TRENČIANSKA UNIVERZITA ALEXANDRA DUBČEKA V TRENČÍNE

PODKLADY K ŽIADOSTI O ZAČATIE HABILITAČNÉHO KONANIA V ODBORE HABILITAČNÉHO KONANIA: ANORGANICKÁ TECHNOLÓGIA A MATERIÁLY

DOCUMENTS TO THE APPLICATION FOR INITIATING THE HABILITATION PROCEDURE IN THE FIELD OF HABILITATION PROCEDURE: INORGANIC TECHNOLOGY AND MATERIALS

Ing. Aliasghar NAJAFZADEHKHOEE, Ph.D.

Trenčín 2026

CONTENTS

I. ADMINISTRATIVE REQUIREMENTS ..…….…….. **1**

Curriculum Vitae ..…….……...……. 1

Ph.D. Certificate …….……...……. 4

M.Sc. Certificate ……... 5

VKS IIa ……...…….. 6

II. TEACHING AND PEDAGOGICAL ACTIVITIES ……...…… **7**

III. HABILITATION THESIS ……..……..…. **9**

IV. SCIENTIFIC RESEARCH and PUBLICATION ACTIVITIES ……..…… **10**

A. PUBLICATION ACTIVITIES ……..…….. **12**

B. PROFESSIONAL ACTIVITIES ……...…….. **15**

C. PROJECT ACTIVITIES ……. **30**

V. SCIENTIFIC EDUCATION ……. **31**

VI. OTHER PROFESSIONAL ACTIVITIES …….…….…… **32**

DECLARATION ……..…… **34**

I. ADMINISTRATIVE REQUIREMENTS

Životopis

Curriculum Vitae

Meno a priezvisko, rodné priezvisko, akademický titul, vedecko-pedagogický titul alebo umelecko-pedagogický titul a vedecká hodnosť *(Name and surname, title)*	Ing. Aliasghar NAJAFZADEHKHOEE, Ph.D. Researcher, Vitrum Laugaricio (VILA), FunGlass Center, Alexander Dubček University of Trenčín
Dátum a miesto narodenia *(Date and place of birth)*	1983 Tehran, Iran
Vysokoškolské vzdelanie a ďalší akademický rast *(Higher Education and academic growth)*	Ph.D. in Metallurgy and Materials Engineering – Physical and Mechanical Properties of Materials Semnan University, Semnan, Iran September 2010- April 2015 M.Sc. in Composite Materials Engineering MUT-University of Technology, Tehran, Iran September 2007- February 2009
Ďalšie vzdelávanie *(additional education)* Priebeh zamestnaní *(employment history)*	**Researcher** Vitrum Laugaricio (VILA), FunGlass Center, Alexander Dubček University of Trenčín. Slovakia. 2026 –Cont. **Researcher** Vitrum Laugaricio (VILA), Joint Glass Centre of the Institute of Inorganic Chemistry, Slovak Academy of Sciences (IIC SAS), Trenčín, Slovakia. 2020–2026. **Visiting researcher** Chair of structural and functional ceramics, Montanuniversität Leoben, Austria, 2023. **Visiting researcher** Condensed Matter Physics, University of Seville, Spain, 2022. **Visiting researcher** Structural and Functional Ceramics, Institute of Materials Research, Slovak Academy of Sciences (IMR SAS), Slovakia, 2019-2020. **Researcher, Board of Directors** Knowledge-based company, a member of the Technology Incubation Center, Iran, 2017-2019.

Research and development manager
Research and development, Kohan Manufacturing Factory, Iran, 2015-2017.

Project manager
Composite Materials Department, Cheghalab Engineering Company, Iran, 2008-2010.

Priebeh pedagogickej činnosti (pracovisko/predmety) *(Course of Pedagogical activities: place of employment/ subjects)*

2026 – Cont.
FunGlass Center, Alexander Dubček University of Trenčín, Slovakia.
Teaching course: Fundamentals of Computational Materials Science.

2023 – Cont.
FunGlass Center, Alexander Dubček University of Trenčín, Slovakia.
Teaching course: Fundamentals of Colloidal Chemistry.

2023 – Cont.
FunGlass Center, Alexander Dubček University of Trenčín, Slovakia.
Teaching course: Colloidal Systems: Characterization and Utilization.

2016-2019
Payam Nour University, Iran.
Teaching course:
- Materials Science
- Physical and mechanical properties of materials
- Heat treatment of steels.

2016-2019
University of Applied Science and Technology, Iran.
Teaching course:
- Materials science
- Physical properties of materials
- Heat treatment of steels

2013-2015
Enghelab Technical College, Iran.
Teaching course:
- Materials science,
- Mechanical properties of materials
- Heat treatment of steels

2011-2013
Semnan University, Iran.
Teaching course:
- Computer applications in materials science
- Simulation in materials science (FEM)

Odborné alebo umelecké zameranie *(professional, scientific focus)*	Advanced Ceramic Processing and Shaping Sintering Science and Technology Composites and Layered Ceramics Eutectic Ceramics Mechanical Characterization and Fracture Mechanics Finite Element Modeling (FEM) and Numerical Simulation
Publikačná činnosť vrátane rozsahu (autorské hárky) a kategórie evidencie podľa vyhlášky č. 456/2012 Z. z. 1. monografia 2. učebnica 3. skriptá *(Publication activities, scope – pages: categories: 1. monograph, 2. textbook, 3. instructional texts)*	**Book Chapters:** **A. Najafzadehkhoee***, M. Vakhshouri, P. Hvizdoš, D. Galusek, High-Temperature W/ZrC Composite Coatings, Engineering Materials. Springer, Cham. (2024) 471-491, ISBN 978-3-031-40809-0, https://doi.org/10.1007/978-3-031-40809-0_15. **Instructional texts** **A. Najafzadehkhoee,** J. J. Velázquez**,** Fundamentals of Colloidal Chemistry: Characterization and Utilization. Vol. 2: Synthesis and Processing Methods. Alexander Dubček University of Trenčín, PhD Doctoral Studies, Study Programme: Inorganic Technology and Non-metallic Materials, 2026, pp. 1-26. ISBN 978-80-8295-071-0.
Ohlasy na vedeckú/umeleckú prácu *(citations)*	Web of Science:115 (with self-citation) Web of Science: 99 (without self-citation) Scopus: 132 (with self-citation) Scopus: 97 (without self-citation)
Počet doktorandov: školených ukončených (neplatí pre habilitačné konanie)	0
Počet doktorandov: školených ukončených (neplatí pre habilitačné konanie) *(Number of PhD students: ongoing/ defended, it doesn´t concern habilitation process)*	1 PhD student (ongoing)
Kontaktná adresa *(address)*	FunGlass–Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín Študentská 2, 911 50 Trenčín, Slovakia Tel: +421951835445 email: ali.najafzadeh@tnuni.sk

City	Date	Name and Title
Trenčín	8.10.2026	Ing. Aliasghar NAJAFZADEHKHOEE, Ph.D.

Doctoral Degree (PhD) Certificate

MINISTERSTVO ŠKOLSTVA, VÝSKUMU, VÝVOJA A MLÁDEŽE SLOVENSKEJ REPUBLIKY

Stredisko na uznávanie dokladov o vzdelaní
Černyševského 50, 851 01 Bratislava

Číslo spisu
2026/14791:2-D9190

Bratislava
15. 05. 2026

ROZHODNUTIE

Popis konania / Účastníci konania

Ministerstvo školstva, výskumu, vývoja a mládeže Slovenskej republiky, Stredisko na uznávanie dokladov o vzdelaní (ďalej len „ministerstvo školstva“) ako správny orgán príslušný podľa § 3 ods. 1 písm. i) a § 39 ods. 2, 3 a 9 zákona č. 422/2015 Z. z. o uznávaní dokladov o vzdelaní a o uznávaní odborných kvalifikácií a o zmene a doplnení niektorých zákonov v znení neskorších predpisov

Výrok

uznáva

doklad o vzdelaní s názvom: Certificate for Completion of Doctorate´s Degree Program
rok ukončenia: 2015
vydaný na: Semnan University, Semnan
v (štát štúdia): Iránska islamská republika
znejúci na (meno, dátum narodenia): Aliasghar Najafzadehkhoee, nar. 1983

za rovnocenný s dokladom o vysokoškolskom vzdelaní tretieho stupňa vydaným vysokou školou v Slovenskej republike.

Týmto rozhodnutím sa uznáva doklad o vzdelaní bez uznania odbornej kvalifikácie a bez porovnania obsahu a uznania rovnocennosti absolvovaného študijného odboru so študijným odborom v Slovenskej republike.

Držiteľ dokladu o vzdelaní je oprávnený v Slovenskej republike používať akademický titul v rovnakom znení a skratke, ktorý mu bol priznaný podľa vnútroštátnych právnych predpisov v Iránskej islamskej republike. Pokiaľ mu titul nebol udelený, nie je oprávnený používať ho v Slovenskej republike.

Odôvodnenie

V zmysle ustanovenia § 47 ods. 1 zákona č. 71/1967 Zb. o správnom konaní (správny poriadok) v znení neskorších predpisov sa od odôvodnenia upúšťa vzhľadom na to, že v predmetnej veci sa v plnom rozsahu vyhovelo.

Poučenie

Proti tomuto rozhodnutiu možno podľa § 61 zákona č. 71/1967 Zb. o správnom konaní (správny poriadok) v znení neskorších predpisov podať rozklad v lehote 15 dní od jeho oznámenia na Ministerstvo školstva, výskumu, vývoja a mládeže Slovenskej republiky, Černyševského 50, 851 01 Bratislava. Toto rozhodnutie je preskúmateľné súdom po vyčerpaní riadnych opravných prostriedkov.

Alena Krajčíková

riaditeľ

Informatívna poznámka - tento dokument bol vytvorený elektronicky orgánom verejnej moci

Doručuje sa

Master of Science (M.Sc.) Degree Certificate

VKS IIa Certificate

SLOVENSKÁ AKADÉMIA VIED

Komisia pre posudzovanie vedeckej kvalifikácie

Ústav anorganickej chémie SAV, v.v.i.
doc. Ing. Miroslav Boča, DrSc.
riaditeľ
Dúbravská cesta 9
845 36 Bratislava

Bratislava, 12. 1. 2026
Č. j.: 138/2026

O z n á m e n i e

Komisia pre posudzovanie vedeckej kvalifikácie ako orgán príslušný na konanie o priznanie vedeckého kvalifikačného stupňa výskumným pracovníkom podľa § 15 ods. 5 zák. č. 133/2002 Z. z. o Slovenskej akadémii vied v znení neskorších predpisov (ďalej len „zákon") v spojení s ust. § 4 ods. 2 písm. c) zákona prerokovala podľa §15 až 17 zákona v spojení s ustanoveniami čl. II. až IV. Štatútu Komisie pre posudzovanie vedeckej kvalifikácie na svojom 1. zasadnutí konanom dňa 13. 12. 2025 návrh Ústavu anorganickej chémie SAV, v.v.i., na priznanie vedeckého kvalifikačného stupňa IIa výskumnému pracovníkovi Ing. Aliasghar Najafzadehkhoee, PhD., a rozhodla takto:

Komisia pre posudzovanie vedeckej kvalifikácie podľa § 17 ods. 7 zák. č. 133/2002 Z. z. o Slovenskej akadémii vied v znení neskorších predpisov **p r i z n á v a**

Ing. Aliasghar Najafzadehkhoee, PhD.,

vedecký kvalifikačný stupeň IIa

Poučenie o opravnom prostriedku:

Proti oznámeniu komisie, ktorým sa vyhovelo návrhu na priznanie vedeckého kvalifikačného stupňa, nemôže navrhovateľ alebo dotknutý výskumný pracovník podať žiadosť o preskúmanie komisii pre posudzovanie vedeckej kvalifikácie, ktorú by inak prerokúvala Vedecká rada Slovenskej akadémie vied.

SLOVENSKÁ AKADÉMIA VIED - BRATISLAVA -

RNDr. Dagmar Gregušová, DrSc.
predsedníčka komisie

Štefánikova 49, 814 38 Bratislava, Slovenská republika, Tel.: +421 2 57 510 272, e-mail: vedecka.kvalifikacia@savba.sk

II. TEACHING AND PEDAGOGICAL ACTIVITIES

A. Overview of teaching and pedagogical activities

List of Lectures in Doctoral studies (PhD level)

- Fundamentals of Computational Materials Science (25 hrs/year), FunGlass Center, Alexander Dubček University of Trenčín, Slovakia, 2026 – Cont.
- Fundamentals of Colloidal Chemistry (50 hrs/year), FunGlass Center, Alexander Dubček University of Trenčín, Slovakia, 2023 – Cont.
- Colloidal Systems: Characterization and Utilization (48 hrs/year), FunGlass Center, Alexander Dubček University of Trenčín, Slovakia, 2023 – Cont.

List of Lectures in Master's Studies (MSc level)

- Simulation in Materials Science (FEM) (60 hrs/year), Semnan University, Iran, 2011 – 2013.

List of Lectures in Bachelor's Studies (BSc level)

- Materials Science (60 hrs/year), Payam Nour University, Iran, 2016 – 2019.
- Physical and Mechanical Properties of Materials (60 hrs/year), Payam Nour University, Iran, 2016 – 2019.
- Heat Treatment of Steels (60 hrs/year), Payam Nour University, Iran, 2016 – 2019.
- Materials Science (60 hrs/year), University of Applied Science and Technology, Iran, 2016 – 2019.
- Physical Properties of Materials (60 hrs/year), University of Applied Science and Technology, Iran, 2016 – 2019.
- Heat Treatment of Steels (60 hrs/year), University of Applied Science and Technology, Iran, 2016 – 2019.
- Computer Applications in Materials Science (90 hrs/year), Semnan University, Iran, 2011 – 2013.

List of Lectures in Associate Degree Studies

- Materials Science (60 hrs/year), Enghelab Technical College, Iran, 2013 – 2015.
- Mechanical Properties of Materials (60 hrs/year), Enghelab Technical College, Iran, 2013 – 2015.
- Heat Treatment of Steels (60 hrs/year), Enghelab Technical College, Iran, 2013 – 2015.

B. Instructional text

A. Najafzadehkhoee, J. J. Velázquez**,** Fundamentals of Colloidal Chemistry: Characterization and Utilization. Vol. 2: Synthesis and Processing Methods. Alexander Dubček University of Trenčín, PhD Doctoral Studies, Study Programme: Inorganic Technology and Non-metallic Materials, 2026, pp. 1-26. ISBN 978-80-8295-071-0.

C. List of Bachelor's and Master's theses (Supervisor and Co-supervisor)

1. Dissertation topic: Finite Element Modeling of Metallic Foams with Spherical Porosity. Type of thesis: Bachelor; **Supervisors:** Dr. Habibolahzadeh, **A. Najafzadehkhoee**, M.Sc. Place: Semnan University, Iran. Student Name: Ehsan Jalali. Period: 2012-2013.

2. Dissertation topic: Comparative Finite Element Analysis of the Mechanical Behavior of CK45 Steel Bars Subjected to Burnishing and Drawing Processes. Type of thesis: Master, Supervisor: Dr. E. Emadodin, **Co-Supervisor: A. Najafzadehkhoee**. M.Sc., Place: Department of Metallurgy and Materials Engineering, Semnan University, Iran. Student Name: Mehdi Mokhtari, BSc. Period: 2011-2012.

D. List of PhD thesis (Co-supervisor)

1. Dissertation topic: "Designing Damage-Tolerant Ceramics: AI-Assisted Multi-Objective Method to Achieve Contact Damage Resistance". Type of thesis: Ph.D., Supervisor: Dr. A. Talimian. **Co-supervisor: Dr. A. Najafzadehkhoee**. Place: FunGlass, Slovakia. Student Name: Anand Sagar, MSc. ***In progress***. Starting date: 1.9.2026. State: Ongoing.

III. HABILITATION THESIS

The applicant for the habilitation procedure submits the habilitation thesis:

"Advanced Manufacturing of Ceramic Composites: from Green Body to Microstructure"

in the form of a set of published scientific papers supplemented by a commentary.

IV. SCIENTIFIC RESEARCH and PUBLICATION ACTIVITIES

KRITÉRIÁ NA ZÍSKANIE TITULU DOCENT A PROFESOR

Criteria for obtaining the title "docent" and "professor"

Minimal obligatory requirements	Minimum requirements for starting		Actual Status
	Associate Professor Appointment Procedure	**Professor appointment procedure**	
EVALUATION OF PEDAGOGICAL ACTIVITIES			
I. Pedagogical activities and preparation of teaching texts			
1. *Pedagogical experiences in a particular field at a university*	3 years after PhD	years after associated professor award	**Yes**
2. *Textbooks* *or* *Instructional texts and materials, electronic instructional texts*	- 1	1 2	- **1**
EVALUATION OF SCIENTIFIC AND RESEARCH ACTIVITIES			
II. Scientific and Research activities			
Scientific and research papers of the category A+. A, A- or B *out of which* Scientific and research papers of the category A+. A,	20 (5) 8 (3)	60 (10)[2] 20 (5)[2]	**21 (12)** + 1 SK patent + 1 EP patent + 2 IR patents **Total: 25 (12)** **18 (12)** + 1 EP patent
III. Citations and Responses			
Citations (SCI, WOS, SCOPUS, book and others) total[1] *out of which* *Citations registered in WOS and SCOPUS*	60 60	250 240	**97** **97**
IV. Scientific school and international recognition			
1. *Number of supervised doctoral (awarded with a PhD title/after midterm dissertation exam)*	-	2/0	-
2. *Investigator/Principal investigator of a grant project*	3/0	6/1	**9**
3. *International recognition by the scientific community from other countries than SR (written references from experts in the field)*	-	3	-

*) V zátvorke uviesť počty za posledných 5 rokov *(in parenthesis, declare the numbers over the last 5 years)*

**) Citácie s vylúčením autocitácií všetkých spoluautorov *(Citations with the exclusion of the autocitations of all co-authors)*

Vysvetlivky *(Explanations)*:

[1] Počet vedeckých prác je bez prepočítania na počet autorov. Rovnako sa neprepočítavajú na počet autorov citácie, patenty a monografie/kapitoly v monografii.
(The number of scientific works is without recalculation to the number of authors. They are also not recalculated for the number of authors of citations, patents and monographs / chapters in the monograph.)

[2] Zohľadnenie výstupov vo forme monografií/kapitol v monografiách a patentoch:
(*Consideration of scientific outputs in the form of monographs / chapters in monographs and patents:)*

- Monografia/ kapitola vo vedeckej monografii môže nahradiť najviac tri/jednu vedeckú prácu, podľa rozsahu a vydavateľstva.
  (A monograph / chapter in a scientific monograph may replace a maximum of three / one scientific papers, depending on the scope and publishing house.)

- Každý prijatý európsky alebo svetový patent je ekvivalentný 10% odporúčaného počtu vedeckých prác vo vedeckých časopisoch evidovaných v WOS alebo SCOPUS kategórie A alebo A+.
  (Each European or world patent received is equivalent to 10% of the recommended number of scientific papers in scientific journals indexed in WOS or SCOPUS databases in the category A or A+.)

- Každý preukázateľne realizovaný patent je ekvivalentný 20% odporúčaného počtu vedeckých prác vo vedeckých časopisoch evidovaných v WOS alebo SCOPUS kategórie A alebo A+.
  (Each demonstrably realized patent is equivalent to 20% of the recommended number of scientific in scientific journals indexed in WOS or SCOPUS databases in the category A or A+.)

- miere náhrady sa explicitne vyjadrí inauguračná komisia vo svojom stanovisku k začatiu inauguračného konania.
  (The extent of substitution will be explicitly considered by the inauguration commission in its statement to the starting inauguration procedure.)

[3] Písomné referencie od popredných zahraničných odborníkov z aspoň troch rozličných štátov mimo Slovenskej republiky, pričom v referenciách bude potvrdené, že uchádzač spĺňa požiadavky na pôsobenie vo funkcii profesora v medzinárodnom kontexte.
(The written references from recognized scientist in the field, form at least three different countries out of Slovak republic. In the references should be stated that an applicant fullfil requirements for the position of university professor at the international level.)

A. PUBLICATION ACTIVITIES

Ph.D. thesis

Effect of Nano-ZrC on the Microstructure and Mechanical Properties of W–ZrC Nanocomposites Fabricated by the Displacive Compensation of Porosity Method, Semnan University, Iran, 2015, **Supervisors:** Prof. Ali Habibolahzadeh, Prof. Fathalah Qods.

Patents (National and European): 4

1. M. Vakhshouri, **A. Najafzadehkhoee**, A. Talimian, D. Galusek, A method for producing Al_2O_3 based eutectic ceramic composites, European Patent Office, Application number: **EP25155121.4**, Filed date: 30.01.2025. **Status: Published patent application (pending).**

2. M. Vakhshouri, **A. Najafzadehkhoee**, A. Talimian, D. Galusek, Spôsob výroby eutektických keramických kompozitov na základe pseudo ternárneho systému Al_2O_3–$Al_3Y_5O_{12}$–ZrO_2, Industrial Property Office of the Slovak Republic, Application number: **PP50007-2024**, Filed date: 30.01.2024. **Status: Patent application under examination (awaiting a further examination report from the EPO).** https://wbr.indprop.gov.sk/WebRegistre/Patent/Detail/50007-2024?csrt=10610536321026940826

3. **A. Najafzadehkhoee**, H. Pourshahsavari, H. Parsa, Metal die for the fabrication of composite lamina and laminates in different angles, Patent **85/A 012832**, State Organization for Registration of Deeds and Real Estates, Industrial Property Office, Iran, 12.11.2007. **Status: granted**.

4. **A**. **Najafzadehkhoee,** M.J. Najafzadehkhoee, Cold lamp; pressure resistance, without transferring heat and UV, Patent **82/A 011204**, State Organization for Registration of Deeds and Real Estates, Industrial Property Office, Iran, 22.08.2007. **Status: granted**.

A+ & A (scientific paper published in a scientific journal registered in WOS or SCOPUS): 18

1. S. Azadmehr, S. Alamdari, A. M. J. Tafreshi, **A. Najafzadehkhoee**, J. J. Velázquez, S. Khani, P. Rezaei, Efficient synthesis of Gd-doped $ZnWO_4$@GO composite and investigation of luminescence properties, Results Opt., 101163, 2026, https://doi.org/10.1016/j.rio.2026.101163.

2. H. Tripathi, **A. Najafzadehkhoee**, A. Talimian, D. Galusek, Formulation effects on the processing of aqueous tape-cast alumina, spinel, and zirconia, Ceram. Int., 52 (2026) 46601–46611, ISSN 0272-8842, https://doi.org/10.1016/j.ceramint.2026.07.525.

3. **A. Najafzadehkhoee**, A. Talimian, A. Gallardo-Lopez, R. Poyato, F. Gutierrez-Mora, Z. Hajovska, M. Nosko, D. Galusek, Influence of small amounts of transition metal oxides on spark plasma sintering of nano-Y_2O_3, Open Ceram., 2026, 100992, ISSN 2666-5395, https://doi.org/10.1016/j.oceram.2026.100992.

4. **A. Najafzadehkhoee***, A. Jabr, A. Talimian, R. Papšík, D. Drdlík, K. Maca, D. Galusek, R. Bermejo, Improving contact damage resistance of spinel translucent ceramics through a multi-layer design, J. Eur. Ceram. Soc., 45 (2025) 117071, ISSN 0955-2219, https://doi.org/10.1016/j.jeurceramsoc.2024.117071.

5. M. Vakhshouri, A. Talimian, **A. Najafzadehkhoee**, Á. Gallardo-López, R. Poyato, F. Gutiérrez-Mora, D. Galusek, Fabrication of Al_2O_3-$Y_3Al_5O_{12}$-ZrO_2 composites by single-step spark plasma sintering, J. Eur. Ceram. Soc., 45 (2025) 117358, ISSN 0955-2219, https://doi.org/10.1016/j.jeurceramsoc.2025.117358.

6. S. Azadmehr, S. Alamdari, M.J. Tafreshi, Z. Tanveer, O. Mirzaee, **A. Najafzadehkhoee**, J.J. Velázquez, Controlled co-precipitation synthesis of Gd and Mn doped Zinc tungstate: insights into structural, optical, magnetic behavior, and dielectric properties, Appl. Phys. A, 131 (2025) 339, ISSN: 1432-0630, http://doi.org/10.1007/s00339-025-08399-w.

7. O. Mirzaee, M.M. H. Farahani, M. Hajiebrahimi, S. Alamdari, **A. Najafzadehkhoee**, G. M. Khounsaraki, M. Agheb, Vladyslav Kostiuk, Andrea Puškárová, Maria Bučková, D. Pangallo, P. Hvizdoš, Synthesis and antibacterial activity of silver doped zinc sulfide/chitosan bionanocomposites: a new frontier in biomedical applications, Int. J. Biol. Macromol., 280 (2024) 135934, ISSN 0141-8130, https://doi.org/10.1016/j.ijbiomac.2024.135934.

8. M. Vakhshouri, **A. Najafzadehkhoee**, A. Talimian, C. López-Pernia, R. Poyato, Á. Gallardo-López, F. Gutiérrez-Mora, A. Prnova, D. Galusek, $Al_2O_3/Y_3Al_5O_{12}$ (YAG)/ZrO_2 composites by single-step powder synthesis and spark plasma sintering, J. Eur. Ceram. Soc., 44 (2024) 7180-7188, ISSN 0955-2219, https://doi.org/10.1016/j.jeurceramsoc.2024.05.004.

9. **A. Najafzadehkhoee**, A. Talimian, V. Girman, R. Sedlák, P. Hvizdoš, K. Maca, D. Galusek, Liquid phase sintering of yttrium oxide: The effect of Al_2O_3 and SiO_2 additives, J. Eur. Ceram. Soc., 44 (2024) 383-392, ISSN 0955-2219, https://doi.org/10.1016/j.jeurceramsoc.2023.08.055.

10. N. Putenpurayil Govindan, **A. Najafzadehkhoee***, A. Talimian, V. Pouchly, M. Michálková, P. Švančárek, R. Klement, D. Galusek, Sintering of Ce^{3+}-doped yttria nanoparticles prepared by precipitation method, Open Ceram., 13 (2023) 100315, ISSN 2666-5395, https://doi.org/10.1016/j.oceram.2022.100315.

11. M. Karbalaei Akbari, N. Siraj Lopa, M. Shahriari, **A. Najafzadehkhoee,** D. Galusek, S. Zhuiykov, Functional two-dimensional materials for bioelectronic neural interfacing, J. Funct. Biomater., 14 (2023) 35, ISSN: 2079-4983, https://doi.org/10.3390/jfb14010035.

12. **A. Najafzadehkhoee***, A. Talimian, J. Sedláček, M. Lisnichuk, P. Hvizdoš, D. Galusek, Translucent yttrium oxide ceramics from low-density green bodies shaped by uniaxial pressing, J. Eur. Ceram. Soc., 42 (2022) 4623-4630, ISSN 0955-2219, https://doi.org/10.1016/j.jeurceramsoc.2022.04.036.

13. **A. Najafzadehkhoee***, A. Habibolahzadeh, F. Qods, M. Vakhshouri, W. Polkowski, P. Hvizdoš, D. Galusek, Effect of ZrC nanopowder addition in WC preforms on microstructure and properties of W–ZrC composites prepared by the displacive compensation of porosity (DCP) method. J. Aust. Ceram. Soc., 57 (2021) 515–523, ISSN: 2510-1579, https://doi.org/10.1007/s41779-020-00538-1.

14. **A. Najafzadehkhoee***, A. Habibolahzadeh, F. Qods, P. Hvizdoš, A Taguchi approach to the influence of infiltration parameters on microstructure and properties of W–ZrC composites prepared by the displacive compensation of porosity (DCP) method, Compos. Commun., 20 (2020) 100356, ISSN 2452-2139, https://doi.org/10.1016/j.coco.2020.05.002.

15. S. R. Askari, M. Khakzadi, A. Shahpasandi, **A. Najafzadehkhoee***, Fabrication of W–ZrC nanocomposite through reaction sintering using relatively low-toxic methacrylamide-based system, Compos. Commun., 13 (2019) 156-161, ISSN 2452-2139, https://doi.org/10.1016/j.coco.2019.04.009.

16. **A. Najafzadeh Khoee***, A. Habibolahzadeh, F. Qods, H. Baharvandi, Microstructure and properties of DCP-derived W-ZrC composite using nontoxic sodium alginate to fabricate WC preform, J. Mater. Eng. Perform., 24 (2015) 1641–1648, ISSN: 1544-1024, https://doi.org/10.1007/s11665-015-1427-z.

17. **A. Najafzadeh Khoee***, A. Habibolahzadeh, F. Qods, H. Baharvandi, Fabrication of tungsten carbide foam through gel-casting process using nontoxic sodium alginate, Int. J. Refract. Met. Hard Mater., 43 (2014) 115-120, ISSN 0263-4368, https://doi.org/10.1016/j.ijrmhm.2013.11.011.

18. **A. Najafzadeh Khoee***, A. Habibolahzadeh, F. Qods, H. Baharvandi, Study on rheological behavior of WC slurry in gel-casting process and reactive infiltration of produced foam by molten Zr_2Cu alloy, Int. J. Refract. Met. Hard Mater., 46 (2014) 30-34, ISSN 0263-4368, https://doi.org/10.1016/j.ijrmhm.2014.05.006.

A- (scientific paper published in a scientific journal registered in WOS or SCOPUS): 1

19. **A. Najafzadehkhoee***, A. Habibolahzadeh, F. Qods, M. Vakhshouri, W. Polkowski, P. Hvizdos, Application of the statistical Taguchi method to optimize the properties of WC preforms to produce W-ZrC composites using reactive infiltration by molten Zr_2Cu, Int. J. Mod. Phys. B, 34 (2020), 2050233, *https://doi.org/10.1142/S0217979220502331*

Book chapter: 1

20. **A. Najafzadehkhoee***, M. Vakhshouri, P. Hvizdoš, D. Galusek, High-Temperature W/ZrC Composite Coatings, Ceramic Coatings for High-Temperature Environments. Engineering Materials. Springer, Cham., (2024) 471–491. *https://doi.org/10.1007/978-3-031-40809-0_15*.

B (other publications registered in WOS or SCOPUS, other reviewed publications in journals): 1

21. **A. Najafzadeh Khoee***, J. Eskandari Jam. M. Zabihpoor, Response of carbon-epoxy composite lattice cylinders under axial load, 2010 IEEE Aerosp. Conf. Proc., USA, 2010, ISBN: 978-1-4244-3887-7, *https://doi.org/10.1109/AERO.2010.5446766.*

B. PROFESSIONAL ACTIVITIES

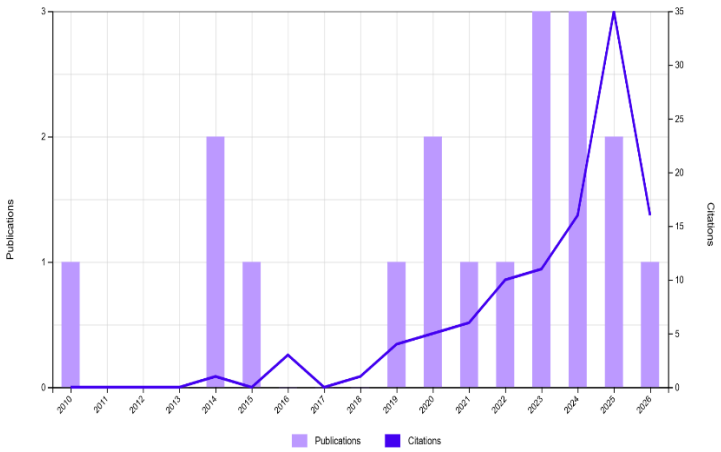
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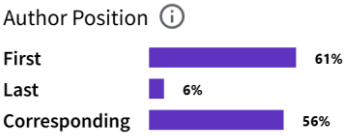
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Citations in WOS	115	99 (without self-citation of all authors)
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Analysis of research results from 2010 to 2026

Web of Science





Scopus

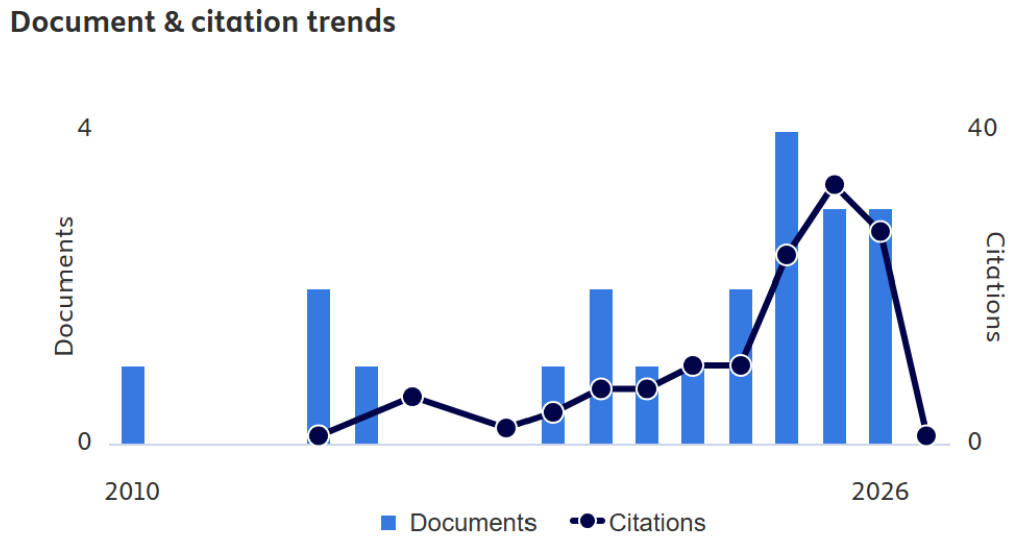
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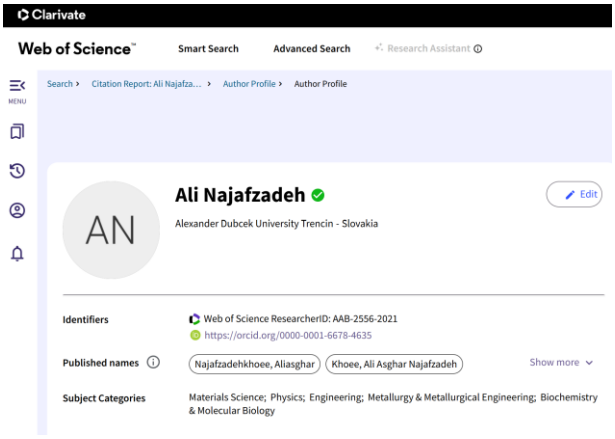
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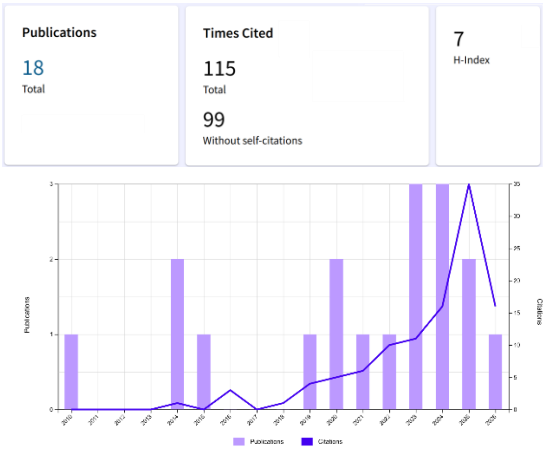
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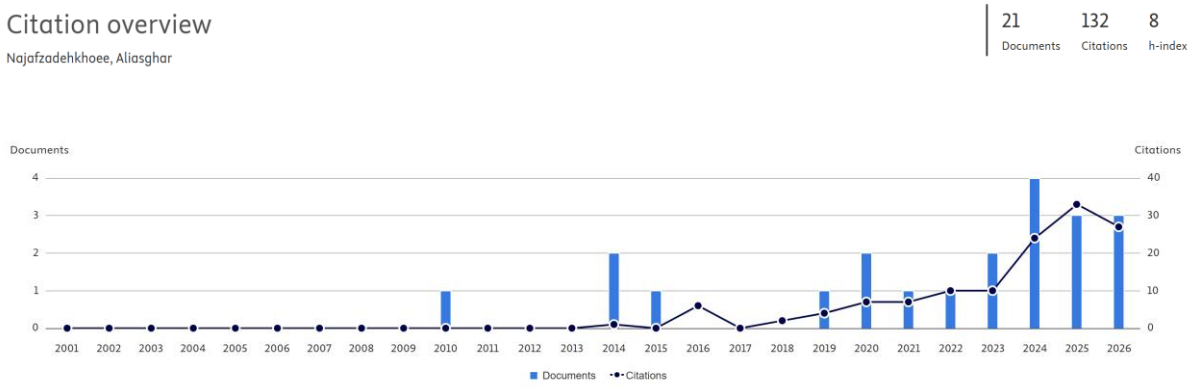
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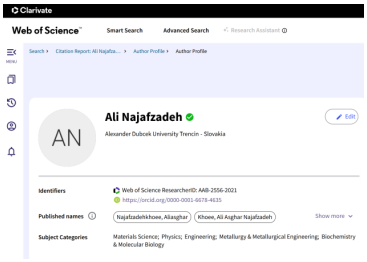
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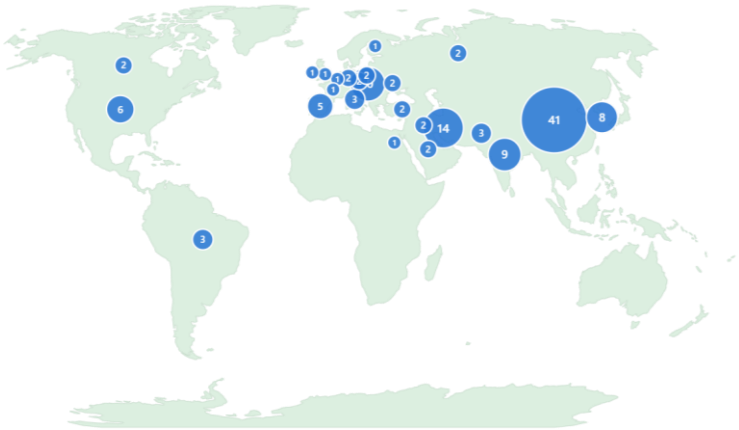


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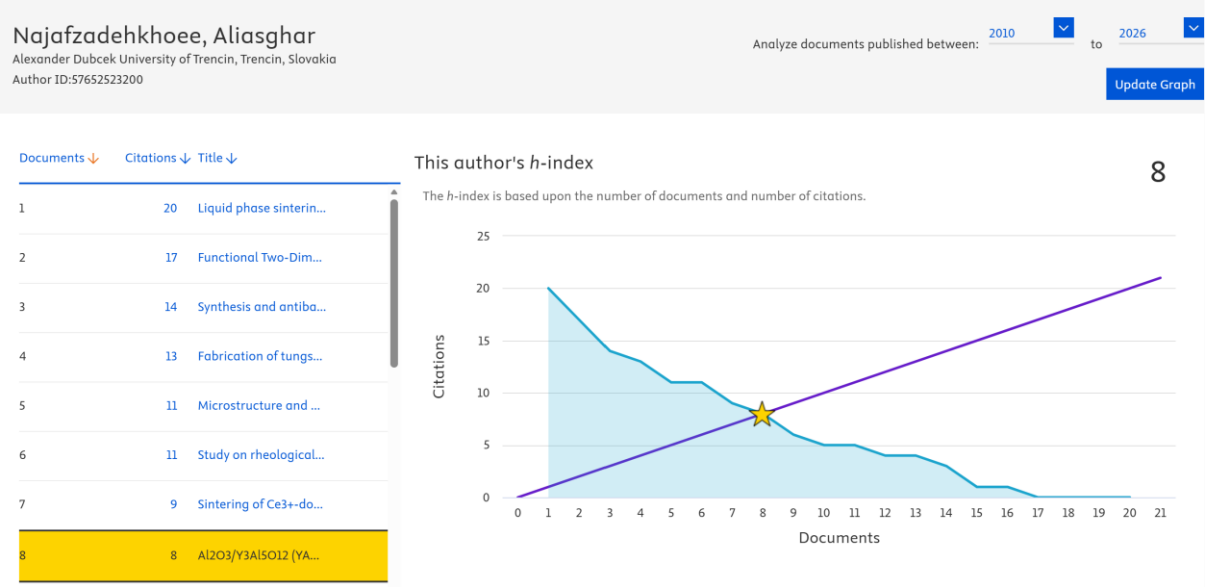
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Citations, excluded self-citations of all authors

1. S. Azadmehr, S. Alamdari, A. M. J. Tafreshi, **A. Najafzadehkhoee**, J. J. Velázquez, S. Khani, P. Rezaei, Efficient synthesis of Gd-doped $ZnWO_4$@GO composite and investigation of luminescence properties, Results Opt., 101163, 2026, https://doi.org/10.1016/j.rio.2026.101163. IF=3.3.

2. H. Tripathi, **A. Najafzadehkhoee**, A. Talimian, D. Galusek, Formulation Effects on the Processing of Aqueous Tape-Cast Alumina, Spinel, and Zirconia, Ceram. Int., 52 (2026) 46601–46611, ISSN 0272-8842, https://doi.org/10.1016/j.ceramint.2026.07.525. IF=6.

3. **A. Najafzadehkhoee**, A. Talimian, Á. Gallardo-López, R. Poyato, F. Gutierrez-Mora, Z. Hajovska, M. Nosko, D. Galusek, Influence of small amounts of transition metal oxides on spark plasma sintering of nano-Y_2O_3, Open Ceramics, 27 (2026) 100992, ISSN 2666-5395, https://doi.org/10.1016/j.oceram.2026.100992. IF=2.9.

    [1] N. Kerkad, R. Boulesteix, F. Delaunay, A. Combettes, M. Gayot, N. Pradeilles, A. Maître, Effect of fluorine addition on the sintering behavior of Ho:Y_2O_3 transparent ceramics, Optical Materials, 180 (2026) 118476, ISSN 0925-3467, https://doi.org/10.1016/j.optmat.2026.118476.

4. **A. Najafzadehkhoee***, A. Jabr, A. Talimian, R. Papšík, D. Drdlík, K. Maca, D. Galusek, R. Bermejo, Improving contact damage resistance of spinel translucent ceramics through a multi-layer design, J. Eur. Ceram. Soc., 45 (2025) 117071. https://doi.org/10.1016/j.jeurceramsoc.2024.117071. IF=5.8.

    [2] Z. Noor, G. Murtaza, M.A. Jehangir, A.R. Chaudhry, Aurangzeb. Pressure induced bandgap variation for the optical and photo-catalytic properties of MgA2X4 (A = Sc, Y; X = S, Se) spinel compounds. Pramana – Journal of Physics, 100, 128 (2026). https://doi.org/10.1007/s12043-026-03165-w.

[3] Y. Rao, X. Zhang, M. Wang, G. Yin, P. Lu, Transparent ion-exchanged carnegieite glass–ceramic with high crystallinity, Ceramics International, Part B, 52 (2026) 26050-26057, ISSN 0272-8842, https://doi.org/10.1016/j.ceramint.2026.04.066.

5. M. Vakhshouri, A. Talimian, **A. Najafzadehkhoee**, Á. Gallardo-López, R. Poyato, F. Gutiérrez-Mora, D. Galusek, Fabrication of Al_2O_3-$Y_3Al_5O_{12}$-ZrO_2 Composites by Single-step Spark Plasma Sintering, J. Eur. Ceram. Soc., 45 (2025) 117358. https://doi.org/10.1016/j.jeurceramsoc.2025.117358. IF=5.8.

[4] L. Gong, Z. Jiang, S. Wang, X. Meng, W. Guo, Heterogeneous interface control in direct ink writing of functionally graded ceramics, Additive Manufacturing, 128 (2026) 105336, ISSN 2214-8604, https://doi.org/10.1016/j.addma.2026.105336.

6. S. Azadmehr, S. Alamdari, M.J. Tafreshi, Z. Tanveer, O. Mirzaee, **A. Najafzadehkhoee**, J.J. Velázquez, Controlled Co-Precipitation Synthesis of Gd and Mn Doped Zinc Tungstate: Insights into Structural, Optical, Magnetic Behavior, and Dielectric Properties, Appl. Phys. A, *131* (2025) 339. http://doi.org/10.1007/s00339-025-08399-w. IF=2.5.

[5] W. Lin, W. Wei, F. Zhang, G. Yu, F. Qu, N-octanol sensing performance of metal-organic frameworks-derived Ce-doped ZnO nanosheets, Sensors and Actuators B: Chemical, 443 (2025) 138191, ISSN 0925-4005, https://doi.org/10.1016/j.snb.2025.138191.

7. O. Mirzaee, M.M. H. Farahani, M. Hajiebrahimi, S. Alamdari, **A. Najafzadehkhoee**, G. M. Khounsaraki, M. Agheb, Vladyslav Kostiuk, Andrea Puškárová, Maria Bučková, D. Pangallo, P. Hvizdoš, Synthesis and Antibacterial Activity of Silver Doped Zinc Sulfide/Chitosan Bionanocomposites: A New Frontier in Biomedical Applications, Int. J. Biol. Macromol., 280 (2024) 135934. *https://doi.org/10.1016/j.ijbiomac.2024.135934.* IF=7.7.

[6] G. Sandhya, D. Suresh, Rao, A.M. R. Sribalan, K. Ramesh, Synergistic UV-Driven Photocatalytic Degradation of Pharmaceutical Pollutants over ZnS-Chitosan-Cu Hybrid Nanocomposite. *Top Catal* (2026). *https://doi.org/10.1007/s11244-026-02272-7*.

[7] M. Arif, Photocatalytic degradation of dyes by metal sulfide–chitosan based composites: a comprehensive review, RSC Advances Review, Open Access 2026, *https://doi.org/ 10.1039/d5ra07777j*.

[8] N. Samdani, S. N. Mali, G. Lushington, S. Khan, A. Sati, R. Dongre, N. Satpute, B. R. Thorat, A. P. Pratap, Zinc Nanoparticles (Zn-NPs): Advances in Bio/Synthesis, Properties, Multifunctional Roles, and Toxicity-A 2025 Update Review, Combinatorial Chemistry & High Throughput Screening; 29 (2026), e13862073476530. *https://doi.org/10.2174/0113862073476530260723061912*.

[9] S. Murugan, M. Ashokkumar, R. Kalpana Manivannan, R. Chellakumar, K.J. Senthil Kumar, Bioactive potential of silver and copper co-doped ZnS quantum dots: A multifaceted study on anticancer, antioxidant, antibacterial, and hemolytic effects, Materials Today Communications, Volume 49, 2025, 113805, ISSN 2352-4928, *https://doi.org/10.1016/j.mtcomm.2025.113805*.

[10] S.G. Niyat, F.Z. Hargalani, M. Emtyazjoo, F. Yazdian, A.M. Moradi, A novel synergistic and eco-friendly approach for efficient crude oil removal from water using ZnO/g-C_3N_4/chitosan nanostructure and spirulina algae, Sci Rep 15, 29932 (2025). https://doi.org/10.1038/s41598-025-15117-2.

[11] S. Mardhekar, P. Luong, P.H. Seeberger, Exploring marine glycans: structure, function, and the frontier of chemical synthesis, RSC Chem. Biol., 2025, https://doi.org/10.1039/d5cb00090d.

[12] M.T. Ramesan, R. Gopika, T.T. Khaleelul Rahman, K.T. Jamsheena, B.K. Bahuleyan, Impact of nanocurcumin on mechanical, optical and electrical properties of chitosan/polyvinyl alcohol blend nanocomposites for sustainable applications, Int. J. Biol. Macromol., 309 (2025) 142976, https://doi.org/10.1016/j.ijbiomac.2025.142976.

[13] L. Zhang, Z. Liu, M. Ma, Y. Zhao, W. Miao, Y. Chen, W. Shi, Q. Chen, Preparation and characterization of highly stable melleolides @ chitosan nanoemulsion and its effect on Salmo salar preservation, LWT, 216 (2025) 117337, https://doi.org/10.1016/j.lwt.2025.117337.

[14] T. Jayaramudu, E. Z. Gnimpieba, V. Gadhamshetty, Development and OMICs Evaluation of Antibiofilm Material Using Hexanoic-Anhydride Modified Chitosan Electrospun Fibers Embedded with Silver Nanoparticles for Antibacterial Effects, *2025 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, Wuhan, China, 2025, pp. 7589-7591, https://doi.org/ 10.1109/BIBM66473.2025.11356496.

8. M. Vakhshouri, **A. Najafzadehkhoee**, A. Talimian, C. López-Pernia, R. Poyato, Á. Gallardo-López, F. Gutiérrez-Mora, A. Prnova, D. Galusek, Al_2O_3/$Y_3Al_5O_{12}$ (YAG)/ZrO_2 composites by single-step powder synthesis and spark plasma sintering, J. Eur. Ceram. Soc., 44 (2024) 7180-7188, https://doi.org/10.1016/j.jeurceramsoc.2024.05.004. IF=5.8.

[15] S. Shang, W. Hao, Z. Zhang, C. Zhou, J. Yang, S. S. Yoon, S. Cui, In situ formed biphasic high-entropy silicate ceramic aerogels reinforced by Al_2O_3 nanorods for high-temperature thermal insulation, Chemical Engineering Journal, 536 (2026) 175891, ISSN 1385-8947, https://doi.org/10.1016/j.cej.2026.175891.

[16] B. Zhang, P. Kuai, H. Liu, Y. Wang, Q. Xu, L. Jian, X. Lu, Y. Jiang, J. Feng, Effects of high-entropy design on mechanical and thermal properties of Al_2O_3-$GdAlO_3$ composite ceramic with eutectic composition, Journal of Alloys and Compounds, 1065 (2026) 188081, ISSN 0925-8388, https://doi.org/10.1016/j.jallcom.2026.188081.

[17] A. Rittidech, A. Suthapintu, Sintering densification, structural analysis, microstructure and mechanical properties of Al_2O_3(MgO)/ZrO_2(Y_2O_3) composite ceramics, Journal of Ceramic Processing Research, 26 (2025) 901–908, https://doi.org/ 10.36410/jcpr.2025.26.6.901.

[18] Z. Ding, D. Wang, B. Zhao, S. Shi, G. Qi, Multi-scale bionic bouligand structure synergistic toughening: development and performance study of Cf/Al_2O_3-SiC-ZrO_2 composite ceramic materials, Ceramics International, Part B, 51 (2025) 36746-36756, ISSN 0272-8842, https://doi.org/10.1016/j.ceramint.2025.05.385.

[19] M. Hachhach, S. Bayou, A. El Kasmi, M.Z. Saidi, H. Akram, M. Hanafi, O. Achak, C. El Moujahid, T. Chafik, Towards Sustainable Scaling-Up of Nanomaterials Fabrication: Current Situation, Challenges, and Future Perspectives. Eng 6 (2025) 149. *https://doi.org/ 10.3390/eng6070149*.

[20] O.V. Dudnik, S.M. Lakiza, I.O. Marek, V.P. Redko, A.O. Makudera, O.K. Ruban, Advanced Approaches for Producing Nanocrystalline and Fine-Grained ZrO_2-Based Powders(Review) II. Wet Chemistry Methods: Coprecipitation, Sol–Gel Process, and Pechini Method, Powder Metall Met Ceram (2025), *https://doi.org/10.1007/s11106-025-00474-4.*

9. **A. Najafzadehkhoee**, A. Talimian, V. Girman, R. Sedlák, P. Hvizdoš, K. Maca, D. Galusek, Liquid phase sintering of yttrium oxide: The effect of Al_2O_3 and SiO_2 additives, J. Eur. Ceram. Soc., 44 (2024) 383-392, *https://doi.org/10.1016/j.jeurceramsoc.2023.08.055*. IF=5.8.

[21] Q. Liu, K. Cui, Z. Liao, C. Wu, L. He, S. Yao, Tuning phase transformation and microstructure in alumina-mullite nanofibers by concentration-dependent Sc_2O_3 doping, Ceramics International, 52, Part A (2026) 42449-42460, ISSN 0272-8842, https://doi.org/10.1016/j.ceramint.2026.07.142.

[22] S.B. Ham, S.H. Kim, H.N. Kim, Y.J. Park, J.H. Kim, H.C. Lee, H.J. Ma, Exploring MgO polycrystalline ceramics as plasma etching resistant materials for semiconductor manufacturing processes under CF4/Ar/O2 atmosphere. J. Korean Ceram. Soc. 63, (2026) 1124–1137. https://doi.org/10.1007/s43207-026-00623-4.

[23] Y. Hao, J. Bu, Q. Zhao, J. Zheng, Y. Wang, High-performance electronic ceramic substrates: from fabrication to application frontiers. J Mater Sci: Mater Electron 37 (2026) 1539. https://doi.org/10.1007/s10854-026-17971-w.

[24] A. Acikgoz, B. Aktas, G. Demircan, R. Das, Z. Celik, B. Ergin, H. G. Aktas, K. Dogan, DLP 3D printing of Y2O3-Doped alumina bioceramics: An integrated study on synthesis, phase evolution, mechanical properties, and biocompatibility, Materials Today Chemistry, 53 (2026) 103503, ISSN 2468-5194, *https://doi.org/10.1016/j.mtchem.2026.103503*.

[25] T. Chen, S. Xin, D. Liu, Z. Deng, X. Liu, Y. Xiong, Bioinert TiC ceramic coating prepared by laser cladding: Effect of SiO_2 on microstructural evolution, wear resistance, and cytocompatibility of the coating, Journal of Materials Research and Technology, 40 (2026) 2115-2136, ISSN 2238-7854, *https://doi.org/10.1016/j.jmrt.2025.12.179*.

[26] Z. Jiang, L. Sheng, J. Li, G. Sun, W. Luo, P. Zhao, Simultaneous enhancement of red emission and densification in spark-plasma-sintered YAG: Ce transparent ceramics via Si_3N_4 additive, Journal of Alloys and Compounds, 1047 (2025) 184963, ISSN 0925-8388, *https://doi.org/10.1016/j.jallcom.2025.184963*.

[27] C. Peng, H. Li, G. Xu, B. Mu, Influence of different types of dispersants and sintering additives on mechanical properties of DLP 3D-printed alumina ceramics, *Phys. Scr.* 100 (2025) 125025, *https://doi.org/10.1088/1402-4896/ae2dcf.*

[28] S. Swain, B. Agrawal, A. Patra, M. Debata, Fabrication of Nanostructured Y_2O_3, Y_2O_3-Al_2O_3, Y_2O_3-TiO_2, Y_2O_3-Cr_2O_3 Ceramic Oxides for Structural Applications. *J. of Materi Eng and Perform* 34 (2025) 26376–26387. *https://doi.org/10.1007/s11665-025-11291-6*.

[29] X. Qin, W. Zhao, K. Zou, W. Li, C. Cai, X. Qie, H. Nan, Q. Wei, Sintering behavior and mechanical properties of calcium titanate doped yttrium oxide refractory via binder jetting additive manufacturing, Ceram. Int., 51 (2025) 36936-36946, *https://doi.org/10.1016/j.ceramint.2025.05.404*.

[30] J. Cao, Yangwei Zhang, Y. Jiang, Y. Long, H-T. Lin, Improved density and Vickers hardness of WB_2 ceramic by tailoring the content of sintering aid SiO_2, Ceram. Int., 51 (2025) 27982-27989, *https://doi.org/10.1016/j.ceramint.2025.04.012*.

[31] N. Zhu, J. Wang, L. Zhang, G. Wen, Low shrinkage and high mechanical properties Al_2O_3 ceramics prepared by vat photopolymerization without alone debinding, Ceram. Int., 51 (2025) 28899-28911, *https://doi.org/10.1016/j.ceramint.2025.04.100*.

[32] A. Elgazzar, S-J. Zhou, J-H. Ouyang, Z-G. Liu, Y-J. Wang, L. Chen, Unveiling the effect of Y_2O_3 addition on the microstructure and tribological performance of Ti(C,N)-based cermets, Ceram. Int., 51 (2025) 24148-24163, *https://doi.org/10.1016/j.ceramint.2025.03.100.*

[33] D. Zhu, J. Zhou, T. Huo, J. Zheng, Y. Dai, J. Wu, Fabrication of high transmittance AlON ceramics by three-step pressureless sintering, J. Mater. Res. Technol., 33 (2024) 8992-9000, *https://doi.org/10.1016/j.jmrt.2024.11.235*.

[34] P. Fang, Z. Wang, Z. Quan, H. Liu, Y. Ma, The effect of in situ-synthesized Y_2SiO_5 on the thermal shock resistance of Y_2O_3 ceramic materials, Ceram. Int., 50 (2024) Part A, 45948-45956, *https://doi.org/10.1016/j.ceramint.2024.08.436.*

[35] J. Ziqiang, J. Li, G. Sun, W. Luo, P. Zhao, Effect of B_2O_3 additive on the microstructure and luminescent properties of spark plasma sintered YAG: Ce transparent ceramics, J. Alloys Compd., 1008 (2024) 176637, https://doi.org/10.1016/j.jallcom.2024.176637.

[36] Q. Liu, B. Niu, L. Liu, R. Ren, J. Ni, N. Luo, Q. Li, J. He, Microstructure evolution and property characteristics in hot-pressed Mo-W-Cu refractory functional alloys with varying tungsten content, Int. J. Refract. Met. Hard Mater., 125 (2024) 106859, *https://doi.org/10.1016/j.ijrmhm.2024.106859.*

[37] S. He, G. Jiang, Q. Wang, L. Bian, B. Yang, Effect of SiO_2-Li_2O_3-CuO additive on piezoelectric properties of PMS-PZT ceramics at low sintering temperature, J. Alloys Compd, 1005 (2024) 176079, *https://doi.org/10.1016/j.jallcom.2024.176079.*

[38] J.S. Lee, S. Kim, M. K. Roh, C. Y. Oh, J. Kim, Effect of Glass Frit Addition on Characteristics of Yttria Ceramics, Korean J. Mater. Res., 34 (2024) 303-308, *https://doi.org/10.3740/MRSK.2024.34.6.303.*

[39] T. Chen, Z. Fan, X. He, X. Yan, L. Wan, S. Zhu, Y. Zhang, J. Kang, G. Zheng, H. Zhang, Microstructures and properties of Al2O3 dispersion-strengthened Cu10Sn oil

bearings prepared by solid-liquid doping and reactive synthesis method, Mater. Today Commun., 39 (2024) 108767, https://doi.org/10.1016/j.mtcomm.2024.108767.

10. **A. Najafzadehkhoee***, M. Vakhshouri, P. Hvizdoš, D. Galusek, High-Temperature W/ZrC Composite Coatings, Ceramic Coatings for High-Temperature Environments. Engineering Materials. Springer, Cham., (2024) 471–491. https://doi.org/10.1007/978-3-031-40809-0_15.

11. N. Putenpurayil Govindan, **A. Najafzadehkhoee***, A. Talimian, V. Pouchly, M. Michálková, P. Švančárek, R. Klement, D. Galusek, Sintering of Ce^{3+}-doped yttria nanoparticles prepared by precipitation method, Open Ceram., 13 (2023) 100315, https://doi.org/10.1016/j.oceram.2022.100315.IF=2.9.

[40] H. Meng, J. Chen, Y. Zhang, Y. Su, T. Ban, J. Lin, J. Tao, Y. Zhou, H. Gao, Machine learning-enabled multivariate optimization and model-inferred process associations in the co-precipitation synthesis of Y_2O_3 nanoparticles, Journal of Colloid and Interface Science, 728 (2027) 141660, ISSN 0021-9797, *https://doi.org/10.1016/j.jcis.2026.141660*.

[41] S. Shakibhamedan, S. Sheibani, A review of spark plasma sintering kinetics for ceramics: models, parameters, and dominant mechanisms, Journal of Materials Research and Technology, 44 (2026) 4186-4206, ISSN 2238-7854, *https://doi.org/10.1016/j.jmrt.2026.08.259*.

[42] S.C. Santos, Jr O. Rodrigues, L.V. E. Caldas, Processing and EPR characterization of europium, thulium co-doped yttria (YET) powders for radiation dosimetry, Next Materials, 9 (2025) 101149, ISSN 2949-8228, *https://doi.org/10.1016/j.nxmate.2025.101149*.

[43] M. Dutta, J.M. Kalita, G. Wary, Enhancing blue light emission in Y_2O_3:Ce^{3+}, Eu^{2+} through Ce^{3+}→ Eu^{2+} energy transfer, Physica B: Condensed Matter, 711 (2025) 417277, *https://doi.org/10.1016/j.physb.2025.417277*.

[44]F. Yousaf, M. Irfan, Plant-mediated synthesis of yttrium oxide nanoparticles vs. traditional methods: current trends and potential applications. BioNanoSci. 14 (2024) 3889-3905. *https://doi.org/10.1007/s12668-024-01480-3.*

[45] Y. Chen, Y. Wei, Y. Yu, Y. Liu, B. Chen, K. Liu, Effect of $Al(OH)_3$ on sintering properties and thermal shock resistance of yttrium oxide materials. J. Mater. Sci. 59 (2024) 3297–3313. *https://doi.org/10.1007/s10853-024-09449-z*

[46] S.C. Santos, O. Rodrigues, L.L. Campos, Building up europium thulium co-doped yttria nanoparticles with electron paramagnetic resonance response by colloidal synthesis, Materialia, 30 (2023) 101829, *https://doi.org/10.1016/j.mtla.2023.101829.*

[47] I.Sh. Akhatov, A.T. Bikmeyev, A.R. Bilyalov, S.S. Chugunov, M.F. Galautdinov, V.N. Kireev, J.G. Kzhyshkowska, V.N. Pavlov, S.V. Pyatnitskaya, R.S. Yurovskikh, Master Sintering Curve Constructing Techniques: A Review, Journal of Engineering Science and Technology Review 16 (2023) 124–130, *https://doi.org/10.25103/jestr.166.15*.

12. M. Karbalaei Akbari, N. Siraj Lopa, M. Shahriari, **A. Najafzadehkhoee,** D. Galusek, S. Zhuiykov, Functional two-dimensional materials for bioelectronic neural interfacing, J. Funct. Biomater., 14 (2023) 35. *https://doi.org/10.3390/jfb14010035*. IF=5.

[48] W. Kim, Y. Kim, H. Yoo, E.K. Lee, Seamless human electronics interfacing through advanced skin attachable and implantable sensor technologies. *Discover Nano* 21 (2026) 329. https://doi.org/10.1186/s11671-026-04790-5.

[49] J. Maughan, I. Woods, C. O'Connor, P. Quintana-Sarti, E. Caffrey, J. M. Munuera, T. Carey, A. Dervan, A. L. Valdés, O. Mamad, M. A. Caldwell, F. J. O'Brien, J. N. Coleman, PolyGraph – Flexible, Biocompatible & Electrically Optimized Graphene-Polymer Composites for Next-Generation Neural Interface, Advanced Healthcare Materials, 15 (2026). *https://doi.org/10.1002/adhm.202505076*.

[50]A. Mukhtiar, N.M. Mubarak, A. Saad Aly, M. MXene Nanomaterial Interfaces: Pioneering Neural Signal Recording for Brain–Computer Interfaces and Cognitive Therapy. Top Curr Chem (Z) 384 (2026). *https://doi.org/10.1007/s41061-026-00549-9*.

[51] S. Ji, M. Kim, J. Choi, J. Ryu, J. Kim, A. K. Katiyar, J-H Ahn, 2D TMD-Based Backplane Circuitry for Large-Area Electronics, Small, 22 (2025). *https://doi.org/10.1002/smll.202510612*.

[52] J. Gutierrez-Gonzalez, D. Spurling, C. O'Connor, E. Caffrey, T. McGuire, J. Maughan, T. Carey, J. Munuera, I. M. Oikonomou, J. Carolan, L. Doolan, I. Woods, G. Brunetti, M. A. Caldwell, A. Dervan, R. G. Hobbs, J. N. Coleman, V. Nicolosi, F. J. O'Brien, Tailoring MXene Flake Morphology via Aerosol Jet Printing for Biological and Strain Sensor Applications. Small (2026): e75583. https://doi.org/10.1002/smll.75583

[53] M.A. Ashraf, K.K.L. Wong, M.S. Javed, W.J.C. Zhang, Flexible MXene–hydrogel mechatronics for next-generation energy storage applications: A review, Energy Storage Materials, 84 (2026) 104765, ISSN 2405-8297, *https://doi.org/10.1016/j.ensm.2025.104765*.

[54] G. M. Jeanpierre, S. C. Omodon, S. D. Goldberg, J. Gonzalez, H-Y Lu, S. S. Han, Megan N. Baker, A. Madariaga, M. K. Rausch, Y. Jung, Deji Akinwande, D. Kireev, S. R. Santacruz, Flexible Microelectrode Arrays with Enhanced Electrochemical Properties Using Platinum Ditelluride, ACS Appl. Electron. Mater. 21 (2025) 9778–9791, https://doi.org/10.1021/acsaelm.5c01581.

[55] K. N. Alagarsamy, L. R. Saleth, S. Sekaran, L. Fusco, L. G. Delogu, M. Pogorielov, A. Yilmazer, S. Dhingra, MXenes as emerging materials to repair electroactive tissues and organs, Bioact. Mate, 48 (2025) 583-608, *https://doi.org/10.1016/j.bioactmat.2025.01.035*.

[56] S. Chen, S. Xu, X. Fan, X. Xiao, Z. Duan, X. Zhao, G. Chen, Y. Zhou, J. Chen, Advances in 2D materials for wearable biomonitoring, Materials Science and Engineering: R: Reports, 164 (2025) 100971, ISSN 0927-796X, *https://doi.org/10.1016/j.mser.2025.100971*.

[57] M. Gu, C.F. Guo, Multimodal bioelectronics: A pathway to digital health management, 8 (2025) 102048, *https://doi.org/10.1016/j.matt.2025.102048*.

[58] T. Wang, Y. Chen, Y. Wang, S-H. Lee, Y-S. Lee, J. Dong, Advanced Neural Probe Sensors toward Multi-Modal Sensing and Modulation: Design, Integration, and Applications, Adv. Sensor Res. 2024, 2400142, https://doi.org/10.1002/adsr.202400142.

[59] B.A. Taha, A. J. Addie, A. Q. Saeed, A. J. Haider, V. Chaudhary, N. Arsad, Nanostructured Photonics Probes: A Transformative Approach in Neurotherapeutics and Brain Circuitry, Neuroscience, 562 (2024) 106-124, https://doi.org/10.1016/j.neuroscience.2024.10.046.

[60] A. K. Manoharan, M. I. K. Batcha, S. Mahalingam, B. Raj, J. Kim, Recent advances in two-dimensional nanomaterials for healthcare monitoring, ACS Sens. 9 (2024) 1706–1734, https://doi.org/10.1021/acssensors.4c00015.

[61] N. B. D. Jebasta, S. Mithrinthaa, R. A. Dinesh, S. Sandhya, M. B. Latha, S. Sudha, R. Thyagarajan, S. Jayashree, K. Biswas, Emerging Graphene-Based Nanomaterials as DNA Biosensor(s) Using Lab-On-Chip, Computational Approaches, and Robotics, Graphene-Based Nanomaterials, CRS Press, 1 (2024).

[62] V.R. Khabibullin, D.-M.V. Ratova, D.N. Stolbov, I.V. Mikheev, M.A. Proskurnin, The thermophysical and physicochemical properties of the aqueous dispersion of graphene oxide dual-beam thermal lens spectrometry, Nanomaterials, 13 (2023) 2126. *https://doi.org/10.3390/nano13142126.*

[63]L. Guo, K. Hu, H. Wang, Antimicrobial and mechanical properties of Ag@Ti3C2Tx-modified PVA composite hydrogels enhanced with quaternary ammonium chitosan. Polymers, 15 (2023) 2352. *https://doi.org/10.3390/polym15102352*.

13. **A. Najafzadehkhoee***, A. Talimian, J. Sedláček, M. Lisnichuk, P. Hvizdoš, D. Galusek, Translucent yttrium oxide ceramics from low-density green bodies shaped by uniaxial pressing, J. Eur. Ceram. Soc., 42 (2022) 4623-4630, *https://doi.org/10.1016/j.jeurceramsoc.2022.04.036.* IF=5.8.

[64] X. Xing, J. Zhang, Y. Luo, H. Feng, H. Cui, L. Jiang, Y. Li, Y. Ma, Transparent cubic γ-Al_2O_3 nanoceramics with low densities fabricated by ambient pressure calcining, J Alloys Compd., 1036 (2025) 182075, *https://doi.org/10.1016/j.jallcom.2025.182075*.

[65] J. Qiu, J. Zhao, D. Qi, X. Lv, R. Mao, D. Ju, F. Wang, J. Shao, S. Yu, Z. Li, K. Zhao,Y. Wen, Z. Song, Synthesis of β-SiAlON materials from blast furnace slag by acetic acid leaching combined with carbothermal reduction and nitridation, J. Asian Ceram. Soc., (2024) 1–15. *https://doi.org/10.1080/21870764.2024.2430039.*

[66] P. Tianshuo, L. Weiwei, M. Bingchu, Effects of Dispersant Concentration on the Microstructure and Optical Properties of Transparent Ceramics Y_2O_3 Vacuum Hot Press Sintering, Journal of the Chinese Ceramic Society, 52 (2024). *https://doi.org/10.14062/j.issn.0454-5648.20230633*.

14. **A. Najafzadehkhoee***, A. Habibolahzadeh, F. Qods, M. Vakhshouri, W. Polkowski, P. Hvizdos, D. Galusek, Effect of ZrC nanopowder addition in WC preforms on microstructure and properties of W–ZrC composites prepared by the displacive compensation of porosity (DCP) method. J. Aust. Ceram. Soc., 57 (2021) 515–523, *https://doi.org/10.1007/s41779-020-00538-1.*IF=1.8.

    [67] D. Wang, K. Xu, B. Wei, Y. Wang, Microstructure and mechanical properties of ZrC_x-NbC_y-Cu composites by reactive infiltration at 1300°C. J. Wuhan Univ. Technol. Mat. Sci., 38 (2023) 52–58. *https://doi.org/10.1007/s11595-023-2666-z*

    [68] R. K. Mudanyi, C. L. Cramer, A. M. Elliott, D. Kumar, Effect of W and C addition on the microstructure and phase composition of W–ZrC composites prepared by using Zr_2Cu alloy and variant reactant compositions, Open Ceramics, 12 (2022) 100305, ISSN 2666-5395, *https://doi.org/10.1016/j.oceram.2022.100305*.

    [69] D. Zhang, C. Kenel, M. Caccia, K. H. Sandhage, D. C. Dunand, Complex-shaped, finely-featured ZrC/W composites via shape-preserving reactive melt infiltration of porous WC structures fabricated by 3D ink extrusion, Addit. Manuf. Lett., 1 (2021) 100018, *https://doi.org/10.1016/j.addlet.2021.100018.*

15. **A. Najafzadehkhoee***, A. Habibolahzadeh, F. Qods, M. Vakhshouri, W. Polkowski, P. Hvizdos, Application of the statistical Taguchi method to optimize the properties of WC preforms to produce W-ZrC composites using reactive infiltration by molten Zr_2Cu, Int. J. Mod. Phys. B, 34 (2020), 2050233, *https://doi.org/10.1142/S0217979220502331.* IF=2.6.

16. **A. Najafzadehkhoee***, A. Habibolahzadeh, F. Qods, P. Hvizdos, A Taguchi approach to the influence of infiltration parameters on microstructure and properties of W–ZrC composites prepared by the displacive compensation of porosity (DCP) method, Compos. Commun., 20 (2020) 100356, *https://doi.org/10.1016/j.coco.2020.05.002.* IF=6.5.

    [70] D. Wang, Y. Zhang, K. Xu, B. Wei, X. Ding, X. Jin, S. Ran, Novel low temperature derived W_f/W–ZrC–Cu composites by reactive infiltration with enhanced mechanical and thermal physical properties, J. Mater. Res. Technol., 24 (2023) 8065-8076, *https://doi.org/10.1016/j.jmrt.2023.05.048.*

    [71] D. Wang, M. Liao, Y. Wang, G. Liu, Z. Wang, Optimization of centrifugal casting process parameters by Taguchi method to reduce shrinkage porosity ratio of K417 superalloy, Mod. Phys. Lett. B, 36 (2022) 2250165. *https://doi.org/10.1142/S0217984922501652.*

    [72] M.R.M. Aliha, D.M. Imani, S.M. Salehi, M. Shojaee, M. Abedi, Mixture optimization of epoxy base concrete for achieving highest fracture toughness and fracture energy values using Taguchi method, Compos. Commun., 32 (2022) 101150, *https://doi.org/10.1016/j.coco.2022.101150.*

    [73] R.A. Mahdavinejad, M. Khajeafzali, Fabrication and experimental investigation of arc erosion behavior in W/Cu functionally graded composites. Proc. Inst. Mech. Eng., Pt. B J. Eng. Manufact. 235(2021) 394-405, *https://doi.org/10.1177/0954405420964013.*

17. S. R. Askari, M. Khakzadi, A. Shahpasandi, **A. Najafzadehkhoee***, Fabrication of W–ZrC nanocomposite through reaction sintering using relatively low-toxic methacrylamide-based

system, Compos. Commun., 13 (2019) 156-161, https://doi.org/10.1016/j.coco.2019.04.009. IF=5.8.

[74] C. Xu, C. Jia, Z. Peng, S. Chen, High-temperature properties and microstructure evolution of C/C-ZrC-SiC composites fabricated by reactive melt infiltration, J. Eur. Ceram. Soc., 45 (2025) 117288, https://doi.org/10.1016/j.jeurceramsoc.2025.117288.

[75] Y. Wang, D. Wang, T. Zhang, G-M. Song, L. Chen, B-X Wei, Y. Zhao, Y. Zhou, Refractory carbide reinforced tungsten matrix composites, J. Alloys Compd., 925 (2022) 166342, https://doi.org/10.1016/j.jallcom.2022.166342.

[76] X. Zhou, Y. Gao, Y. Wang, X. Huang, P. Xiao, The improved strength and ductility of ZrCp/2024Al composites with a quasi-network microstructure fabricated by spark plasma sintering and T6 heat treatment, Mater. Sci. Eng. A, 841 (2022) 142675, https://doi.org/10.1016/j.msea.2022.142675.

[77] Y. Cao, R. Deng, J. Hu, T. He, Z. Chen, H. Zhong, Y. Peng, Synthesis and mechanism of SiC-ZrC composite powders by carbothermal reduction method, Ceram.-Silik., 66 (2022) 489-497, https://doi.org/ 10.13168/cs.2022.0045.

18. **A. Najafzadeh Khoee***, A. Habibolahzadeh, F. Qods, H. Baharvandi, Microstructure and properties of DCP-derived W-ZrC composite using nontoxic sodium alginate to fabricate WC preform, J. Mater. Eng. Perform., 24 (2015) 1641–1648, https://doi.org/10.1007/s11665-015-1427-z. IF=2.2.

[78] Y. Li, P. Sheng, L. Lin, L. Wang, D. Lu, K. Lin, H. Wu, S. Wu, Vat Photopolymerization versus Conventional Colloidal Processing Methods in Structural Ceramics: Progress, Challenges, and Future Perspectives, Additive Manufacturing Frontiers, 3 (2024) 200110, ISSN 2950-4317, https://doi.org/10.1016/j.amf.2024.200110.

[79] D. Wang, Y. Zhang, K. Xu, B. Wei, X. Ding, X. Jin, S. Ran, Novel low temperature derived W_f/W–ZrC–Cu composites by reactive infiltration with enhanced mechanical and thermal physical properties, J. Mater. Res. Technol., 24 (2023) 8065-8076, https://doi.org/10.1016/j.jmrt.2023.05.048.

[80] Y. Wang, D. Wang, T. Zhang, G. M. Song, L. Chen, B. X. Wei, Y. Zhao, Y. Zhou, Refractory carbide reinforced tungsten matrix composites, J. Alloys Compd., 925 (2022) 166342, https://doi.org/10.1016/j.jallcom.2022.166342.

[81] D. Wang, Y. Wang, B. Wei, S. Huo, G. Song, Y. Zhou, Effect of W content on the ablation properties of W-ZrC composites synthesized by reactive melt infiltration under oxyacetylene flame, Int. J. Refract. Met. Hard Mater., 74 (2018) 28-39, https://doi.org/10.1016/j.ijrmhm.2018.02.020.

[82] S. Huo, D. Wang, Y. Wang, W. Deng, Y. Zhou, Preparation process of tungsten carbide porous ceramic by gel-casting, J. Chin. Ceram. Soc., 44(2016). https://doi.org/10.14062/j.issn.0454-5648.2016.12.01.

[83] C. Brandes, M. H. Antink, S. Kroll, L. Treccani, K. Rezwan, Aluminium acetate as alternative cross-linker for temperature controlled gel-casting and joining of ceramics,

J. Eur. Ceram. Soc., 36 (2016) 1241-1251, https://doi.org/10.1016/j.jeurceramsoc.2015.12.011.

19. **A. Najafzadeh Khoee***, A. Habibolahzadeh, F. Qods, H. Baharvandi, Fabrication of tungsten carbide foam through gel-casting process using nontoxic sodium alginate, Int. J. Refract. Met. Hard Mater., 43 (2014) 115-120, https://doi.org/10.1016/j.ijrmhm.2013.11.011. IF=4.2.

[84] Y. Wang, D. Wang, T. Zhang, G.M. Song, L. Chen, B. X. Wei, Y. Zhao, Y. Zhou, Refractory carbide reinforced tungsten matrix composites, J. Alloys Compd., 925 (2022) 166342, https://doi.org/10.1016/j.jallcom.2022.166342.

[85] M.N. Miroshnichenko, V.N. Kolosov, Production of tungsten carbide powder by the reaction of tungsten with ethanol, *J. Phys.: Conf. Ser.* 1942 (2021) 012009, https://doi.org/10.1088/1742-6596/1942/1/012009.

[86] H. R. Jiang, S. Lin, K. F. Zhang, H. Y. Wang, J. Q. Wang, X. L. He, Preparation and mechanical properties of ZrO_2/Al_2O_3 porous ceramics, J. Mater. Eng., 49 (2021) 157-162, http://doi.org/10.11868/j.issn.1001-4381.2019.001040.

[87] X. He, C. Wu, W. Zhang, W. Zheng, Fabrication of Al_2O_3 Porous Ceramic by Gel-foaming Method with Sodium Alginate, J. Chin. Ceram. Soc., 48 (2020).

[88] T. Wang, B. Wang, B. Hou, Z. Shi, J. Yang, H. Xia, J. Wang, H. Wang, J. Yang, Preparation and Application Progress of Porous Alumina, China S Refractories, 29 (2020). http://doi.org/10.19691/j.cnki.1004-4493.2020.04.003.

[89]S. Huo, D. Wang, Y. Wang, L. Chen, W. Deng, Y. Zhou, Preparation process of tungsten carbide porous ceramic by gel-casting, J. Chin. Ceram. Soc., 44 (2016).

[90] S. Tripathy, S. Khilari, D. Shekhar Saini, D. Bhattacharya, A green fabrication strategy for $MgAl_2O_4$ foams with tunable morphology, RSC Adv., 40 (2016) 33259-33266, https://doi.org/10.1039/C6RA01255H.

[91] N. Yang, Q. Liao, Q. Li, P. Zhang, L. Li, Simple and easy-operated method for filtering eco-friendly corrosion inhibitors, Anti-Corros. Method. M., 63 (2016) 73-81. https://doi.org/10.1108/ACMM-07-2014-1406.

20. **A. Najafzadeh Khoee***, A. Habibolahzadeh, F. Qods, H. Baharvandi, Study on rheological behavior of WC slurry in gel-casting process and reactive infiltration of produced foam by molten Zr_2Cu alloy, Int. J. Refract. Met. Hard Mater., 46 (2014) 30-34, https://doi.org/10.1016/j.ijrmhm.2014.05.006. IF=4.2.

[92] P. Makurunje, S. C. Middleburgh, W. E. Lee, Addressing high processing temperatures in reactive melt infiltration for multiphase ceramic composites, J. Eur. Ceram. Soc., 43 (2023) 183-197, ISSN 0955-2219, https://doi.org/10.1016/j.jeurceramsoc.2022.09.002.

[93] Y. Wang, D. Wang, T. Zhang, G. M. Song, L. Chen, B. X. Wei, Y. Zhao, Y. Zhou, Refractory carbide reinforced tungsten matrix composites, J. Alloys Compd., 925 (2022) 166342, https://doi.org/10.1016/j.jallcom.2022.166342.

[94] I. L. Shabalin, Ultra-High Temperature Materials IV, Refractory Carbides III (W Carbides), A Comprehensive Guide and Reference Book, Springer Cham, 2022. https://doi.org/10.1007/978-3-031-07175-1.

[95] P. Li, J. Fan, Y. Han, M. Zhang, J. Tian, Toughening mechanisms and interfacial bonding of W-ZrC composites, Rare Metal Mat. Eng., 48 (2019) 751-757.

[96] P. Li, J. Fan, M. Zhang, Y. Han, Z. Sun, Y. Lv, J. Tian, High temperature properties and high heat flux shock damage behavior of fine grain tungsten reinforced by ZrC particles, Rare Metal Mat. Eng., 48 (2019) 517-523.

[97] S. Huo, D. Wang, Y. Wang, L. Chen, W. Deng, Y. Zhou, Preparation process of tungsten carbide porous ceramic by gel-casting, J. Chin. Ceram. Soc., 2016. https://doi.org/10.14062/j.issn.0454-5648.2016.12.01.

21. **A. Najafzadeh Khoee***, J. Eskandari Jam. M. Zabihpoor, Response of carbon-epoxy composite lattice cylinders under axial load, 2010 IEEE Aerosp. Conf. Proc., USA, 2010, ISBN: 978-1-4244-3887-7, https://doi.org/10.1109/AERO.2010.5446766**.**

City	**Date**	**Name and Title**
Trenčín	8.10.2026	Ing. Aliasghar NAJAFZADEHKHOEE, Ph.D.

C. PROJECT ACTIVITIES

Project title	Funding source	Amount (Euros)	Period	Role
1. Design, analysis and mechanical characterization of laminar ceramics, Project code: 09I03-03-V04-00196	Office of the Government of the Slovak Republic, represented by the Research Agency	148 306,80	7/2024– 6/2026	Principal Investigator
2. JECS Trust, 20223204, Mechanical characterization of layered ceramics, Montanuniversität Leoben, Austria.	The European Ceramic Society	6 350	9/2023–11/2023	Principal Investigator
3. National Scholarship, 26380, Micromechanical and microstructural characterization of ceramic composites (IMR SAS),	SAIA,n.o. (Slovenská akademická informačná agentúra)	8 500	9/2019–6/2020	Principal Investigator
4. From Non-Ideal Mixing to Predictive Point Defect Chemistry in High Entropy Oxides via Ab Initio–CALPHAD–Mesoscale Integration / APVV-25-0339	Slovak Research and Development Agency (APVV)	256 681,00	2026–2030	Researcher
5. From microstructure to durability: studying the relationship between microstructure and surface damage of transparent ceramics / VEGA 1/0564/26	VEGA (Scientific Grant Agency)	51 648	2026–2029	Researcher
6. Support of R&D activities of the Centre for Quality Testing and Diagnostics of materials /CEDITEK II, ITMS2014+, code 313011W442	Structural funds (National budget+ European funds)-ERDF	6 318 125,48	2019-2023	Researcher
7. FunGlass, Horizon 2020 No. 739566	European Commission, Horizon 2020	15 000 000	2018-2024	Researcher
8. Advanced materials with eutectic microstructure for high-temperature and functional applications/ APVV 19-0010.	Slovak Research and Development Agency	75 259	2020-2024	Researcher
9. Ion exchange strengthened aluminosilicate glass/glass-ceramics with additional functionalities/VEGA 2/0028/21.	VEGA (Scientific Grant Agency)	54 630	2021-2024	Researcher

City	**Date**	**Name and Title**
Trenčín	8.10.2026	Ing. Aliasghar NAJAFZADEHKHOEE, Ph.D.

V. SCIENTIFIC EDUCATION

Ph.D. thesis (Co-supervisor)

1. Dissertation topic: “Designing Damage-Tolerant Ceramics: AI-Assisted Multi-Objective Method to Achieve Contact Damage Resistance”. Type of thesis: Ph.D. Supervisor: Dr. A. Talimian**. Co-supervisor: Dr. A. Najafzadehkhoee**. Place: FunGlass, Slovakia. Student Name: Anand Sagar, MSc. ***In progress***. Starting date: 1.9.2026. State: Ongoing.

Bachelor's and Master's theses (Superviser/Co-superviser)

1. Dissertation topic: Finite Element Modeling of Metallic Foams with Spherical Porosity. Type of thesis: Bachelor's; **Supervisors:** Dr. Habibolahzadeh, **A. Najafzadehkhoee**, M.Sc. Place: Semnan University, Iran. Student Name: Ehsan Jalali. Period: 2012-2013.

2. Dissertation topic: Comparative Finite Element Analysis of the Mechanical Behavior of CK45 Steel Bars Subjected to Burnishing and Drawing Processes. Type of thesis: Master's, Supervisor: Dr. E. Emadodin, **Co-Supervisor: A. Najafzadehkhoee**. M.Sc., Place: Department of Metallurgy and Materials Engineering, Semnan University, Iran. Student Name: Mehdi Mokhtari, BSc. Period: 2011-2012.

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VI. OTHER PROFESSIONAL ACTIVITIES:

A. Editorial and peer-review activities

Guest Editor and Peer Reviewer for numerous international peer-reviewed scientific journals (2019–Present). The details are as follows:

2025 Reviewer, Non-crystalline Solids, Elsevier, Netherlands, IF: 3.6. https://www.sciencedirect.com/journal/journal-of-non-crystalline-solids

2023 Reviewer, Optical Materials, Elsevier, Netherlands, IF: 4.3. https://www.sciencedirect.com/journal/optical-materials

2023 Reviewer, Springer Nature Book, Springer Cham, ISBN: 978-3-031-40809-0, Switzerland, https://www.springerprofessional.de/en/ceramic-coatings-for-high-temperature-environments/26496484

2023 Reviewer, Internal Ph.D. grant, Alexander Dubček University, FunGlass, Slovakia.

2022 **Guest editor**, Crystals, MDPI, Frontiers of Transparent Polycrystalline Materials, Switzerland, IF: 2.670) https://www.funglass.eu/special-issue-frontiers-of-transparent-polycrystalline-materials-with-funglass-guest-editors/

2022 Reviewer, Journal of Alloys and Compounds, Elsevier, Netherlands, IF: 6.7, https://www.sciencedirect.com/journal/journal-of-alloys-and-compounds.

2022 Reviewer, Journal of the European Ceramics, Elsevier, Netherlands, IF: 6.3. https://www.sciencedirect.com/journal/journal-of-the-european-ceramic-society

2022 Reviewer, Internal Ph.D. grant, Alexander Dubček University, FunGlass, Slovakia.

2019 Reviewer, Journal of Refractory Metals and Hard Materials, Netherlands, IF: 4.7, https://www.sciencedirect.com/journal/international-journal-of-refractory-metals-and-hard-materials

Assessment of research grant applications

- 2022 and 2023: Reviewer of internal PhD grant applications at the FunGlass Centre, Alexander Dubček University of Trenčín, Slovakia.

Organization of scientific meetings

- 2023: Volunteer at the XVIII Conference of the European Ceramic Society, Lyon, France, supporting participant orientation and assisting the chair of a parallel session.
- 2014–2015: Organizer of an internal seminar on metallurgy and foundry at Semnan University, Iran.

Academic and institutional service

- 2022–2025: Member of a PhD committee and academic advisor at Semnan University, Iran.
- 2024: Ceramography laboratory manager at Vitrum Laugaricio, Trenčín, Slovakia, with responsibilities including training in sample preparation and mentoring researchers.

Research stays abroad

- September–November 2023: Three-month research stay at the Chair of Structural and Functional Ceramics, Montanuniversität Leoben, Austria, supported by a JECS Trust Mobility Award. Research focused on the mechanical characterization of layered ceramics.
- March–May 2022: Three-month research stay at the Department of Condensed Matter Physics, University of Seville, Spain, involving ceramic processing, sintering, and microstructural characterization.

International and domestic scientific collaboration

International collaboration

- Montanuniversität Leoben, Austria, Prof. Raúl Bermejo: Mechanical characterization of layered ceramics.
- CEITEC, Brno University of Technology, Czech Republic, Prof. Karel Maca: Ceramic sintering and field-assisted sintering techniques.
- Institute of Materials Science of Seville, CSIC–University of Seville, Spain, Dr. Rosalía Poyato: Microstructural characterization and sintering of ceramic materials.
- University of Seville, Spain, Dr. Ángela Gallardo-López: Microstructural characterization and sintering of ceramics.
- INSA Lyon, France, Prof. Jérôme Chevalier: Toughening of ceramics.

Domestic collaboration

- Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovakia, Dr. Pavol Hvizdoš: Micromechanical and microstructural characterization of ceramics.
- Institute of Materials Research, Slovak Academy of Sciences, Košice, Slovakia, Prof. Ján Dusza: Mechanical characterization of ceramics.

G. Memberships of scientific societies

2022	Member, Slovak Glass Society
2021	Member, American Ceramic Society
2021	Member, European Ceramic Society
2021	Member, Slovak Silicate Society

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DECLARATION

I declare that the information provided in this document is true.

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