Curriculum Vitae

PERSONAL INFORMATION

Family name, first name: Naughton Duszová, Annamária

Researcher unique identifier: ORCID iD: 0000-0002-1823-0571

Date of birth: 28-06-1983

Nationality: Slovak

URL for web site: https://www.researchgate.net/profile/Annamaria-Naughton-Duszova

EDUCATION

2013 PhD.

Institute of Materials Research – Slovak Academy of Sciences, Košice, Slovakia

PhD supervisor: doc. RNDr. František Lofaj, DrSc.

2007 Master

Technical University of Košice, Faculty of Metallurgy, Košice, Slovakia

Department of Ceramics, Specialization: Industrial ceramics

CURRENT POSITIONS

10.2021 – present Scientific worker/project manager

The Institute of Materials Research of SAS, Košice, Slovakia

PREVIOUS POSITIONS

11.2019 – 09.2021 Executive Research Specialist

Łukasiewicz Research Network – Krakow Institute of Technology, Center for Advanced Manufacturing Technologies, Krakow, Poland

09.2016 – 10.2019 Adjunct/Project Manager

Institute of Advanced Manufacturing Technology, Krakow, Poland

05.2016 – 08.2016 Adjunct

Institute of Advanced Manufacturing Technology, Krakow, Poland

04.2014 – 04.2016 Adjunct

Academic Centre for Materials and Nanotechnology-(ACMiN), AGH, Krakow, Poland

08.2013 – 11.2013 Postdoctoral researcher

Institute of Materials Research – Slovak Academy of Sciences, Košice, Slovakia

09.2009 – 08.2013 PhD student

Institute of Materials Research – Slovak Academy of Sciences, Košice, Slovakia

08.2007 – 08.2009 Executive Assistant
Steel Trade, SSIM, a.s. (Project Steel Mini-Mill), Košice, Slovakia

FELLOWSHIPS AND AWARDS

2019 Gold medal and diploma for a patent application - Europe international innovation and inventiveness,

International Warsaw Invention Show – IWIS in Warsaw, Poland

2019 Gold medal and diploma for a patent application and an additional special award - World Invention

Intellectual Property Associations - WIIPA Grand Award, on the 12th edition of International Invention

and Innovation Show INTARG® in Katowice, Poland

2017 Prize of the Slovak Academy of Sciences for a team of young scientists, Smolenice, Slovakia

2016 POWROTY/REINTEGRATION GRANT winner - Foundation for Polish Science (FNP)

2016 Rector's Award, Krakow, Poland

2013 Best Young Researcher of Hungarian origin, Miskolc, Hungary

2013 Fund of Štefan Schwarz awarded by the Slovak Academy of Sciences, Bratislava, Slovakia

2013 KMM-VIN Fellowship Grant, Polish Academy of Sciences, Institute of Metallurgy and Materials,

Krakow, Poland (1 month)

2012 KMM-VIN Fellowship Grant, Polish Academy of Sciences, Institute of Metallurgy and Materials,

Krakow, Poland (2 months)

2012 1st place on Competition of Seminar of PhD Students, IMR-SAS, Košice, Slovakia

2011 Scholarship, Institut National des Sciences Appliquées de Lyon (INSA), France (4 months)

2006 Scholarship, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Lab for High

Performance Ceramics, Dübendorf, Switzerland (3 months)

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2016 – 2018 Co-promotor of PhD student - Mgr inż. Aleksandra Dubiel, AGH – University of Science and Technology, Faculty of Materials Science and Ceramics, Krakow, Poland

MAJOR COLLABORATIONS-Study stays

- 11.2013 – 03.2014 – Prof. dr hab. inż. Zbigniew Pędzich, Production of prototype syntheses of ceramic composite materials for innovative cutting tools, AGH-University of Science and Technology, Faculty of Materials Science and Ceramics, Krakow, Poland
- 01.08 – 12.08.2012 – Prof. Mike Reece, Training on Spark plasma sintering device, Nanoforce Technology Limited, Queen Mary University of London, United Kingdom
- 01.11 – 30.11.2010 – Prof. Dr. Markus Winterer, Preparation of Eu2O3 with Ti2O3 materials/Training on Spark plasma sintering device, University of Duisburg-Essen Germany, Germany
- 15.02 – 14.03.2010 – Dr. Milena Spirkova, Processing of polymer and polymer + CNF nanocomposites, Institute of Macromolecular Chemistry of Academy of Sciences of the Czech Republic (IMC), Prague
- 01.09 – 31.10.2012 – Prof. Jerzy Morgiel, Microstructural analysis of Si3N4 + graphene platelet, Polish Academy od Sciences, Institute of Metallurgy and materials, Krakow, Poland
- 01.07 – 30.09.2006 – Prof. Jakob Kuebler, Preparation of electrically conductive zirconia reinforced with Carbon nanotubes, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Lab for High Performance Ceramics, Dübendorf, Switzerland

CAREER BREAKS

03.04.2015 – 30.04.2016 Maternity leave, 12 months

PUBLICATION TRACK RECORD

Actual citations in SCOPUS: 893, h-index: 15

- Naughton-Duszová, A., Marciniak, L., Dubiel, A., Laszkiewicz-Łukasik, J., Kniec, K., Podsiadło, M.: ZrB2 matrix composites with Cr3+/Nd3+ doped Al2O3 luminescent nanoparticles for non-contact temperature sensing, (2020) Processing and Application of Ceramics, vol.14, p.181–187. ISSN: 2406-1034. IF: 0.968.
- Csanádi, T., Vojtko, M., Sedlák, R., Naughton-Duszová, A., Pędzich, Z., Dusza, J.: Anisotropic dislocation nucleation in ZrB2 grains and deformation behaviour of constituents of ZrB2-SiC and ZrB2-B4C composites during nanoindentation, (2020) Journal of the European Ceramic Society, vol.40, p.2674-2682. ISSN:0955-2219. IF: 4.495.
- Ivor, M., Medved, D., Vojtko, M., Naughton-Duszová, A., Marciniak, L., Dusza, J.: Nanoindentation and tribology of ZrB2 based luminescent ceramics, (2020) Journal of the European Ceramic Society, vol.40, p. 4901-4908. IF: 4.495.
- Medveď, D., Balko, J., Sedlák, R., Kovalčíková A., Shepa, I., Naughton-Duszová, A., Bączek, E., Podsiadło, M., Dusza, J.: Wear resistance of ZrB2 based ceramic composites, (2019) International Journal of Refractory Metals and Hard Materials, vol. 81, p. 214-224. ISSN:0263-4368. IF: 3.407.
- Naughton-Duszová, A., Csanádi, T., Sedlák, R., Hvizdoš, P., Dusza, J.: Small-scale mechanical testing of cemented carbides from the micro- to the nano-level: A review, (2019) Metals, vol. 9, ISSN:2075-4701. IF: 1.704.

- Csanádi, T., Naughton-Duszová, A., Dusza, J.: Anisotropic slip activation via homogeneous dislocation nucleation in ZrB2 ceramic grains during nanoindentation, (2018) Scripta Materialia, vol.152, p.89-93. ISSN:1359-6462. IF: 5.079.
- Balko, J., Csanádi, T., Sedlák, R., Vojtko, M., Kovalcíková, A., Koval, K., Wyżga, P., Naughton-Duszová, A.: Nanoindentation and tribology of VC, NbC and ZrC refractory carbides, (2017) Journal of the European Ceramic Society, vol.37, p.4371-4377. ISSN:0955-2219. IF: 4.495.
- Csanádi, T., Novák, M., Naughton-Duszová, A., Dusza, J.: Anisotropic nanoscratch resistance of WC grains in WC-Co composite, (2015) International Journal of Refractory Metals and Hard Materials, vol.51, p.188-191. ISSN:0263-4368. IF: 3.407.
- Bľanda, M., Duszová, A., Csanádi, T., Hvizdoš, P., Lofaj, F., Dusza, J.: Indentation hardness and fatigue of the constituents of WC-Co composites, (2015) International Journal of Refractory Metals and Hard Materials, vol. 49, p.178-183. ISSN:0263-4368. IF: 3.407.
- Csanádi, T., Bľanda, M., Duszová, A., Q.Chinh, N., Szommer, P., Dusza, J.: Deformation characteristics of WC micropillars, (2014) Journal of the European Ceramic Society, vol.34, p.4099-4103. ISSN:0955-2219. IF: 4.495.
- Bľanda, M., Duszová, A., Csanádi, T., Hvizdoš, P., Lofaj, F., Dusza, J.: Indentation fatigue of WC grains in WC-Co composite, (2014) Journal of the European Ceramic Society, vol.34, p.3407-3412. ISSN:0955-2219. IF: 4.495.
- Špírková, M., Duszová, A., Poręba, R., Kredatusová, J., Bureš, R., Fáberová, M., Šlouf, M.: Thermoplastic polybutadiene-based polyurethane/carbon nanofiber composites, (2014) Composites Part B: Engineering, vol.67, p.434-440. ISSN:1359-8368. IF: 7.635.
- Duszová, A., Halgaš, R., Priputen, P., Bl'Anda, M., Hvizdoš, P., Lofaj, F., Dusza, J.:Nanohardness of individual phases in WC - Co cemented carbides, (2014) Key Engineering Materials, vol.586, p.23-26. ISSN:1013-9826. IF: 0,35.
- Duszová, A., Hvizdoš, P., Lofaj, F., Major, Ł., Dusza, J., Morgiel, J.: Indentation fatigue of WC-Co cemented carbides, (2013) International Journal of Refractory Metals and Hard Materials, vol.41, p.229-235. ISSN:0263-4368. IF: 3.407.
- Kvetková, L., Duszová, A., Kašiarová, M., Dorčáková, F., Dusza, J., Balázsi, C.: Influence of processing on fracture toughness of Si3N4+graphene platelet composites, (2013) Journal of the European Ceramic Society, vol.33, p.2299-2304. ISSN:0955-2219. IF: 4.495.
- Duszová, A., Halgaš, R., Bl'anda, M., Hvizdoš, P., Lofaj, F., Dusza, J., Morgiel, J.: Nanoindentation of WC-Co hardmetals, (2013) Journal of the European Ceramic Society, vol.33, p.2227-2232. ISSN:0955-2219. IF: 4.495.
- Duszová, A., Morgiel, J., Bastl, Z., Mihaly, J., Dusza, J.: Characterization of carbon nanofibers/ZrO2 ceramic matrix composite, (2013) Archives of Metallurgy and Materials, vol.58, p.459-463. ISSN:1733-3490. IF: 0.58.
- Hvizdoš, P., Puchý, V., Duszová, A., Dusza, J., Balázsi, C.: Tribological and electrical properties of ceramic matrix composites with carbon nanotubes, (2012) Ceramics International, vol.38, p.5669-5676. ISSN:0272-8842. IF: 3.83.
- Dusza, J., Morgiel, J., Duszová, A., Kvetková, L., Nosko, M., Kun, P., Balázsi, C.: Microstructure and fracture toughness of Si3N4+graphene platelet composites, (2012) Journal of the European Ceramic Society, vol.32, p.3389-3397. ISSN:0955-2219. IF: 4.495.

- Kvetková, L., Duszová, A., Hvizdoš, P., Dusza, J., Kun, P., Balázsi, C.: Fracture toughness and toughening mechanisms in graphene platelet reinforced Si3N4 composites, (2012) Scripta Materialia, vol. 66, p.793-796. ISSN:1359-6462. IF:5.079.
- Csehová, E., Duszová, A., Hvizdoš, P., Lofaj, F., Dusza, J., Šajgalík, P.: Indentation size effect in basal and prismatic planes of Si3N4 crystals, (2011) Chemicke Listy, vol.105, p.783-784. ISSN:0009-2770. IF: 0.28.
- Duszová, A., Horňák, P., Stoyka, V., Hvizdoš, P., Lofaj, F., Dusza, J.: Microstructure parameters versus indentation size effect in WC-Co hardmetals, (2011) Chemicke Listy, vol.105, p.792-793. ISSN:0009-2770. IF: 0,28.
- Duszová, A., Horňák, P., Hvizdoš, P., Lofaj, F., Dusza, J.: Hardness and fracture toughness of cemented carbides, (2011) Chemicke Listy, vol.105, p.532-534. ISSN:0009-2770. IF:0,28.
- Hvizdoš, P., Duszová, A., Puchý, V., Tapasztó, O., Kun, P., Dusza, J., Balázsi, C.: Wear behavior of ZrO2-CNF and Si3N4-CNT nanocomposites, (2011) Key Engineering Materials, vol.465, p.495-498. ISSN:1013-9826. IF:0,35.
- Hvizdoš, P., Puchý, V., Duszová, A., Dusza, J.: Tribological behavior of carbon nanofiber-zirconia composite, (2010) Scripta Materialia, vol.63, p.254-257. ISSN:1359-6462. IF: 5.079.
- Duszová, A., Dusza, J., Tomášek, K., Morgiel, J., Blugan, G., Kuebler, J.: Zirconia/carbon nanofiber composite, (2008) Scripta Materialia, vol.58, p.520-523. ISSN:1359-6462. IF: 5.079.
- Duszová, A., Dusza, J., Tomášek, K., Blugan, G., Kuebler, J.: Microstructure and properties of carbon nanotube/zirconia composite, (2008) Journal of the European Ceramic Society, vol.28, p.1023-1027. ISSN:0955-2219. IF: 4.495.

Research monographs, chapters

- Hvizdoš, P., Tatarko, P., Duszová, A., Dusza, J.: Failure mechanisms of ceramic nanocomposites. In Ceramic nanocomposites. - Cambridge : Woodhead Publishing (2013) 117–152. ISBN 978-0-85709-338
- Hvizdoš, P., Puchý, V., Duszová, A., Dusza, J.: Carbon nanofibers reinforced matrix composites. In Nanofibers - production, properties and functional applications. Editor Tong Lin. - Rijeka : InTech (2011) 241–266. ISBN 978-953-307-420-7.

TECHNOLOGY TRANSFER ACTIVITIES

Patent applications

Inventors: Naughton-Duszova, A., Dubiel, A., Laszkiewicz-Łukasik, J., Podsiadło, M.: „Ceramic composite based on zirconium diboride with luminescent properties and its production method”, Application number P.430498, 04-07-2019.

Inventors: Naughton-Duszova, A., Bączek, E., Podsiadło, M., Cygan, S.: „Ceramic composite from UHTC group based on HfB2 and its production method”, Application number P.425041, 28-03-2018.

Description of activities that reflect initiative, independent thinking, project management skills, leadership, etc.

Dr. Annamaria Naughton-Duszova, (Doctor of Materials Science and Technology and Advanced Ceramics, Project leader and PhD co-promotor), has wide-ranging experience of international research on ceramics, composites and ceramic matrix nanocomposites for applications under extreme conditions. As the PM of her project Reintegration, she was responsible for co-ordinating with all collaborating partners. She has had wide ranging training experience and received fellowships in many excellent international Institutions.

Dr. Naughton-Duszova has been active in the following research areas - carbon nanofibers reinforced zirconia matrix composites, Nano/micro mechanical testing, Silicon nitride + 1 wt.% graphene platelet composites and Ultra High Temperature Ceramics. She is the author/co-author of 32 peer-reviewed papers, book chapters in the field of advanced ceramics with 827/719 citations in SCOPUS and an h-index of 14. She has participated in the implementation of 11 research projects and 12 national and international scientific conferences with oral presentations.

Dr. Naughton-Duszova has extensive experience in project management (PRINCE2 Cert) trans-national client engagement and a proven ability to complete tasks both as part of a team and as a self-starter. Her organisational and target driven approach has been developed throughout her corporate and academic career and she begins all new challenges with a positive and welcoming attitude.

Dr. Naughton-Duszova is currently employed as an Executive research specialist at Łukasiewicz Research Network – Krakow Institute of Technology, Poland. Her professional focus is on developing Ultra-high temperature ceramics (UHTC's) using different sintering methods; Spark plasma sintering (SPS) and High pressure – high temperature (HP-HT) and examination of the prepared materials.

Research skills and qualifications, competencies

- Expert in effective Project Management - PRINCE2 Foundation Certificate and Research Results Commercialization&Proof of Concept Certificate
- Familiar with ceramic sintering methods (Spark Plasma Sintering, High Pressure-High Temperature, Hot Press)
- Familiar with different microstructure characterization methods (SEM, EBSD) and microscope methods (optical microscope, x-ray, electron microscopy)

Other skills

- User of Microsoft Word, Excel, Publisher, PowerPoint, Origin programs
- Native in Slovak, fluent in English (Advanced C1, language exam 01/07/2011), conversational Hungarian and Polish