MAHDI GHASSEMI KAKROUDI

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

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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	Dates		Name of Institution
		From	To	
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

Job Title	Place of Work	Date		Name of Institution
		From	To	
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 thermomechanicqal 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*
36	*Sahar Sajadi*	*MSc*	*Synthesis and investigation of the properties of alumina sol*
37	*Shaida Haji Amiri*	*MSc*	*Max Phase*

PUBLICATIONS:

A: BOOKS (TRANSLATION)

Title	Type of Work		Publisher	Date of Publication
	Translation	Compilation		
Sintering of Ceramic	✓		*Nashr daneshgahi*	*2010*
Bio ceramics	✓		*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 4th 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 materials	*Proceeding of Tehran internatinal refractory conference*	*4 may 2004, Theran*
Damage behavior investigation of two alumina refractory castables after firing	*Proceeding of 49th International Colloquium on refractories*	*Aachen, November 2006*
Mechanical behavior of two alumina castable refractories	*Proceeding of 10th Iranian metalorgy congress*	*November 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 6th 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 method)	*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*
Advantages and disadvantages of graphite addition on the characteristics of hot-pressed ZrB2–SiC composites	*Ceramics International*	*2019*
Properties of alumina sol prepared via inorganic route	*Ceramics International*	*2019*
Hot pressing and oxidation behavior of ZrB2–SiC–TaC composites	*Ceramics International*	*2020*
Characterization of TaC-based fibrous-monolithic ceramics made of fibers with different core/shell volume ratios and orientations	*Materials Science and Engineering: A*	*2020*
Influence of SiAlON addition on the microstructure development of hot-pressed ZrB2–SiC composites	*Ceramics International*	*2020*
Characterization of hot-pressed Ti3SiC2–SiC composites	*International Journal of Refractory Metals and Hard Materials*	*2020*

Advantages and disadvantages of graphite addition on the characteristics of hot-pressed ZrB2–SiC composites	***Ceramics International***	***2020***
Properties of alumina sol prepared via inorganic route	***Ceramics International***	***2020***
Characterization of Ni-doped pyrolyzed phenolic resin and its addition to the Al2O3–C refractories	***Ceramics International***	***2020***
Role of h-BN content on microstructure and mechanical properties of hot-pressed ZrB2–SiC composites	***Ceramics International***	***2020***
Effects of SiC content on thermal shock behavior and elastic modulus of cordierite–mullite composites	***Ceramics International***	***2020***
Role of hot-pressing temperature on densification and microstructure of ZrB2–SiC ultrahigh temperature ceramics	***Ceramics International***	***2020***
Electron microscopy study of ZrB2–SiC–AlN composites: Hot-pressing vs. pressureless sintering	***Ceramics International***	***2020***
TEM characterization of hot-pressed ZrB2-SiC-AlN composites	***Results in Physics***	***2020***
Synthesis and characterization of MgAl2O4 spinel precursor sol prepared by inorganic salts	***Ceramics International***	***2020***
Molten salt synthesis of in-situ TiC coating on graphite flakes	***Ceramics International***	***2021***
Synthesis and characterization of MgAl2O4 spinel precursor sol prepared by inorganic salts	***Ceramics International***	***2021***
On the oxidation behavior of ZrB2–SiC–VC composites	***International Journal of Applied Ceramic Technology***	***2021***
Synthesis and Sintering of Ti3SiC2–SiC Composites through Reactive Hot-Pressing of TiC and Si Precursors	***silicon***	***2022***
Investigation of Tantalum Cation Doped Ba (Co0. 8Fe0. 2) O3â Î´ Perovskite Phase	***Journal of Advanced Materials in Engineering (Esteghlal)***	***2022***
Microstructure, Mechanical Properties and Oxidation Behavior of Reactive Hot-Pressed (Zr, Ti) B2-SiC-ZrC Composites	***JOM***	***2024***
Crack propagation behavior in the stacked TaC–Gr core–shell composites	***Journal of Fracture***	***2024***
The effects of processing technique on formation temperature of calcium aluminate magnesium (CaO. 2MgO. 8Al2O3)	***Journal of Crystal Growth***	***2024***

Finite element simulation of mechanical properties of TaC-based core	*Carbon Letters*	*2024*
Characterization of hot-pressed ZrC–TiC composites	*International Journal of Applied Ceramic Technology*	*2024*

RESEARCH ACTIVITIES:

Title of Project	Place of Work	Dates	
		From	To
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 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*	*1991-..*
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		*				*				*		