

# Dr. Mattia Biesuz

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## Education

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### Ph.D. in Materials, Mechatronics, and Systems Engineering

01/01/2014 – 26/04/2017

*University of Trento (Italy)*

Thesis title: Flash sintering of alumina-based ceramics

Evaluation: Excellent cum laude

### Master in Materials Engineering

10/09/2010 – 27/03/2013

*University of Trento (Italy)*

Thesis title: Chromium and Vanadium carbide and nitride coatings obtained via TRD technologies

Evaluation: 110 cum laude

### Bachelor in Industrial Engineering

13/09/2007 – 17/09/2010

*University of Trento (Italy)*

Thesis title: Mechanical characterization of structural steel components obtained via press and sintering

Evaluation: 110 cum laude

## Work experiences

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### Assistant professor

01/08/2022 – Ongoing

*University of Trento, Department of Industrial Engineering (Italy)*

### Post-doc fellow

08/07/2021 – 31/07/2022

*University of Trento, Department of Industrial Engineering (Italy)*

- Synthesis of nickel-free high entropy oxides for Li-batteries applications

### Research job agreement

21/01/2021 – 30/06/2021

*Charles University, Institute of Inorganics Chemistry (Prague, CZ)*

- Job agreement of carrying out flash sintering experiments in ionic conductors

### Postdoctoral researcher

08/01/2021 – 07/07/2021

*Czech Academy of Sciences, Institute of Plasma Physics (Prague, CZ)*

- Novel synthesis and sintering routes to high entropy ceramics

### Research assistant

10/12/2020 – 06/01/2021

*INSTM - National Interuniversity Consortium of Materials Science and Engineering (Italy)*

- Refractories based on alumina/mullite composites

### Post-doc fellow

15/10/2019 – 14/10/2020

*University of Trento, Department of Industrial Engineering (Italy)*

- Polymer-derived porous ceramics; Field-assisted ion exchange; Flash sintering

### Postdoctoral researcher

17/11/2018 – 14/02/2019 & 18/02/2019 – 17/05/2019

*Queen Mary University of London, School of Engineering and Materials Science (London, UK)*

- Ceramics joining; High-entropy carbides

**Postdoctoral researcher**

25/07/2018 – 20/10/2018

*Southwest Jiaotong University, School of Materials Engineering (Chengdu, China)*

- Flash-SPS of 3YSZ; Modelling of cold sintering; High entropy oxides

**Post-doc fellow**

22/01/2018 – 21/07/2018

*University of Trento, Department of Industrial Engineering (Italy)*

- Polymer-derived ceramics coatings

**Research assistant**

15/05/2017 – 15/12/2017

*INSTM - National Interuniversity Consortium of Materials Science and Engineering (Italy)*

- Innovative sintering techniques for SOFCs materials

**Research assistant**

15/11/2013 – 31/12/2013

*University of Trento, Department of Industrial Engineering (Italy)*

- Production and characterization of Ag and Zn-doped hydroxyapatite scaffolds

**Research assistant**

02/05/2013 – 31/10/2013

*INSTM - National Interuniversity Consortium of Materials Science and Engineering (Italy)*

- Production and characterization of hard carbides and nitrides coatings

**Research assistant**

11/03/2011 – 10/06/2011

*INSTM - National Interuniversity Consortium of Materials Science and Engineering (Italy)*

- Mechanical and thermal characterization of glass-ceramics

**Research interests**

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Development of **novel and green processing routes to advanced glasses and ceramics** with enhanced mechanical and functional properties. Among them:

*Sintering:* Flash sintering; cold sintering; ultrafast high-temperature sintering; spark plasma sintering

*Synthesis:* Entropy-stabilized ceramics; polymer derived ceramics; porous ceramics; hard coatings

*Ion exchange:* Field-assisted ion exchange in glasses and glass-ceramics

*Joining:* Cold and field-assisted joining of ceramics

**Teaching experiences**

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**Point defect chemistry, diffusion, and charge transport in ceramics (PhD)**

2023

*University of Trento, Department of Industrial Engineering (Italy)*

**Materials Science (BSc)**

2023, 2024

*University of Verona, Department of Computer Science (Italy)*

**Interdisciplinary Laboratory, Ceramic Materials (MSc)**

2022, 2023

*University of Trento, Department of Industrial Engineering (Italy)*

**Teaching Assistant of “Materials for the Industrial Engineering (Materials Science)” (BSc)**

2021, 2022

*University of Trento, Department of Industrial Engineering (Italy)*

**Teaching Assistant of “Materials for Energy” (MSc)**  
2020, 2021  
*University of Trento, Department of Industrial Engineering (Italy)*

**Teaching Assistant of “Materials Science and Technology Laboratory” (BSc)**  
2021  
*University of Trento, Department of Industrial Engineering (Italy)*

**Teaching Assistant of “Ceramic Materials Engineering” (MSc)**  
2014, 2015, 2016, 2017, 2020, 2022  
*University of Trento, Department of Industrial Engineering (Italy)*

**Teaching Assistant of “Physic 1” (BSc)**  
2016  
*University of Trento, Department of Civil and Mechanical Engineering (Italy)*

## Awards

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**Robert L. Coble Award for Young Scholars** issued by the board of the *American Ceramic Society*, 2023.

**Top Downloaded Article**, the paper *Cold sintering of diatomaceous earth* was one of the most downloaded in the *Journal of the American Ceramic Society* in 2022.

**Acta Journals’ Outstanding Reviewers** award assigned by *Acta Materialia* Editorial Office, 2022.

**Crystals 2022 Young Investigator Award** assigned by the *Editorial Board of Crystals*, 2022.

The manuscript “Ni-free high-entropy rock salt oxides with Li superionic conductivity” was selected by the Editor of the *Journal of Materials Chemistry A* for being included in the special issue **Journal of Materials Chemistry A a HOT collection**, 2022.

**Pfeil Award** assigned by the *IOM3 Institute of Materials Minerals & Mining* (UK) for the publication “Athermal electric field effects in flash sintered zirconia”, 2022.

**Acta Journals’ Outstanding Reviewers** award assigned by *Acta Materialia* Editorial Office, 2021.

**MRS Postdoctoral Award** assigned by *MRS Materials Research Society (US)* “for fundamental contribution to the knowledge and development of flash sintering phenomena and processes in ceramics”, Spring Meeting 2022.

**Excellent Reviewer Award** assigned by the *Editorial Board of Open Ceramics (Elsevier)*, 2021.

**Pfeil Award** assigned by the *IOM3 Institute of Materials Minerals & Mining* (UK) for the publication “A theoretical analysis of cold sintering”, 2021.

**Materials 2021 Travel Award** assigned by Prof. Maryam Tabrizian, Editor in Chief of *Materials* MDPI, 2020.

**2019 Best Paper Award** assigned by the Editorial Board of the *Journal of the Asian Ceramic Societies*, 2020.

**Ceramics 2020 Travel Award** assigned by Prof. Gilbert Fantozzi, Editor in Chief of *Ceramics* MDPI, 2020.

**Acta Journals’ Outstanding Reviewers** award assigned by *Acta Materialia* Editorial Office, 2019.

**Best Graduate Student Poster Award** at “Electric Field Enhanced Processing of Advanced Materials II: Complexities and Opportunities” conference, Tomar, Portugal, 2019.

**Best Master Thesis Award** of the Department of Industrial Engineering at the University of Trento, 2013.

## Editorships

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Editor of the special issue *Challenges in non-conventional sintering: towards sustainable manufacturing and out-of-equilibrium ceramics* in *Open Ceramics*, 2023-2024.

Associate editor of the *Journal of the American Ceramic Society*, 2022-ongoing.

Editor of the special issue *High-Entropy Ceramics: Synthesis and Applications* in *Materials*, 2022.

Editorial board member of *Frontiers in Materials*, section *Ceramics and Glass*, 2022-ongoing.

Editorial board member of *Materials*, section *Advanced and Functional Ceramics*, 2021-ongoing.

Editor of the special issue *Spark Plasma Sintering: Mechanisms, Materials, and Technology Developments* in *Journal of Manufacturing and Materials Processing*, 2020-2022.

## Evaluation committee memberships

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Reviewer of *ERC Synergy Grant*, 2023.

Giury member of the selection of the best presentation at the *Student Speech Contest* organized by the *European Ceramic Society*, Lyon, France 2023.

International research projects evaluator for the *Czech Science Foundation*, 2021, 2022.

Evaluator for the Italian representative selection for the *European Ceramic Society student speech contest*, 2021, 2023.

## Conferences & Schools organization and chairing

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Member of the organization committee of the *10th International Workshop on Photoluminescence in Rare Earths (PRE'24): Photonic Materials and Devices*, Trento, May 2024.

Chair of at the symposium *Thermal processes and advanced sintering 04* during the *XVIII ECerS Conference*, Lyon, France, July 2023.

Member of the organization committee of the summer school on *Non-conventional sintering*, Trento, June 2023.

Member of the organization committee of *30 years of INSTM: past, present and future of the Consortium*, Brixen, Italy, January 2023.

Chair of session 6 of P04 (Manipulation of Matter by Electric and Magnetic Fields) during *Materials Science and Engineering Conference (MSE)*, online event, September 2020.

Member of the organization committee of the summer school on *Manipulation of Matter by Magnetic and Electric Fields*, online event, September 2020.

Member of the organizing committee of the symposium on “Field assisted processing” held in *CICC11 Conference*, Kunming, China, May 2019.

Chair of the session *Complex Ceramics (Energy, Functional, Structural, Optical)* during *Electric Field Enhanced Processing of Advanced Materials II: Complexities and Opportunities* conference, Tomar, Portugal, March 2019.

## Invited contributions

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**Full-length paper** in *Advanced Engineering Materials*:

M. Biesuz et al., Solid-state field-assisted ion exchange (Ag→Na) in soda-lime float glass: tin vs air side, *Advanced Engineering Materials* (2023).

**Short review** in *MRS Bulletin* (special issue *Electromagnetic/Electric Fields in Ceramics Synthesis and Processing: Far from Equilibrium Effects*):

G.M. Jones, M. Biesuz, W. Ji, S.F. John, C. Grimley, C. Manière, C.E.J. Dancer, Promoting microstructural homogeneity during flash sintering of ceramics through thermal management, *MRS Bull.* 46 (2021) 59–66.

**Viewpoint paper** in *Scripta Materialia*:

M. Biesuz, V.M. Sglavo, Beyond flash sintering: How the flash event could change ceramics and glass processing, *Scr. Mat.* 187 (2020) 49–56.

## Scientific societies affiliation

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Member of the *European Ceramic Society* (Italian Chapter), 2018-ongoing.

Member of the *Materials Research Society*, 2021-ongoing.

Member of the *American Ceramic Society*, 2022-ongoing.

## Advisor activities

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Co-advisor/advisor of 2 PhD, 21 Master and 4 Bachelor students.

## Seminars

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Izmir Institute of Technology, 02-05/12/2024, Titles: 1. *Point defects in ceramics*; 2. *Sintering: an old but new story*.

Organizer of the webinar promoted by *Materials*, 10/06/2022, Title: *Synthesis and Sintering of High Entropy Ceramics*.

CRISMAT Laboratory, 19/04/2022, Seminar title: *Flash sintering phenomenon in ionic conductors*.

Institute of Plasma Physics, Czech Academy of Sciences, 22/06/2021, Seminar title: *Field-assisted processing of glasses and ceramics*.

Faculty of Physics of the University of Duisburg-Essen, Prof. Dietrich Wolf's group, academic visit from 20/05 to 24/05/2019, Seminar title: *Flash sintering mechanisms in 8YSZ*.

## Qualifications

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*Italian National Scientific Qualification to Associate Professorship* in the field of “Materials Science and Engineering”, awarded by the Italian Ministry of Education, 2020.

*Italian National Professional Qualification to Chemical Engineer –State Exam–*, Italian Ministry of Education, 2013.

## Conferences and schools presentations

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**22<sup>nd</sup> International Metallurgy and Materials Congress**, Istanbul, Turkey, 19/09/2024-21/09/2024, **Invited talk:** *Rapid firing of 3YSZ: impact of the heating rate on sintering, properties and microstructure*.

**14<sup>th</sup> International Conference on Ceramic Materials and Components for Energy and Environmental Systems**, Budapest, Hungary, 18/08/2024-23/08/2024, **Invited talk:** *Rapid firing of 3YSZ: impact of the heating rate on sintering, properties and microstructure*. **Oral presentation:** *Atmosphere effect on the organic-to-inorganic transformation of PDC*.

**Solid State Studies in Ceramics Gordon Research Conference**, South Hadley, US, 04/08/2024-09/08/2024. **Invited talk:** *Rapid Sintering of Yttria-Stabilized Zirconia: Processing, Properties and Microstructure*.

**XIV Convegno INSTM sulla Scienza e Tecnologia dei Materiali**, Cagliari, Italy, 09/06/2024-12/06/2024. **Oral presentation:** *Rapid firing of 3YSZ: on the heating rate impact on sintering, properties and microstructure*.

**Summer school, AMARCH What by fire: heat induced transformations in archaeological materials**, Online, Italy, 28/05/2024-030/05/2024. **Lecture:** *The defect chemistry in the context of non-conventional sintering Κέρραμος: the intimate relations between ceramics and fire*.

**The International Conference on Sintering 2023**, Gifu, Japan, 27/08/2023-31/08/2023, **Oral presentation:** *Ultrafast high-temperature sintering (UHS) of refractory ceramics.*

**18<sup>th</sup> International Conference of the European Ceramic Society**, Lyon, France, 02/07/2023-06/07/2023. **Invited talk:** *Ultrafast high-temperature sintering of ceramics: from YSZ to refractory ceramics*  
**Oral presentation:** *Solid-state field-assisted ion exchange of Ag in lithium aluminum silicate glass-ceramics*

**Summer school, Non-conventional sintering: Science and Technology**, Trento, Italy, 05/06/2023-07/06/2023. **Lecture:** *The defect chemistry in the context of non-conventional sintering.*

**30 years of INSTM: past, present and future of the Consortium**, Bressanone, Italy, 22/01/2023-25/01/2023. **Oral presentation:** *Ni-free high entropy rock salt oxides with Li-superionic conductivity.*

**DPG Meeting 2022**, Regensburg, Germany, 04/09/2022-09/09/2022. **Invited talk:** *Electric fields effects in ionic conductors during flash sintering and ion exchange.*

**Ceramics in Europe**, Krakow, Poland, 10/07/2022 – 14/07/2022. **Oral presentation:** *Novel Entropy-stabilized NiO-free Rock Salt Ceramic.* **Oral presentation:** *Gadolinium-doped ceria electrolytes by ultrafast high-temperature sintering.*

**CIMTEC 2022**, Perugia, Italy, 20/06/2022 – 24/06/2022. **Oral presentation:** *Novel Entropy-stabilized Ni-free Rock Salt Ceramics.*

**EGU22\***, Vienna, Austria, 23/05/2022– 27/05/2022. **Oral presentation:** *Estimating the viscosity of volcanic and binary melts from the vibrational properties of their parental glasses.*

**EUROMAT 2021\***, Online event due to SARS-Cov 19 pandemic, 13/09/2021 – 17/09/2021. **Poster presentation:** *In-situ approach for thermal energy storage in Space: Polymer-Derived Ceramic materials for novel ultrahigh-temperature latent-heat thermal energy storage devices.*

**CIS-2021 Young Researcher Conference**, Online event due to SARS-Cov 19 pandemic, 06/09/2021 – 08/09/2021. **Plenary session speaker:** *CO<sub>2</sub> methanation over Ru/Al<sub>2</sub>O<sub>3</sub> catalyst supported on polymer derived 3D SiC foams.*

**Materials Science and Engineering Conference (MSE)**, Online event due SARS-Cov 19 pandemic, 22/09/2020 – 25/09/2020. **Oral presentations:** *Flash sintering of Al<sub>2</sub>O<sub>3</sub>-8YSZ composites*” and *“Electrode dependent Joule heating during flash processes in soda-lime silicate glass”*. **Poster presentation** *“Dry field-assisted ion exchange of silver in amorphous and crystalline systems.*

**16<sup>th</sup> International Conference of the European Ceramic Society**, Torino, Italy, 16/06/2019 – 21/06/2019. **Oral presentation:** *Electrochemical, Optical and thermal effects during flash sintering of YSZ.*

**One day research meeting on advanced ceramics (1DRAC)**, Londra, UK, 26/03/2019. **Oral presentation:** *“Flash sintering mechanism in YSZ”.*

**ECI conference, Electric Field Enhanced Processing of Advanced Materials II: Complexities and Opportunities**” conference, Tomar, Portugal, 10/03/2019 – 15/03/2019. **Oral presentation:** *Flash sintering of glass containing alumina bodies*”. **Poster presentation:** *“Flash joining of graphite with polymer-derived ceramic interlayer.*

**43<sup>th</sup> International Conference and Expo on Advanced Ceramics and Composites\***, Daytona Beach, USA, 27/01/2019 – 01/02/2019. **Oral Presentation:** *A novel synthesis route to luminescent silicon nanocrystals in an amorphous silicon nitride matrix.*

**CIMTEC\***, Perugia, Italy, 04/06/2018 – 14/06/2018. **Oral presentation:** *Flash Sintering of Alumina and other Oxide Ceramics.*

**Cermodel**, Trento, Italy, 26/07/2017 – 29/07/2017. **Oral presentation:** *Thermal diffusion: a new mechanism for flash sintering.*

**31<sup>st</sup> Solid State Ionics\***, Padua, Italy, 08/06/2017 – 23/06/2017. **Oral presentation** *Effect of field-assisted sintering on the defect chemistry of nanostructured SrTiO<sub>3</sub>-based materials.*

**15<sup>th</sup> International Conference of the European Ceramic Society**, Budapest, Hungary, 10/07/2017 – 14/07/2017. **Oral presentation:** *Flash sintering of alumina: Electric Current Effects on Microstructure.*

**VI International Workshop on Oxide-based Materials\***, Naples, Italy, 21/09/2016 – 24/09/2016. **Poster presentation:** *Flash sintering of ceria-based ceramics.*

**National Young Researcher Forum INSTM**, Ischia, Italy, 11/07/2016 – 14/07/2016. **Oral presentation:** *"Flash sintering of alumina".* **Poster presentation:** *Effect of glass addition on flash sintering of alumina.*

**National Young Researcher Forum INSTM\***, Ischia, Italy, 11/07/2016 – 14/07/2016. **Oral presentation** *Effect of flash sintering on gadolinium-doped ceria.*

**Fuel Cells Science and Technology\***, Glasgow, UK, 13/04/2016 – 14/04/2016. **Poster presentation** *Flash Sintering of variously-doped ceria materials.*

**ECI conference, Electric Field Assisted Sintering and Related Phenomena Far from Equilibrium**, Tomar, Portugal, 06/03/2016 – 11/03/2016. **Oral presentation:** *Flash sintering of glass containing alumina bodies.*

**40<sup>th</sup> International Conference and Expo on Advanced Ceramics and Composites**, Daytona Beach, FL, USA, 23/01/2016 – 30/01/2016. **Oral Presentation** *Flash Sintering of Alumina.*

**14<sup>th</sup> International Conference of the European Ceramic Society**, Toledo, Spain, 21/06/2015 – 25/06/2015. **Oral presentation:** *Field Assisted Sintering of Alumina-Silica Composites.*

**39<sup>th</sup> International Conference and Expo on Advanced Ceramics and Composites\***, Daytona, USA, 25/01/2015 – 30/01/2015. **Oral presentation:** *Field assisted sintering of Silicate Glass containing Alumina.*

\* = Presentation given by a co-author.

## Publications

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*Bibliometric data based on "Scopus" (24/07/2024):*

Total citations: h-index=28, 2720 citations

Excluding self-citations: h-index=26, 2302 citations

*WOS (24/07/2024):*

First author 42%

Last author 17%

Corresponding author 54%

# = corresponding author

1. S. Bhandari, O. Hanzel, P. Veteška, M. Janek, E. De Bona, V.M. Sglavo, **M. Biesuz**<sup>#</sup>, G. Franchin, From rapid prototyping to rapid firing: on the feasibility of high-speed production for complex BaTiO<sub>3</sub> components, *Journal of the American Ceramic Society* 107 (2024) 6562–6573. <https://doi.org/10.1111/jace.19950>.
2. **M. Biesuz**<sup>#</sup>, E. De Bona, C. Manière, Fast firing of 3 mol% yttria-stabilized zirconia: On the effect of heating rate on sintering, *Journal of the American Ceramic Society* 107 (2024) 6596–6606. <https://doi.org/10.1111/jace.19989>.

3. E. Kamseu, **M. Biesuz**, A.-T. Akono, J.N.N. Fokoua, E. De Bona, N. Buettner, H. Lee, C. Leonelli, S. Rossignol, V.M. Sglavo, Cold-sintered laterite-based geopolymers: Densification, microstructure and micromechanics, *J Eur Ceram Soc* 44 (2024) 116798. <https://doi.org/10.1016/j.jeurceramsoc.2024.116798>.
4. S. Marín-Cortés, **M. Biesuz**<sup>#</sup>, S. Bhandari, G. Franchin, E. Enríquez, J.F. Fernández, V.M. Sglavo, Cold sintering of complex-shaped ceramic materials, *J Eur Ceram Soc* 44 (2024) 116813. <https://doi.org/10.1016/j.jeurceramsoc.2024.116813>.
5. A. Rizzi, M. García-Fernández, M.Á. Rodríguez, E. De Bona, R. Moreno, **M. Biesuz**, Spark plasma sintering of TiC with TiAl<sub>3</sub> as sintering aid: Mechanisms and microstructures, *Open Ceramics* 19 (2024) 100661. <https://doi.org/10.1016/j.oceram.2024.100661>.
6. G.D. Sorarù, S. Mariuzzi, M. Barozzi, R. Canteri, M. Cassetta, D. Pellegrini, N. Daldosso, R.S. Brusa, **M. Biesuz**<sup>#</sup>, On the structure and properties of hydrothermally toughened soda–lime silicate float glass, *Journal of the American Ceramic Society* 107 (2024) 5383–5399. <https://doi.org/10.1111/jace.19832>.
7. M. Cassetta, H. Peterlik, T. Konegger, N. Daldosso, G.D. Sorarù, **M. Biesuz**, Microporosity evolution in polymer-derived SiOC glasses pyrolyzed in different atmospheres, *Journal of the American Ceramic Society* 107 (2024) 5224–5237. <https://doi.org/10.1111/jace.19816>.
8. A. Kabir, B. Lemieszek, J. Karczewski, E. De Bona, M. Varenik, S. Molin, **M. Biesuz**, Ultrafast high-temperature sintering (UHS) of cerium oxide-based compound, *Open Ceramics* 17 (2024) 100551. <https://doi.org/10.1016/j.oceram.2024.100551>.
9. E. De Bona, L. Karacasulu, C. Vakifahmetoglu, V.M. Sglavo, **M. Biesuz**<sup>#</sup>, Ultrafast high-temperature sintering (UHS) of WC and WC-containing ZrB<sub>2</sub>, *J Alloys Compd* 986 (2024) 174102. <https://doi.org/10.1016/j.jallcom.2024.174102>.
10. **M. Biesuz**<sup>#</sup>, T.H. de Beauvoir, E. De Bona, M. Cassetta, C. Manière, V.M. Sglavo, C. Estournès, Ultrafast high-temperature sintering (UHS) vs. conventional sintering of 3YSZ: Microstructure and properties, *J Eur Ceram Soc* 44 (2024) 4741–4750. <https://doi.org/10.1016/j.jeurceramsoc.2024.01.064>.
11. L. Karacasulu, M. Karakaya, U. Adem, V.M. Sglavo, **M. Biesuz**, C. Vakifahmetoglu, Fast-firing of potassium sodium niobate (KNN), *Open Ceramics* 17 (2024) 100541. <https://doi.org/10.1016/j.oceram.2024.100541>.
12. **M. Biesuz**<sup>#</sup>, L. Karacasulu, C. Vakifahmetoglu, V.M. Sglavo, On the temperature measurement during ultrafast high-temperature sintering (UHS): Shall we trust metal-shielded thermocouples?, *J Eur Ceram Soc* 44 (2024) 3479–3485. <https://doi.org/10.1016/j.jeurceramsoc.2023.11.061>.
13. L. Spiridigliozzi, **M. Biesuz**, V.M. Sglavo, G. Dell’Agli, Design, synthesis and formation mechanism of a novel entropy-stabilized perovskite oxide derived from barium cerate/zirconate, *J Eur Ceram Soc* 44 (2024) 2223–2232. <https://doi.org/10.1016/j.jeurceramsoc.2023.11.006>.
14. S. Bhandari, C. Manière, F. Sedona, E. De Bona, V.M. Sglavo, P. Colombo, L. Fambri, **M. Biesuz**<sup>#</sup>, G. Franchin, Ultra-rapid debinding and sintering of additively manufactured ceramics by ultrafast high-temperature sintering, *J Eur Ceram Soc.* 44 (2024) 328–340. <https://doi.org/10.1016/j.jeurceramsoc.2023.08.040>.
15. E. De Bona, C. Manière, V.M. Sglavo, **M. Biesuz**, Ultrafast high-temperature sintering (UHS) of ZrB<sub>2</sub>-based materials, *J Eur Ceram Soc.* 44 (2024) 567–573. <https://doi.org/10.1016/j.jeurceramsoc.2023.09.007>.
16. **M. Biesuz**<sup>#</sup>, G. Mariotto, M. Cassetta, O. Ersen, D. Ihiwakrim, P. Haušild, P. Giopato, A. Martucci, M. Bortolotti, V.M. Sglavo, G.D. Sorarù, Solid-State Field-Assisted Ion Exchange (Ag → Na) in Soda–Lime Float Glass: Tin Versus Air Side, *Adv. Eng. Mater.* 25 (2023) 2201572. <https://doi.org/10.1002/adem.202201572>.
17. M. Cassetta, G. Mariotto, N. Daldosso, E. De Bona, **M. Biesuz**, G.D. Sorarù, R. Almeev, M. Zanatta, F. Vetere, Viscosity, Boson Peak and Elastic Moduli in the Na<sub>2</sub>O–SiO<sub>2</sub> System, *Minerals.* 13 (2023) 1166. <https://doi.org/10.3390/min13091166>.
18. L. Karacasulu, U. Kartal, O. Icin, M. Bortolotti, **M. Biesuz**, C. Vakifahmetoglu, Formation of monolithic SrTiO<sub>3</sub>–TiO<sub>2</sub> ceramic heterostructures by reactive hydrothermal sintering, *J. Eur. Ceram. Soc.* 43 (2023) 6982–6988. <https://doi.org/10.1016/j.jeurceramsoc.2023.07.012>.

19. A. Alemayehu, **M. Biesuz**<sup>#</sup>, K.Y. Javan, A. Tkach, P.M. Vilarinho, V.M. Sglavo, V. Tyrpekl, Ultrafast high-temperature sintering of gadolinia-doped ceria, *J. Eur. Ceram. Soc.* 43 (2023) 4837–4843. <https://doi.org/10.1016/j.jeurceramsoc.2023.04.025>.
20. A. Zambotti, A. Bruni, **M. Biesuz**, G.D. Sorarù, L. Rivoira, M. Castiglioni, B. Onida, M.C. Bruzzoniti, Glyphosate adsorption performances of polymer-derived SiC/C aerogels, *J. Environ. Chem. Eng.* 11 (2023) 109771. <https://doi.org/10.1016/j.jece.2023.109771>.
21. A. Zambotti, E. Ionescu, N. Gargiulo, D. Caputo, C. Vakifahmetoglu, B. Santhosh, **M. Biesuz**, G.D. Sorarù, Processing of polymer-derived, aerogel-filled, SiC foams for high-temperature insulation, *J. Am. Ceram. Soc.* 106 (2023) 4891–4901. <https://doi.org/10.1111/jace.19118>.
22. **M. Biesuz**<sup>#</sup>, J. Chen, M. Bortolotti, G. Speranza, V. Esposito, V.M. Sglavo, Ni-free high-entropy rock salt oxides with Li superionic conductivity, *J. Mater. Chem. A.* 10 (2022) 23603–23616. <https://doi.org/10.1039/D2TA06101E>.
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