tochal Company, Ahvaz	completed
16	The five year struggle research plan in KZREC	Khozestan Regional and electrical company	Completed
17	Study and failure analysis of wash-out phenomenon in drilling pipes	National Iranian Drilling Company	Completed
Granted Project by Shahid Chamran University			
18	Manufacturing Alumina polish powder from its inorganic salt precursors	Shahid Chamran University	Completed
19	Fabrication of Fe-Ni soft magnetic alloy	Shahid Chamran University	Completed
20	Study on tribological behavior of Al-Si piston alloys	Shahid Chamran University	Completed
21	Design and fabrication of a erosion testing system	Shahid Chamran University	Completed

PROFESSIONAL MEMBERSHIPS:

- Head of Department of Metallurgical Engineering for 7 years
- Chairman of Minor Technical Committee of Steel IRAN, TC-17 (ISO/ISIRI/TC17) for 4 years
- Head of the office of bilateral cooperation of university and industry, for 2 years
- Vice Chancellor for Research and Technology, Shahid Chamran University of Ahvaz, for 2 years,
- Member of Drilling Center of Excellence, SCU
- Member of technical committee Bargh Mantegee Khozestan for 2 years

Curriculum Vitae



- Editor in chief Journal of Manufacturing Innovations, SCU

LANGUAGES:

PERSIAN: Native

ENGLISH: Intermediate

HINDI: Intermediate

TURKISH: Intermediate