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Employment and positions

Institute of Metallurgy and Materials Science, Polish Academy of Sciences: technical and engineering position (since 2018)

Scientific career

M.Sc.: Jagiellonian University, Faculty of Chemistry, Chemistry, 2013

Ph.D.: Institute of Metallurgy and Materials Science, Polish Academy of Sciences, 2017 (with honors)

Scientific achievements

The most relevant publications during last 5 years:

1.

Transformation behavior and inverse caloric effects in magnetic shape memory Ni44-xCuxCo6Mn39Sn11 ribbons; **A. Wójcik**, W. Maziarz, M.J. Szczerba, M. Sikora, A. Żywczak, C. O. Aguilar-Ortiz, P. Álvarez-Alonso, E. Villa, H. Flores-Zúñiga, E. Cesari, J. Dutkiewicz, V.A. Chernenko; Journal of Alloys and Compounds 721 (2017) 172.

2.

Microstructure, magneto-structural transformations and mechanical properties of Ni50Mn37.5Sn12.5-xInx (x=0, 2, 4, 6 % at.) metamagnetic shape memory alloys sintered by vacuum hot pressing; W. Maziarz, **A. Wójcik**, J. Grzegorek, P. Czaja, M.J. Szczerba, J. Dutkiewicz, A. Żywczak, E. Cesari; Journal of Alloys and Compounds 715 (2017) 445.

3.

E. Stevens, J. Toman, K. Kimes, V. Chernenko, **A. Wojcik**, W. Maziarz, M. Chmielus, Microstructural Evaluation of Magnetocaloric Ni-Co-Mn-Sn Produced by Directed Energy Deposition, MICROSCOPY AND MICROANALYSIS 22 (Suppl 3), 2016, 1774-1775

4.

Tuning magneto-structural properties of Ni44Co6Mn39Sn11 Heusler alloy ribbons by Fe-doping; **A. Wójcik**, W. Maziarz, M.J. Szczerba, M. Sikora, J. Dutkiewicz, E. Cesari; Materials Science and Engineering B 209 (2016) 23.

5.

Magneto-structural transformations in Ni50Mn37.5Sn12.5-xInx (x=0, 2, 4, 6) Heusler powders; W. Maziarz, **A. Wójcik**, P. Czaja, A. Żywczak, J. Dutkiewicz, Ł. Hawełek, E. Cesari; Journal of Magnetism and Magnetic Materials 412 (2016) 123.

6.

Influence of Fe addition on the martensitic transformation, structure and magnetic properties of metamagnetic Ni-Co-Mn-Sn alloys; **A. Wójcik**, W. Maziarz, M. Szczerba, M. Sikora, Ł. Hawełek, P. Czaja; Acta Physica Polonica A 130 (2016) 1026.

7.

Microstructure and martensitic transformation in Ni48Mn39.5Sn12.5-xSix metamagnetic Heusler alloy ribbons; W. Maziarz, P. Czaja, **A. Wójcik**, K. Wańkowicz, E. Cesari, J. Dutkiewicz; International Journal of Materials Research 106 (2015) 7.

8.

Copper matrix composites strengthened with carbon nanotubes or graphene platelets prepared by ball milling and vacuum hot pressing; J. Stolarska, J. Dutkiewicz, W. Maziarz, J. Pstruś, **A. Wójcik**, P. Ozga; Composites theory and practice 3 (2015) 174.

9.

Effect of ball milling and thermal treatment on exchange bias and magnetocaloric properties of Ni48Mn39.5Sn10.5Al2 ribbons; P. Czaja , J. Przewoźnik, M. Fitta , M. Bałanda, A. Chrobak, B. Kania, P. Zackiewicz, **A. Wójcik**, M. Szlezynger , W. Maziarz; Journal of Magnetism and Magnetic Materials 401 (2016) 223.

10.

Microstructure and martensitic transformation of Ni50Mn37.5Sn12.5-xGex (x=0, 1, 2, 3) Heusler alloys produced by various technologies; W. Maziarz, P. Czaja, **A. Wójcik**, J. Dutkiewicz, J. Przewoźnik, E. Cesari; Materials Today: Proceedings 2S (2015) S523.

Research Projects

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In-situ cast composites strengthened with ceramic nanoparticles (participant)

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Entropy changes in ferromagnetic shape memory alloys in relation to their e/a ratio to optimize magneto-caloric effect (participant)

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Innovative materials with reduced levels of the critical elements for magnetic cooling technology - COOLMAT (participant)

Experienced gained abroad:

University of Basque Country, Bilbao, Spain (2 weeks)

University of Balearic Islands, Palma de Mallorca, Spain (1 week)

University of Balearic Islands, Palma de Mallorca, Spain (4 weeks)

Membership in professional societies

Since 2017 -member of Polish Society for Microscopy

Since 2018 -member of Polish Society for Materials Science

Awards

2017 - Ph.D work defense with honors - Institute of Metallurgy and Materials Science Polish Academy of Sciences

2016- 2nd award for the best oral presentation -XXI Physical Metallurgy and Materials Science Conference, Advanced Materials and Technologies AMT 2016

Main scientific interests

Magnetocaloric materials, microstructural investigation of materials by scanning and transmission electron microscopy