

CURRICULUM VITAE

INFORMAZIONI PERSONALI/ PERSONAL INFORMATION

Nome, Cognome/Name, Surname

Monika DOBRZYŃSKA-MIZERA

Indirizzo/Address

Telefono/Telephone

E-mail

Nazionalità/Nationality

Polish

Luogo e data di nascita/ Place and
Date of birth

ESPERIENZA PROFESSIONALE/ WORK EXPERIENCE

In ordine di data /Dates (from – to)

October 2015 to present

Nome e indirizzo del datore di lavoro
/ Name and address of employer

Poznan University of Technology, Institute of Material Technology, Polymer Group
Pl. Marii Skłodowskiej-Curie 5, 60-965 Poznan, Poland

Tipo o settore di attività / Type of
business or sector

State University

Funzione o posto occupato /
Occupation or position held

Assistant Professor

Principali mansioni e responsabilità /
Main activities and responsibilities

Teaching polymer processing and physics, selection of construction materials, recycling of polymers, technological properties and research methods of polymeric-based materials (lectures given also in English)

Supervisor of 6 and reviewer of 7 bachelor and master theses

Research in polymer processing and manufacturing of composites, optimization of processing parameters (including extrusion, injection and compression moulding, and 3D printing technologies), designing materials for medical applications

Collaboration with industry

In ordine di data /Dates (from – to)

October 2012 to October 2017

Nome e indirizzo del datore di lavoro
/ Name and address of employer

Poznan University of Technology, Institute of Material Technology, Polymer Group
Pl. Marii Skłodowskiej-Curie 5, 60-965 Poznan, Poland

Tipo o settore di attività / Type of
business or sector

State University

Funzione o posto occupato /
Occupation or position held

Ph.D. student

Principali mansioni e responsabilità /
Main activities and responsibilities

Teaching polymer processing and polymer physics

Research in polymer processing and polymer physics (especially iPP processing and modification)

Collaboration with industry

ISTRUZIONE E FORMAZIONE / EDUCATION AND TRAINING

In ordine di data /Dates (from – to)
Nome e tipo d'istituto di istruzione o
formazione / Name and type of
organisation providing education and
training

Principali materie e competenze
professionali apprese / Principal
subjects occupational skills covered
Livello nella classificazione nazionale
o internazionale / Level in National
classification

October 2012 to October 2017

Poznan University of Technology, Faculty of Mechanical Engineering and Management

Full-time Ph.D. Studies, specialization: **materials science**

Second stage of tertiary education

In ordine di data /Dates (from – to)
Nome e tipo d'istituto di istruzione o
formazione / Name and type of
organisation providing education and
training

Principali materie e competenze
professionali apprese / Principal
subjects occupational skills covered
Livello nella classificazione nazionale
o internazionale / Level in National
classification

March 2011 to June 2012

Poznan University of Technology, Faculty of Mechanical Engineering and Management

Full-time MA Studies, awarded Master of Science in the field of: Mechanics and Machinery Design, specialization: **materials processing technologies**

First stage of tertiary education

In ordine di data /Dates (from – to)
Nome e tipo d'istituto di istruzione o
formazione / Name and type of
organisation providing education and
training

Principali materie e competenze
professionali apprese / Principal
subjects occupational skills covered
Livello nella classificazione nazionale
o internazionale / Level in National
classification

October 2006 to January 2011

Poznan University of Technology, Faculty of Mechanical Engineering and Management

Full-time BA Studies, awarded Bachelor of Science in the field of: Materials Engineering, specialization: **metal and plastic materials**

First stage of tertiary education

ATTIVITA' DI RICERCA / RESEARCH ACTIVITIES

Recenti attività scientifiche/ Recent
Scientific Activities

Main research activity is focused on 3D printing of biobased polymers, polymer-based blends and composites, mainly for packaging and biomedical applications

25 refereed papers published in journals and books, 20 publications in conference proceedings

Leader of 3 research projects (2 financed by the National Science Center in Poland and 1 by Poznan University of Technology)

Investigator in 4 research project (2 financed by European Union and 2 by the National Center for Research and Development in Poland)

Internships in foreign countries, including in Italy, Germany, Hungary, Serbia, and Canada

PROGETTI DI RICERCA / RESEARCH GRANTS

[1] Investigator in the research project "Development of customised biodegradable implants for bone reconstruction procedures – Cranioimplants", financed by the National Center for Research and Development, project implementation period: 01/02/2020 – ongoing

[2] Investigator in the research project "Research and development works on an innovative openwork system of steel substructures for the installation of photovoltaic panels with increased durability and load-bearing capacity, along with a new technology of their production" financed by the National Center for Research and Development, project implementation period: 01/10/2021 – ongoing

[3] Leader of Preludium project entitled "Biodegradable polylactide composites with enhanced antibacterial properties" financed by the National Science Center in Poland, project implementation period: 01/10/2017 - 30/08/2020.

[4] Leader of Etiuda project entitled "Analysis of the interactions of sorbitol derivatives with siloxane-silsesquioxane resin on the structure and properties of isotactic polypropylene" financed by the National Science Center in Poland, project implementation period: 01/10/2016 - 30/09/2017.

[5] Leader of the research for the development of young scientists and participants of doctoral studies entitled "Structure and physical properties of biocomponent polymer composites", project implementation period: May-November 2017.

[6] Investigator in the research project "Silsesquioxanes as fillers and modifiers in polymer composites" financed by the European Regional Development Fund under the Operational Program Innovative Economy 2007-2013, project implementation period: 01/01/2010 – 31/12/2013

[7] Investigator in the research project ECOPAT "Development of a costeffective and lightweight hand pallet truck for application in material handling" financed by the 7th Framework Program, European Union, project implementation period: 01/08/2010 – 01/10/2012

RICONOSCIMENTI E PREMI / AWARDS

[1] Innovator Wprost Award 2021 for the innovative 3D printed design of a bioresorbable bone implant, awarded by Wprost, Warsaw, Poland (September 2021)

[2] Outstanding young scientist, 2017-2021, awarded with Scholarship of Polish Minister of Science and Higher Education

[3] Annually listed among best doctoral students at Poznan University of Technology between 2012 and 2017, awarded with Scholarships

[4] Award in the competition for the best Master theses in 2011/2012 academic year, Dean of Faculty of Mechanical Engineering and Management, Poznan University of Technology.

[5] Master thesis awarded in the competition "Outstanding thesis in the area of technology and organization of production and services" in 2013 organized by Federacja Stowarzyszeń Naukowo – Technicznych, Poznań.

ULTERIORI INFORMAZIONI / ADDITIONAL INFORMATION

| | |
|------------------------|---|
| Languages | Polish – Native speaker English – Excellent in reading, writing and verbal skills |
| Other qualifications | Excellent IT skills (MS Office, Proteus, Origin), certificate in writing scientific articles, operating machines such as: extruder, injection molding machine, hydraulic press, thermoforming machine etc. and devices such as: Differential Scanning Calorimeter, thermogravimetric analyzer, rheometer, plastometer, etc. |
| Additional information | Clean driving license since 2005. Conscientiousness, punctuality, commitment, friendliness. Personal interests: hiking, snowboard, cooking. |

PUBBLICAZIONI / SCIENTIFIC ARTICLES

- [1] S. Targonska, M. Dobrzyńska-Mizera, M. Wujczyk, J. Rewak-Soroczynska, M. Knitter, K. Dopierala, J. Andrzejewski, R.J. Wiglusz, New way to obtain the poly(L-lactide-co-D,L-lactide) blend filled with nanohydroxyapatite as biomaterial for 3D-printed bone-reconstruction implants, *European Polymer Journal* 2022, 165, 110997.
- [2] M. Dobrzyńska-Mizera, M. Knitter, D. Szymanowska, S. Mallardo, G. Santagata, M.L. Di Lorenzo, Optical, mechanical, and antimicrobial properties of bio-based composites of poly(L-lactic acid) and D-limonene/ β -cyclodextrin inclusion complex, *J Appl Polym Sci.* 2022, e52177.
- [3] J. Molnár, Ö. Sepsi, B. Gaál, Z. Zuba, M. Dobrzyńska-Mizera, A. Menyárd, Probabilistic numerical simulation for predicting spherulitic morphology from calorimetric crystallization conversion curves: An isothermal case, *Materials & Design* 2021, 212, 110245.
- [4] M. Dobrzyńska-Mizera, M. Knitter, S. Mallardo, M.C. Del Barone, G. Santagata, M.L. Di Lorenzo, Thermal and Thermo-Mechanical Properties of Poly(L-lactic Acid) Biocomposites Containing β -Cyclodextrin/D-Limonene Inclusion Complex. *Materials* 2021, 14, 2569.
- [5] I.S. Stefanović, J.V. Džunuzović, E.S. Džunuzović, A. Dapčević, S.I. Šešlija, B.D. Balanč, M. Dobrzyńska-Mizera, Composition-property relationship of polyurethane networks based on polycaprolactone diol. *Polym. Bull.* 2020, 78, 7103–7128.
- [6] M. Dobrzyńska-Mizera, M. Knitter, A. Woźniak-Braszak, M. Baranowski, T. Sterzyński, M.L. Di Lorenzo, Poly(L-Lactic Acid)/Pine Wood Bio-Based Composites, *Materials* 2020, 13, 3776.
- [7] M. Dobrzyńska-Mizera, M. Barczewski, M. Knitter, Walnut shells as a filler for polymeric materials, *Drewno* 2019, 203.
- [8] S. Seslija, P. Spasojević, V. Panic, M. Dobrzyńska-Mizera, B. Immirzi, J. Stevanovic, I. Popović, Physico-chemical evaluation of hydrophobically modified pectin derivatives: Step toward application, *International Journal of Biological Macromolecules* 2018, 113.
- [9] M. Dobrzyńska-Mizera, M. Dutkiewicz, T. Sterzyński, M. L. Di Lorenzo, Polypropylene-based composites containing sorbitol-based nucleating agent and siloxane-silsesquioxane resin, *Journal of Applied Polymer Science* 2016, 133, 22.
- [10] M. Dobrzyńska-Mizera, M. Dutkiewicz, T. Sterzyński, M. L. Di Lorenzo, Isotactic polypropylene modified with sorbitol-based derivative and siloxane-silsesquioxane resin, *European Polymer Journal* 2016, 85, 62-71.
- [11] M. Barczewski, M. Dobrzyńska-Mizera, M. Dutkiewicz, M. Szolyga, Novel polypropylene β -nucleating agent with polyhedral oligomeric silsesquioxane (POSS) core: synthesis and application, *Polymer International* 2016, 65, 9.
- [12] M. Dobrzyńska-Mizera, M. Dutkiewicz, T. Sterzyński, M. L. Di Lorenzo, Interfacial enhancement of polypropylene composites modified with sorbitol derivatives and siloxane-silsesquioxane resin, *AIP Conference Proceedings* 1695, 020049 (2015); doi: 10.1063/1.4937327.
- [13] M. Knitter, M. Dobrzyńska-Mizera, Mechanical properties of isotactic polypropylene modified with thermoplastic potato starch, *Mechanics of Composite Materials* 2 (51), pp. 245-252 (2015), DOI 10.1007/s11029-015-9496-5.

- [14] M. Barczewski, M. Dobrzyńska-Mizera, B. Dudziec, T. Sterzyński, Influence of a sorbitol-based nucleating agent modified with silsesquioxanes on the non-isothermal crystallization of isotactic polypropylene, *Journal of Applied Polymer Science* 8 (131), 40131 (2014), ISSN 0021-8995.
- [15] M. Knitter, M. Dobrzyńska-Mizera, Mechanical properties of isotactic polypropylene modified with thermoplastic potato starch, *Mechanics of Composite Materials* 6 (50), 2014, ISSN: 0191-5665.
- [16] M. Barczewski, D. Chmielewska, M. Dobrzyńska-Mizera, B. Dudziec, T. Sterzyński, Thermal stability and flammability of polypropylene-silsesquioxane nanocomposites, *International Journal of Polymer Analysis and Characterization* 6 (19), pp 500-509 (2014), ISSN: 1023-666X.
- [17] M. Barczewski, B. Dudziec, M. Dobrzyńska-Mizera, T. Sterzyński, Synthesis and influence of sodium benzoate silsesquioxane based nucleating agent on thermal and mechanical properties of isotactic polypropylene, *Journal of Macromolecular Science, Part A: Pure and Applied Chemistry* 11 (51), 2014, ISSN: 1060-1325.
- [18] M. Dobrzyńska-Mizera, M. Barczewski, Wpływ dodatku napelnacza organicznego na właściwości mechaniczne kompozytów na osnowie polipropylenu (Influence of organic filler on mechanical properties of polypropylene composites – translation by the author), *Przetwórstwo Tworzyw* 5 (161)/20, pp 399-404 (2014), ISSN: 1429-0472.
- [19] M. Barczewski, M. Dobrzyńska-Mizera, J. Andrzejewski, D. Chmielewska, Ocena właściwości włókien orientowanych wykonanych z nukleowanego izotaktycznego polipropylenu modyfikowanego silseskwioxanami (Assessment of the properties of oriented fibers made of isotactic polypropylene modified with silsesquioxanes – translation by the author), *Polymer Processing* 3 (153), pp 139-143 (2013), ISSN 1429 – 0472.
- [20] J. Andrzejewski, M. Dobrzyńska-Mizera, T. Sterzyński, M. Barczewski, Single polymer composites as replacement for glass fiber reinforcement, *Chemicke Listy* 107, pp 100-101 (2013), ISSN 0009 – 2770.
- [21] M. Dobrzyńska-Mizera, M. Barczewski, B. Dudziec, T. Sterzyński, Influence of the cooling rate on the non-isothermal crystallization of iPP nucleated with DMDBS and silsesquioxanes, *Polimery* 11—12, 58, pp 88 – 91 (2013), ISSN 0032 – 2725.
- [22] M. Barczewski, M. Dobrzyńska-Mizera, M. Trzeciak, Influence of heterogeneous nucleation on thermal and thermodynamic properties of isotactic polypropylene, *Polish Journal of Chemical Technology* 4 (15), pp 71-74 (2013), ISSN 1509 – 8117.
- [23] M. Dobrzyńska-Mizera, M. Barczewski, J. Andrzejewski, Ocena skuteczności nukleacji izotaktycznego polipropylenu na podstawie badań skaningowej kalorymetrii różnicowej (Assessment of isotactic polypropylene nucleation efficiency on basis of Differential Scanning Calorimetry – translation by the author), *Inżynieria Wytwarzania*, edited by M. Dudziak, A. Kołodziej, Ph: Uczelniane PWSZ in Kalisz, Kalisz 2012, ISBN 978-83-60137-51-2.
- [24] D. Chmielewska, M. Barczewski, M. Dobrzyńska-Mizera, Zastosowanie różnicowej kalorymetrii skaningowej (DSC) jako metody oceny procesu sieciowania żywicy epoksydowej (Usage of Differential Scanning Calorimetry as an assesment method for epoxy resin creosslinking process – translation by the author), *Inżynieria Wytwarzania*, edited by M. Dudziak, A. Kołodziej, Ph: Uczelniane PWSZ in Kalisz, Kalisz 2012, ISBN 978-83-60137-51-2.
- [25] M. Barczewski, D. Chmielewska, M. Dobrzyńska-Mizera, Ocena właściwości reologicznych stopionych polimerów w warunkach intensywnego ścinania z wykorzystaniem reologii in-line (Assessment of rheological properties of molten polymers under shearing conditions using in-line rheology – translation by the author), *Inżynieria Wytwarzania*, edited by M. Dudziak, A. Kołodziej, Ph: Uczelniane PWSZ in Kalisz, Kalisz 2012, ISBN 978-83-60137-51-2.

**TRATTAMENTO DEI DATI
PERSONALI, INFORMATIVA E
CONSENSO**

Il D.Lgs. 30/6/2003, n. 196 "Codice in materia di protezione dei dati personali" regola il trattamento dei dati personali, con particolare riferimento alla riservatezza, all'identità personale e al diritto di protezione dei dati personali; l'interessato deve essere previamente informato del trattamento.

La norma in considerazione intende come "trattamento" qualunque operazione o complesso di operazioni concernenti la raccolta, la registrazione, l'organizzazione, la conservazione, la consultazione, l'elaborazione, la modifica, la selezione, l'estrazione, il raffronto, l'utilizzo, l'interconnessione, il blocco, la comunicazione, la diffusione, la cancellazione e la distruzione di dati, anche se non registrati in una banca dati.

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☒ Si, acconsento

Poznan, February 16, 2022

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