MAHDI GHASSEMI KAKROUDI

Professor of Material Science and Engineering University of Tabriz- Iran Head of Advanced Ceramic Engineering Research Group (ACRG)

Email: Mg_kakroudi@tabrizu.ac.ir, Kakroudi.acrg@gmail.com Scopus www.scopus.com/authid/detail.uri?authorId=26431911700 Linkedin www.linkedin.com/in/mahdi-ghassemi-kakroudi-57a47a63/



PERSONAL DATA:

Name	Surname	Date of Birth	Nationality	Sex	Marital Status
Mahdi	Ghassemi Kakroudi	21/03/1971	Iranian	Male	Married

EDUCATIONAL BACKGROUND:

Certificate Degree	Field of Specialization	Name of Institution Attended	Date Received
Professor	Ceramic materials	University of Tabriz- Iran	2017
Associated Professor	Ceramic materials	University of Tabriz	2014
PhD	Ceramic materials and surface traitement	ENSCI (Limoges-France)	2007
Acadamic staff (Lecturer)	Material Science	University of Tabriz	1998
MSc	Ceramic engineering	Material & Energy Research Center (Tehran)	1995
BSc	Ceramic engineering	Iran University of Science & Technology (Theran-Iran)	1991

TITLE OF POST-GRADUATE THESIS:

Thermomechanical bihaviour of refractory castables, the effect of the aggregats nature and thermal history

THESIS SUPERVISORS:

Prof. Thierry Chotard & Marc Huger GEMH, ENSCI, University of Limoges, France

TEACHING EXPERIENCES

Title of Course	Level	Dat	es	Name of Institution	
		From	То	Name of Institution	
Advanced Phase diagram	PhD	2010		Tabriz, University	
Advanced Ceramic Processing	MSc	2007		Tabriz University	
Composite Materials	MSc-PhD	2007		Tabriz University	
Advanced Refractory Materials	MSc-PhD	2007		Tabriz University	
Refractories	BSc	1998		Tabriz University	

ACADEMIC POSITIONS

		Da	ate		
Job Title	Place of Work	From	То	Name of Institution	
Head of Material Science & Engineering Dept.	Tabriz University	2009	2012	Faculty of mechanical engineering	
Tabriz University Incubator center manager	Tabriz University	2012	2017	Faculty of mechanical engineering	
Head of Advanced Ceramic Engineering Research Group University of Tabriz, Tabriz, Iran	Tabriz University	2007		Faculty of mechanical engineering	

MASTER AND DOCTORATE THESIS SUPERVISION:

No	Full Name of Student	Level	Title of Thesis
1	Mahdi Shahedi Asl	PhD	Effect of morphology of reinforcement phase on densification and mechanical properties of zirconium diboride based ceramic composites
2	Vahdieh Shahedi far	PhD	The effect of processing on mechanical properties of TaC- HfC-VC composite by FMs methods
3	Naser Pour Mohammadi vafa	PhD	Effect of shell type and thickness on the properties of fibrous monolithic composites ZrB2-SiC/ BN-C
4	Amin Yousefi	PhD	Insitu synthesis of high entropy carbide based composite
5	Farshad Farshidfar	MSc	Investigation of the chromite type and additives on the ladle filler sand properties
6	Elaheh Zadehayati	MSc	Investigation the effect of the microstructure on the thermomechanic al properties of the cordierite-mullite based material

7	Fatemeh vahidian	MSc	Investigation of sintering and crystallisation of composite SiO2-Al2O3-CaO-MgO by using of ZrO2 as refinforcment particles
8	Parisa Rastgoo	MSc	Fabricaton and investigation of processing parameters on the EBT refractories
9	Hosein Joghataei	MSc	Investigation of synthetise of sialon by carbothermal nitridong of andalusite
10	Zohre Nazari	MSc	Fabrication ov cabon based castable
11	Parinaz pir Mohamadi	MSc	Fabricaton and investigation of Sialon based metrial synthesis bu insitu methods
12	Mehran Jaberi	MSc	Investigation of nano SiC particles on densification behavior and mechanical properties of ZrB2-based composite
13	Naser Pour Mohammadi	MSc	Investigation of nano-zirconia addition on the densification and mechanical behavior of ZrB2-SiC based composite
14	Nima Gogani	MSc	Fabricaton and micro stracture investigation of TiB2-SiC based composite
15	Zohre Ahmadi	MSc	Effect of nitride sintering aids on densification and microstructure of ZrB2-SiC composites
16	Mina Moghaddam	MSc	Fabrication and Microstructure investigation of ZrB2-SiC based composite
17	Fatemeh Golmohammadi	MSc	Investigation of carbon fiber additions on the mechanical behaviour of ZrB2-SiC based composite
18	Ayat Aliasgharzadeh	MSc	The effect of reduction additives on the synthesis of sialon
19	Cevil Deljavan	MSc	The investigation of production parameters on the pyroskite in baryom oxide- Fe-Co systemes
20	Mostafa Faraji	MSc	The investigation of TiC based coating on graphite flake
21	Vahid Ghorbani	MSc	Investigation of effective parameters on the synthesis of coerdierite –AlN Composite
22	Ehsan Jamalrayhan	MSc	Investigation and production of nano Cu-Al2O3 composite
23	Mehrad Sahebsang	MSc	The effect of shaping parameters on the produaction of andalusite article by gel casting methods
24	Fatemeh Behbodi	MSc	Preparation of various carbide coatings on the graphite particles
25	Shayda Hajiamiri	MSc	In situ synthesis of Ti3SiC2-SiC max phase composite
26	M. Hassangholizadeh	MSc	Pressureless sintering of Al2O3-SiC-TiC composites

27	Zahra Daei Oghli	MSc	Synthesis and characterisation of high entropy carbides
28	Roya Rahnamay	MSc	The role of SiC addition on the properties of Alumina based refractory
29	Sahar Sajjadi	MSc	Investigating the effect of different sols on Alumina-spinel castable refractory
30	Elahe Shokri	MSc	Investigation of ablation behaviour of ZrB2-SiC based composite by oxyacetylene torch
31	Saba Matinpour	MSc	Synthesis and Characterization of Al-graphite-SiC Hybrid Metal Matrix
32	Kosar Mahmoudipour	MSc	The role of VC addition on the properties of ZrB2-SiC based composite
33	Vahide Abbaszadeh	MSc	Simulation of mechanical behaviour of TaC-HfC-VC based composite by fiberous monolithic stracture
34	Masoumeh Hemati	MSc	Insitu synthesis and characterization of ZrB2-ZrC-C composites
35	Masoumeh Dehghanzadeh	MSc	The effect of carbides addtion on oxidation behaviour of ZrB2-SiC composites

PUBLICATIONS:

A: BOOKS (TRANSLATION)

Title	Type of	Work	Publisher	Date of Publication
	Translation	Compilation		
Sintering of Ceramic	✓		Nashr daneshgahi	2010
Bio ceramics	\checkmark		honar	2012

B: PAPERS PRESENTED IN INTERNATIONAL SCIENTIFIC CONFERENCES

Title of Paper	Place of Publication	Date of Publication
The effect of type and quantity of phosphate bond of Alumina based materials	Proceeding of 4 th Iranian ceramic congress	May 2002
Mullite based refractories by Iranian andalusite	Proceeding of Iran's first int'l steel and mines industries froum	2003
High temperature elastic properties of refractory	Proceeding of Tehran internatinal	4 may 2004,
materials	refractory conference	Theran
Damage behavior investigation of two alumina	Proceeding of 49th International	Aachen,
refractory castables after firing	Colloquium on refractories	November 2006
Mechanical behavior of two alumina castable	Proceeding of 10 th Iranian	November
refractories	metalorgy congress	2006, Mashhad

Comportement endommageable du béton réfractaire	Proceeding of Matériaux 2006	13-17 Novembre 2006 Dijon
Mechanical behavior of andalusite based refractory castable	Proceeding of 6 th Iranian ceramic congress,	May 2007
Thermal history and mechanical properties of alumina castables	Proceeding of 10th European ceramic congress	, Berlin, 17- 21 June 2007
Tensile behavior at high temperature of two alumina castable refractories	Proceeding of UNITCER, 10th Biennial Worldwide Congress	September 2007, Dresden, Germany
Thermomechanical behaviour of andalusite based refractory castable	Proceeding of UNITCER, 10th Biennial Worldwide Congress	September 2007, Dresden, Germany
high temperature Tensile behavior at andalusite based refractory castable	Proceeding of XVI. International Conference on Refractories	2008
Influence of nano-SiC participation on densification and mechanical properties of ZrB2	10th Nano science and Nano technology Conference of Turkey	2014
Taguchi analyses on the densification of ZrB2-based composites: Effects of hot pressing conditions and SiC content/particle size	10th Iranian ceramic congress	2015
Iranian Invited Speakers: Study of densification, microstructure and fracture toughness of ZrB2-based composites hot pressed with various reinforcements	10th Iranian ceramic congress	2015
Sinterability improvement of ZrB2-Based ceramics fabricated by hot pressing	13th international conference on nanosciences & nano thechnologies	2016
Investigating Microstructure, Physical and Mechanical Properties of TaC-HfC-VC System Composites	11th Biennial Congress of the Iranian Ceramic Society and the 2nd International Conference on	2017
Effect of Aluminum and Graphite Addition on Hot pressing Synthesis of Ti2AlC	11th Biennial Congress of the Iranian Ceramic Society and the 2nd International Conference on	2017
Recent developments in Diborides and Carbide families of Ultra-high Temperature Ceramics (UHTCs)	3th Iranian refractories congress	2017
Influence of shell thickness of fibers on fracture behavior and fracture toughness of TaC-based/graphite fibrous monolithic ceramics	20th International Conference on Composite Structures	2017
Fracture behaviour improvement of ceramic based matrix composites via microstructure architecture (FMs	10th International Conference on High Temperature Ceramic Matrix Composites – HT-CMC 10	2019

C: PAPERS PUBLISHED IN INTERNATIONAL SCIENTIFIC JOURNALS

Title of Paper	Place of Publication	Date of Publication
Effect of thermal treatment on damage mechanical behaviour of refractory castables: comparison between bauxite and andalusite aggregates	Journal of the European Ceramic Society, 28 (2008) 2471–2478	2008
Anisotropic behaviour of andalusite particles used as aggregates on refractory castables	Journal of the European Ceramic Society, 29 (2009) 579-571	2009
Damage evaluation of two alumina refractory castables	Journal of the European Ceramic	2009
Thermo-mechanical design optimization of Cordierite– Mullite	Proceeding of 7th. Iranian ceramic congress	2009
Non-destructive thermal damage characterization of cordierite-mullite refractories	Iranian Journal of material science and engineering	2009
Influence of the thermal history on the mechanical properties	Journal of the European Ceramic Society	2009
The effect of sands characteristics on performance of chromite base ladle filler sands for continuous casting	CIMTEC	2010
Study of Corrosion Behavior of Conventional and Nanostructured WCCo	Advances in Science and Technology	2010
High temperature elastic properties of refractory materials	Materials Science Forum	2011
Thermo-mechanical design optimization of Cordierite– Mullite based kiln furniture	Iranian Journal of material science and engineering	2011
Fractographical assessment of densification mechanisms in hot pressed ZrB2-SiC composites	Ceramics International	2014
Significance of hot pressing parameters and reinforcement size on densification behavior of ZrB2– 25 vol% SiC UHTCs.	Ceramics International	01/2015
Significance of hot pressing parameters on the microstructure and densification behavior of zirconium diboride.	International Journal of Refractory Metals and Hard Materials	01/2015
A processing-microstructure correlation in ZrB2–SiC composites hot-pressed under a load of 10 MPa.	Ceramics International	01/2015
Characterization of hot-pressed graphene reinforced ZrB2–SiC composite.	Materials Science and Engineering A	02/2015
Fractographical characterization of hot pressed and pressureless sintered SiAlON-doped ZrB2-SiC composites.	Materials Characterization	03/2015
A Taguchi approach to the influence of hot pressing parameters and SiC content on the sinterability of ZrB2-based composites.	International Journal of Refractory Metals and Hard Materials	03/2015
Reactive hot pressing of ZrB2-based composites with changes in ZrO2/SiC ratio and sintering conditions. Part I: Densification behavior.	Ceramics International	03/2015
Microstructural development and mechanical properties of hot pressed SiC reinforced TiB2 based composite.	International Journal of Refractory Metals and Hard Materials	03/2015
Significance of hot pressing parameters and reinforcement size on sinterability and mechanical properties of ZrB2-25 vol% SiC UHTCs.	Ceramics International	04/2015

Influence of graphite nano-flakes on densification and mechanical properties of hot-pressed ZrB2-SiC composite.	Ceramics International	05/2015
Characteristics of dynamically formed oxide films in Aluminum-Calcium foamable alloys.	Journal of Alloys and Compounds	09/2015
Fractographical characterization of hot pressed and pressureless sintered AlN-doped ZrB2-SiC composites.	Materials Characterization	12/2015
Reactive hot pressing of ZrB2-based composites with changes in ZrO2/SiC ratio and sintering conditions. Part II: Mechanical behavior.	Ceramics International	01/2016
Temperature dependence of microstructure evolution during hot pressing of ZrB2–30 vol% SiC	International Journal of Refractory Metals and Hard Materials.	01/2016
Synergetic effects of SiC and Csf in ZrB2-based ceramic composites. Part I: Densification behavior.	Ceramics International	02/2016
Reactive hot pressing of ZrB2-based composites with changes in ZrO2/SiC ratio and sintering conditions. Part II: Mechanical behavior.	Ceramics International	02/2016
Temperature dependence of microstructure evolution during hot pressing of ZrB2–30 vol% SiC composites.	International Journal of Refractory Metals and Hard Materials	02/2016
Influence of silicon carbide addition on the microstructural development of hot pressed zirconium and titanium diborides.	Ceramics International	03/2016
Characterization of hot pressed SiC whisker reinforced TiB2 based composites	International Journal of Refractory Metals and Hard Materials	04/2016
Interfacial phenomena and formation of nano-particles in porous ZrB2–40 vol. % B4C UHTC.	Ceramics International	07/2016
Consolidation and mechanical properties of hot pressed TaC-HfC-VC composites	Ceramics International,	2017
Densification, microstructure and mechanical properties of hot pressed tantalum carbide	Ceramics International	2017
Sintering behavior of ZrB2–SiC composites doped with Si3N4: A fractographical approach	Ceramics International	2017
Fracture behavior improvement of TaC-based ceramic composites by fibrous structure	International Journal of Refractory Metals and Hard Materials	2018
Investigation of hot pressed ZrB2–SiC–carbon black nanocomposite by scanning and transmission electron microscopy	Ceramics International	2019
Investigation of strength, fracture toughness, and crack propagation pattern of TaC-based fibrous monoliths as a function of microstructure architecture	International Journal of Refractory Metals and Hard Materials	2019
Investigation of AlN addition on the microstructure and mechanical properties of TiB2 ceramics	Ceramics International	2019

Ceramics International	2019
Ceramics International	2019
Ceramics International	2020
Materials Science and Engineering: A	2020
Ceramics International	2020
International Journal of Refractory Metals and Hard Materials	2020
Ceramics International	2020
Results in Physics	2020
Ceramics International	2020
	Ceramics International Ceramics International Materials Science and Engineering: A Ceramics International International Journal of Refractory Metals and Hard Materials Ceramics International Ceramics International Ceramics International Ceramics International Ceramics International Ceramics International Ceramics International Results in Physics

RESEARCH ACTIVITIES:

		Dates		
Title of Project	Place of Work	From	То	
Fabrication of high alumina insulating refractories	Tabriz University	2000	2002	
Phase equilibria diagram database	Tabriz University	2001	2002	
Simulation of thermomechanical behaviour of cordierite-mullite refractories used in ceramic industries as a kiln furnature	Tabriz University	2008	2009	
Fabrication and Investigation of ladle filler sand	Tabriz University, & Yazd alloying steel Co	2009	2011	
Investigation the effect of antiwetting agents on improvement of corrosion behaviour of andalusite aluminosilicate based castables	Tabriz University	2009	2011	
Design and fabrication of non-destructive ultrasonic measuarement systeme of elastic properties of materials	Tabriz University	2009	-	
Cu- Alumina based composite	Industrial contract	2010	2012	
High toughness ZrB2-SiC based composite	Industrial contract	2013	2015	
TaC- HfC-VC fibrous monolithic ceramic composite	Industrial contract	2013	2016	
Synthesis and charecterization on nitride based caeramic powders	Industrial contract	2016	2019	
Fabrication of fused silica samples by gel casting	Industrial contract	2016	2019	

AWARDS, HONORARY DEGREES, MEDALS AND POSITIONS:

Title of Award, Medal, Position	Issuing Authority	Country	Year
Best Resaercher of Faculty	University of Tabriz	Iran	2016
Best Resaercher of University	University of Ttabriz	Iran	2017
Best Researcher & Techologist	Provincial Government	Iran	2019
Best Researcher of Faculty	University of Tabriz	Iran	2020

RESEARCH INTERESTS:

Refractory Materials, Ceramic Matrix Composites,

MEMBERSHIP TO SCIENTIFIC ASSOCIATIONS:

Name of Institution/Association	Position Held	Country	Year
Iran Ceramic Society	Permenant Member	Iran	<i>1991-</i>
Editorial Board Member	Advanced Materials and Structures (AMS)	Iran	2019
Editorial Board Member	Advanced Materials Science and Technology	Singapore	2019

LANGUAGE PROFICIENCY:

Degree of Proficiency												
Language	Writing			Reading			Speaking					
	Native	Good	Fair	Poor	Native	Good	Fair	Poor	Native	Good	Fair	Poor
Persian	*				*				*			
French		*				*				*		
English		*				*				*		