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Ph.D.**

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Materials Science and Engineering
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I. Education

Ph.D.- Materials Science and Engineering, 2010.

Thesis title - "*Fabrication and characterization of ceramics with hierarchical pore architecture*", University of Padova, Padova, Italy.

Supervisor: Prof. Ing. Paolo Colombo

M.Sc.- Metallurgical & Materials Engineering, 2005.

Thesis title- "*Production and Properties of Glass Bonded Apatite-Wollastonite Bioceramics*", Middle East Technical University, Ankara, Turkey.

Supervisor: Prof. Dr. Muharrem Timucin

B.S.- Metallurgical & Materials Engineering, 2002.

Graduation project title: "*The effect of two phase annealing treatments on Cu-Zn-Al Shape Memory Alloys*". Middle East Technical University, Ankara, Turkey.

Supervisor: Prof. Dr. Sakir Bor

II. Previous Appointments

- Associate Professor, Department of Materials Science and Engineering, Izmir Institute of Technology (July, 2017-Cont.).
- Assistant Professor, Department of Mechanical Engineering, Istanbul Kemerburgaz University (June, 2012 – July., 2017) & Chair, Department of Mechanical Engineering from June, 2012 to June, 2015.
- Postdoctoral Associate - (June, 2010 - June, 2012) - Department of Materials Science and Engineering, Rutgers, The State University of New Jersey, NJ, USA.
- Postdoctoral Associate - (Dec., 2009 - June, 2010) - Materials Science and Engineering, University of Padova, Padova, Italy.
- Early Stage Researcher, (EU Marie Curie Fellowship holder) (Nov., 2006 - Dec., 2009) - Department of Mechanical Engineering, Materials Section, University of Padova, Padova, Italy.
- Research Assistant, (Dec., 2002 - Nov., 2006) - Institute of Applied Mathematics, Middle East Technical University, Ankara, Turkey.

III. Research Interest

- Low temperature green manufacturing processes to make materials that can match or improve upon those that require high temperature processing, sequestration of greenhouse gases by using minerals and waste/recycled materials, hydrothermal and solid state synthesis of ceramic particles and parts, porous materials (especially for filtration and high temperature applications), preceramic polymers and polymer derived ceramics, 1D nanostructures, biomaterials (especially bioceramics).

IV. Research funds & Awards

- **2014-2017**, TUBITAK (The Scientific and Technological Research Council of Turkey)-National Young Researchers Career Development Program: Grant number: 113Y533 with ~\$140,000 (2014) total budget.
- **2012-2014**, IKBU Research grant, ~ \$10,000.
- **2013**, [The 2013 R&D 100 Award Winner](#) - "A Greener Concrete"
- **2010**, [Davidge award](#) - best literature review article by a Ph.D. student on an innovative topic in ceramics.
- **2007**, 11th CCT (Ceramics, Cells and Tissues) congress prize.
- **2005**, [Thesis of the year award](#), M.Sc., given by [Prof. Dr. Mustafa N. Parlar Education & Research Foundation](#).

V. Publications

V(a). SCI Indexed Journal Papers:

2018

- D. Zeydanli, S. Akman, C. Vakifahmetoglu, "[Polymer derived ceramic adsorbent for pollutant removal from water](#)", Journal of the American Ceramic Society, 1-8 (2018).

DOI: <http://dx.doi.org/10.1111/jace.15423>

- C. Vakifahmetoglu, D. Zeydanli, V. C. Ozalp, B. A. Borsa, G. D. Soraru, "[Hierarchically porous polymer derived ceramics: a promising platform for multidrug delivery systems](#)", Materials & Design 140, 37-44 (2018).

DOI: <https://doi.org/10.1016/j.matdes.2017.11.047>

2017

- C. Vakifahmetoglu, D. Zeydanli, M. D. d. M. Innocentini, F. d. S. Ribeiro, P. R. O. Lasso, and G. D. Soraru, "[Gradient-Hierarchic-Aligned Porosity SiOC Ceramics](#)," Scientific Reports, 7 41049 (2017).

DOI: <http://dx.doi.org/10.1038/srep41049>

2016

- C. Vakifahmetoglu, J. F. Anger, V. Atakan, S. Quinn, S. Gupta, Q. Li, L. Tang, and R. E. Riman, "[Reactive Hydrothermal Liquid-Phase Densification \(rHLPD\) of Ceramics – A Study of the BaTiO₃\[TiO₂\] Composite System](#)," Journal of the American Ceramic Society, 99[12] 3893-901 (2016).

DOI: <http://dx.doi.org/10.1111/jace.14468>

- A. Tolosa, B. Krüner, N. Jackel, M. Aslan, C. Vakifahmetoglu, and V. Presser, "[Electrospinning and electrospraying of silicon oxycarbide-derived nanoporous carbon for supercapacitor electrodes](#)," Journal of Power Sources, 313 178-88 (2016).

DOI: <http://dx.doi.org/10.1016/j.jpowsour.2016.02.077>

- C. Vakifahmetoglu, D. Zeydanli, and P. Colombo, "[Porous polymer derived ceramics](#)," Materials Science and Engineering: R: Reports, 106 1-30 (2016).
DOI: <http://dx.doi.org/10.1016/j.mser.2016.05.001>
- D. Assefa, E. Zera, R. Campostrini, G. D. Soraru, and C. Vakifahmetoglu, "[Polymer-derived SiOC aerogel with hierarchical porosity through HF etching](#)," Ceramics International, 42[10] 11805-09 (2016).
DOI: <http://dx.doi.org/10.1016/j.ceramint.2016.04.101>

2015

- C. Vakifahmetoglu, M. Buldu, A. Karakuscu, A. Ponzoni, D. Assefa, and G. D. Soraru, "[High surface area carbonous components from emulsion derived SiOC and their gas sensing behavior](#)," Journal of the European Ceramic Society, 35[16] 4447-52 (2015).
DOI: <http://dx.doi.org/10.1016/j.jeurceramsoc.2015.08.030>

2014

- A. Karakuscu, A. Ponzoni, E. Comini, G. Sberveglieri, and C. Vakifahmetoglu, "[SiC Foams Decorated with SnO₂ Nanostructures for Room Temperature Gas Sensing](#)," International Journal of Applied Ceramic Technology, 11[5] 851-57 (2014).
DOI: <http://dx.doi.org/10.1111/ijac.12295>
- C. Vakifahmetoglu, "[Zeolite decorated highly porous acicular calcium silicate ceramics](#)," Ceramics International, 40[8] 11925-32 (2014).
DOI: <http://dx.doi.org/10.1016/j.ceramint.2014.04.028>
- M. Adam, C. Vakifahmetoglu, P. Colombo, M. Wilhelm, and G. Grathwohl, "[Polysiloxane-Derived Ceramics Containing Nanowires with Catalytically Active Tips](#)," Journal of the American Ceramic Society, 97[3] 959-66 (2014).
DOI: <http://dx.doi.org/10.1111/jace.12708>

2013

- T. Whalen, B. VanSaders, C. Vakifahmetoglu, A. Mughal, E. Zlotnikov, S.-B. Cho, and R. E. Riman, "[Solvothermal Synthesis of Acmite Conversion Coatings on Steel](#)," Journal of the American Ceramic Society, 96[11] 3656-61 (2013).
DOI: <http://dx.doi.org/10.1111/jace.12594>

2012

- V. Presser, S.-H. Yeon, C. Vakifahmetoglu, C. A. Howell, S. R. Sandeman, P. Colombo, S. Mikhailovsky, and Y. Gogotsi, "[Hierarchical Porous Carbide-Derived Carbons for the Removal of Cytokines from Blood Plasma](#)," Advanced Healthcare Materials, 1[6] 796-800 (2012).
DOI: <http://dx.doi.org/10.1002/adhm.201200044>

- V. Presser and C. Vakifahmetoglu, "[Comment on "Synthesis, characterization and growth mechanism of flower-like vanadium carbide hierarchical nanocrystals"](#)", CrystEngComm, 14[13] 4525-26 (2012).

DOI: <http://dx.doi.org/10.1039/C2CE25079>

2011

- C. Vakifahmetoglu, V. Presser, S.-H. Yeon, P. Colombo, and Y. Gogotsi, "[Enhanced hydrogen and methane gas storage of silicon oxycarbide derived carbon](#)", Microporous and Mesoporous Materials, 144[1-3] 105-12 (2011).

DOI: <http://dx.doi.org/10.1016/j.micromeso.2011.03.042>

- C. Vakifahmetoglu, M. Balliana, and P. Colombo, "[Ceramic foams and micro-beads from emulsions of a preceramic polymer](#)", Journal of the European Ceramic Society, 31[8] 1481-90 (2011).

DOI: <http://dx.doi.org/10.1016/j.jeurceramsoc.2011.02.012>

- C. Vakifahmetoglu, "[Fabrication and properties of ceramic 1D nanostructures from preceramic polymers: a review](#)", Advances in Applied Ceramics, 110[4] 188-204 (2011).

DOI: <http://dx.doi.org/10.1179/1743676111Y.0000000007>

2010

- C. Vakifahmetoglu, P. Colombo, S. Carturan, E. Pippel, and J. Woltersdorf, "[Growth of 1D-Nanostructures in Porous Polymer Derived Ceramics by Catalyst-Assisted-Pyrolysis. Part II: Cobalt Catalyst](#)", Journal of the American Ceramic Society, 93[11] 3709-19 (2010).

DOI: <http://dx.doi.org/10.1111/j.1551-2916.2010.03974.x>

- C. Vakifahmetoglu, E. Pippel, J. Woltersdorf, and P. Colombo, "[Growth of One-Dimensional Nanostructures in Porous Polymer-Derived Ceramics by Catalyst-Assisted Pyrolysis. Part I: Iron Catalyst](#)", Journal of American Ceramic Society, 93 959-68 (2010).

DOI: <http://dx.doi.org/10.1111/j.1551-2916.2009.03448.x>

- K. Terauds, P. E. Sanchez-Jimenez, R. Raj, C. Vakifahmetoglu, and P. Colombo, "[Giant piezoresistivity of polymer-derived ceramics at high temperatures](#)", Journal of the European Ceramic Society, 30[11] 2203-07 (2010).

DOI: <http://dx.doi.org/10.1016/j.jeurceramsoc.2010.02.024>

- C. Vakifahmetoglu, P. Colombo, A. Pauletti, C. F. Martin, and F. Babonneau, "[SiOC Ceramic Monoliths with Hierarchical Porosity](#)", International Journal of Applied Ceramic Technology[7] 528-35 (2010).

DOI: <http://dx.doi.org/10.1111/j.1744-7402.2009.02365.x>

- P. Colombo, C. Vakifahmetoglu, and S. Costacurta, "[Fabrication of ceramic components with hierarchical porosity](#)", Journal of Materials Science, 45[20] 5425-55 (2010).

DOI: <http://dx.doi.org/10.1007/s10853-010-4708-9>

- S.-H. Yeon, P. Reddington, Y. Gogotsi, J. E. Fischer, C. Vakifahmetoglu, and P. Colombo, "[Carbide-derived-carbons with hierarchical porosity from a preceramic polymer](#)," Carbon, 48[1] 201-10 (2010).
DOI: <http://dx.doi.org/10.1016/j.carbon.2009.09.004>

2009

- C. Vakifahmetoglu, I. Menapace, A. Hirsch, L. Biasetto, R. Hauser, R. Riedel, and P. Colombo, "[Highly porous macro- and micro-cellular ceramics from a polysilazane precursor](#)," Ceramics International, 35[8] 3281-90 (2009).
DOI: <http://dx.doi.org/10.1016/j.ceramint.2009.05.022>

2008

- C. Vakifahmetoglu and P. Colombo, "[A Direct Method for the Fabrication of Macro-Porous SiOC Ceramics from Preceramic Polymers](#)," Advanced Engineering Materials, 10[3] 256-59 (2008).
DOI: <http://dx.doi.org/10.1002/adem.200700330>

V(b). Non-SCI Journal Papers (Scopus):

- C. Vakifahmetoglu, J. Park, F. Korkusuz, A. Ozturk, and M. Timucin, "[Production and properties of apatite-wollastonite ceramics for biomedical applications](#) " InterCeram: International Ceramic Review, 58[2-3] 86-90 (2009).

V.(c). Books/chapters/proceedings:

- C. Vakifahmetoglu and P. Colombo, "Porous Polymer Derived Ceramics Decorated with in-situ Grown Nanowires," pp. 95-103. in Advances in Polymer Derived Ceramics and Composites. John Wiley & Sons, Inc., 2010.

DOI: <http://dx.doi.org/10.1002/9780470880630.ch12>

- C. Vakifahmetoglu, J. Park, F. Korkusuz, A. Ozturk, and M. Timucin, "Production and properties of Apatite-Wollastonite ceramics for biomedical applications," pp. 242-51 in Ceramics, Cells and Tissues topic: Nanotechnology for Functional Repair and Regenerative Medicine the Role of Ceramics as In Bulk and as Coating. Edited by A. Ravaglioli and A. Krajewski. (2008).

ISBN: 88-8080-085-X;978-88-8080-085-9

- P. Colombo, L. Biasetto, E. Bernardo, S. Costacurta, C. Vakifahmetoglu, R. Peña-Alonso, G. D. Sorarù, E. Pippel, and J. Woltersdorf, "Hierarchical porosity ceramic components from preceramic polymers," Ceramic Engineering and Science Proceedings, 28 (9) 3-11 (2007).

DOI: <http://dx.doi.org/10.1002/9780470339749.ch1>

- C. Vakifahmetoglu and M. Timuçin, "Production and Characterization of Siliconized Hydroxyapatite Ceramics," pp. 805-15 in 13. International Metallurgy and Materials Congress. (2006).

- C. Vakifahmetoglu , D. Gungor, E. Arıkan, and S. Bor, "The Effect of Two Phase Annealing Treatments on Cu-Zn-Al Shape Memory Alloys," pp. 413-19 in 11. International Metallurgy and Materials Congress. (2002).

V(d). Patents/applications:

- C. Vakifahmetoglu, "Porous ceramic material for drug delivery and release applications and drug delivery and release system comprising such porous ceramic material", Turkish, TR, PCT/TR2017/050308, 2017.
- P. Colombo, M. Fukushima, C. Vakifahmetoglu, Y. Yoshizawa, "Method for manufacturing inorganic porous body which has one-dimensional structure body arranged, the inorganic porous body and member made using the same", Japanese JP 2012-153596, filed on Dec. 2011.
- R. Richard, T. Nye, V. Atakan, C. Vakifahmetoglu, C. Li, L. Tang, "Synthetic Formulations and Methods of Manufacturing and Using Thereof" , USA US 2012/312194 , International WO 2012170667, Canada CA 2837832, Australia AU 2012267929, Europe EP 12796640.6 & Taiwan TW 201307248, Eurasian EA201301337, China CN103717548; Israel IL229629; India IN09593CN2013; Japan JP6022555; Korea KR20140040796 ; Mexico MX2013014416; New Zeland NZ618411; South Africa ZA201309060, filed on June 2012, published on Dec, 2015.

V(e). Visual:

- Cover image, [Materials Science and Engineering -R: Reports, 106, 2016.](#)
- Back Cover Image, [International Journal of Applied Ceramic Technoogy, 11 \(5\), 2014.](#)
- Inside Cover Image, [Advanced Healthcare Materials, 1 \(6\), 2012.](#)
- Leaflet image, [Advances in Applied Ceramics Structural, Functional and Bioceramics, 2010-2011.](#)
- Leaflet image, [Materials Research, 2010-2011.](#)

VI. Teaching

- MSE 501 Fundamentals of Materials Science and Engineering 2017-2018
- ME 201 Thermodynamics, 2013&2014
- ME 211 Statics and Mechanics of Materials, 2014-to-2017
- ME 220 Engineering Materials, 2014-to-2017
- ME 311 Microstructure and Mechanical Properties of Materials, 2016&2017
- ME 341 & IE 254 Manufacturing Processes, 2014-to-2017
- ME 456 Composite Materials, 2016&2017
- MATH 125 & 126 Mathematics I & II, 2012-to-2014

VII. Others

- Editorial board member of [Scientific Reports - Nature.](#)

- Reviewer for +20 international scientific journals (SCI indexed), COST (European Cooperation in Science and Technology), ESF (European Science Foundation), SNSF (Swiss National Science Foundation), and TUBITAK (The Scientific and Technological Research Council of Turkey) project applications.
- Member of the American Ceramic Society (ACerS), the European Ceramic Society (ECerS), the Union of Chambers of Turkish Engineers and Architects (UCTEA), Chamber of Metallurgical Engineers.
- Fluency in English, Italian, and mother tongue Turkish.

References are available on request.