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Charakteristika

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Znalosť jazykov

anglický jazyk

nemecký jazyk

ruský jazyk

(*)[Škála 0 (základ) a 6 (expert)]

Profesijná Prax

- 2022–trvá Fakulta materiálov, metalurgie a recyklácie
Technickej univerzity v Košiciach Košice, Slovensko
docent
Pedagogický pracovník na Ústave materiálov a inžinierstva kvality.
- 1997–trvá Ústav materiálového výskumu SAV, Košice, Slovensko
vedúci vedecký pracovník
Vývoj a výskum materiálov. Príprava a charakterizácia biodegradovateľných materiálov, termoelektrických materiálov, materiálov pre Li-iónové batérie, materiálov na absorpciu vodíka a ich implementácia do praxe.
- 2002-2007 HASYLAB at DESY Hamburg, Nemecko
postdoktorand
Štúdium štruktúry materiálov s vysokým stupňom vnútornej neusporiadanosti (amorfné látky, nanokryštály), a to ako pri podmienkach okolia, tak aj pri kombinácii vysoká teplota–tlak.
- 2001 Department of Physics, DTU Kodaň, Dánsko
postdoktorand
Príprava a hodnotenie amorfných, kryštalických a kvázikryštalických materiálov v nerovnovážnych podmienkach.

Ukončené Vzdelania a Akademické Kvalifikácie

- 2021 doc. (docens, lat.) Košice
UPJŠ
- 2010 DrSc. (Doctor Scientiarum, lat.) Košice
TUKE
- 2000 PhD. (Philosophiae Doctor, lat.) Košice
TUKE
- 1997 Ing. (Ingénieur, lat.) Košice
TUKE

Významné Profesijné Aktivity

- 2010–trvá *zástupca Slovenskej republiky v Rade "Council" medzinárodného projektu the European XFEL.*
- 2014-2020 *zástupca Slovenskej republiky v konzorciách užívateľov Serial Femto-second Crystallography a the XFEL Biology Infrastructure.*
- 2009-2013 *člen vedeckého poradného zboru "Scientific Advisory Committee" medzinárodného projektu the European XFEL.*
- 2009–trvá *člen a vedecký tajomník Komisie pre koordináciu aktivít SR v projektoch ESFRI orientovaných na materiály, fyzikálne vedy, s aplikačným potenciálom v biologických a medicínskych vedách, v chemických vedách a IT.*
- 2012-2016 *člen komisie VEGA č.7 pre strojárstvo a príbuzné odbory informačných a komunikačných technológií a materiálové inžinierstvo.*
- 2010 *Čestné uznanie v rámci oceňovania Vedec roka SR 2009 za prielomové poznanie "saturovanej absorpcie hliníka" pri použití rekordnej intenzity mäkkého rtg. žiarenia.*
- 2009 *Čestné uznanie v rámci oceňovania Vedec roka SR 2008 za vedeckú prácu "How Metallic Fe Controls the Composition of its Native Oxide", uverejnenú v "PHYSICAL REVIEW LETTERS".*
- 2008 *Čestné uznanie v rámci ocenenia Vedec roka SR 2007 za vedeckú prácu "Atomic structure of glassy Mg₆₀Cu₃₀Y₁₀ investigated with EXAFS, X-ray and neutron diffraction, and reverse Monte Carlo simulations", uverejnenú v jednom z najprestížnejších svetových časopisov, venovaných fyzike tuhých látok "PHYSICAL REVIEW B".*

Účasť na vedeckých projektoch

EÚ projekty:

- 2008 – 2012 7.RP EÚ PITN-GA-2008-211536, "Macro, Micro and Nano Aspects of Machining"– *scientist in charge*.
- 2001 - 2004 5.RP EÚ G5RD-CT 2000 - 00341, "High efficiency forming technology of light weight MMC components for automotive and household application"– *member of research team*.
- 1997 - 1999 4.RP INCO-Copernicus CT- 96 0750, "Formability modelling of aluminium base PM alloys"– *member of research team*.

APVV projekty:

- 2021 – trvá APVV-21-0274, "Výskum a vývoj prototypu nízkotlakovej čerpacej stanice pre zásobovanie metalhydridových zariadení zeleným vodíkom"– *člen riešiteľského kolektívu*.
- 2020 – trvá APVV-20-0205, "Výskum a vývoj nových vysokoentropických zliatin, určených na efektívne uskladnenie vodíka v energetických aplikáciách"– *vedúci projektu*.
- 2020 – trvá APVV-20-0068, "Vývoj nových bioresorbateľných zliatin pre vnútrotelové implantáty"– *člen riešiteľského kolektívu*.
- 2020 – trvá APVV-20-0138, "Vývoj nových 3D materiálov pre post Li-iónové batérie s vysokou energetickou hustotou"– *člen riešiteľského kolektívu*.
- 2020 - 2021 PP-COVID-20-0025, "Vývoj a testovanie respirátorov s efektívnou degradáciou vírusov filtrami s obsahom antivirotických materiálov.
- 2017 – 2020 APVV-17-0008, "Vývoj nových biodegradovateľných kovových zliatin, určených pre medicínske a protetické aplikácie"– *vedúci projektu*.
- 2015 - 2018 APVV-15-0202, "Vývoj zariadenia pre efektívnu kompresiu a uskladnenie vodíka pomocou nových metalhydridových zliatin"– *člen riešiteľského kolektívu*.
- 2014 – 2017 APVV-14-0085, "Vývoj novej generácie spojov výkonovej elektroniky s použitím neštandardných zliatin na báze cínu"– *člen riešiteľského kolektívu*.

Medzinárodné M-Era.Net projekty:

- 2022 - trvá "Zvýšenie uskladňovacej schopnosti vodíka v ľahkých vysoko-entropických zliatinách (HEA) typu AlTiVCr prídavkom Ti3C2 Mxenu a veľkej plastickej deformácie"– *vedúci za ÚMV SAV*.
- 2014 – 2017 "ExploGuard – Nové, výbuchom zvárané vrstevnaté materiály, určené pre geotermálne elektrárne"– *vedúci za ÚMV SAV*.

VEGA projekty:

- 2022 - trvá 2/0039/22 "Vývoj a výskum vysokoentropických zliatin, určených na efektívne uskladnenie vodíka"– *vedúci projektu*.
- 2019 - 2021 2/0013/19 "Vývoj nových biodegradovateľných kovových zliatin, určených pre medicínske aplikácie"– *vedúci projektu*.
- 2016 - 2018 2/0021/16 "Vývoj a výskum kovových skiel a nanokryštalických materiálov"– *člen riešiteľského kolektívu*.
- 2013 - 2015 2/0128/13 "Štúdium štruktúry a teplotnej stability kovových skiel a nanokryštalických materiálov"– *člen riešiteľského kolektívu*.
- 2009 - 2012 2/0167/10 "Štruktúrna stabilita nanokryštalických kovových materiálov, pripravených progresívnou práškovou technológiou"– *člen riešiteľského kolektívu*.

Vzdelávanie

vedúci dizertačných prác:

2021-trvá	Mgr. František Mihok
2021-trvá	Mgr. Dóra Zalka
2020-trvá	Ing. Dávid Csík
2020-trvá	Ing. Wanda Miženková
2019-trvá	Ing. Dagmara Varcholová
2019-trvá	Mgr. Michal Varga
2017-trvá	RNDr. Miloš Fejerčák
2016-2020	Mgr. Katarína Šuľová, PhD.
2016-2020	RNDr. Michaela Šúliková, PhD.
2015-2019	RNDr. Yurii Katuna, PhD.
2015-2019	RNDr. Maksym Lisnichuk
2012-2016	Ing. Dušan Balga, PhD.
2011-2015	Ing. Martin Ďurišin, PhD.
2008-2011	Mgr. Ing. Pawel Rokici, PhD.
2008-2011	Ing. Zdeněk Spotz, PhD.

konzultant / školiteľ špecialista dizertačných prác:

2021-trvá	Ing. Gabriela Hricková
2007-2011	RNDr. Štefan Michalik, PhD.
2007-2011	RNDr. Ing. Vladimír Kolesár, PhD.

vedúci diplomových prác:

2022-trvá	Jakub Kubaško
2005-2007	Štefan Michalik
2005-2007	Ing. Vladimír Kolesár

Vyučujúci predmetu:

2022-trvá	Fraktografia, FMMR TUKE
2016-2022	Metódy štruktúrnej analýzy, PF UPJŠ

Autor vysokokoškolských učebných textov:

2020	Praktické cvičenia z röntgenovej difraktometrie
2022	Praktické cvičenia z röntgenovej difraktometrie II

Publikácie

- [1] B. Ballóková, M. Lázár, N. Jasminská, Z. Molčanová, Š. Michalik, T. Brestovič, J. Živčák, and K. Saksli. Development and testing of copper filters for efficient application in half-face masks. *Applied Sciences (Switzerland)*, 12(13), 2022. cited By 0.
- [2] B. Putz, O. Milkovič, G. Mohanty, R. Ipach, L. Pethö, J. Milkovičová, X. Maeder, T.E.J. Edwards, P. Schweizer, M. Coduri, K. Saksli, and J. Michler. Structural characterisation of cu-zr thin film combinatorial libraries with synchrotron radiation at the limit of crystallinity. *Materials and Design*, 218, 2022. cited By 2.
- [3] M. Varga, L. Galdun, B. Kunca, V. Vega, J. García, V.M. Prida, E.D. Barriga-Castro, C. Luna, P. Diko, K. Saksli, and R. Varga. Forc and tforc analysis of electrodeposited magnetic shape memory nanowires array. *Journal of Alloys and Compounds*, 897, 2022. cited By 0.
- [4] L. Balejčíková, K. Saksli, J. Kováč, A. Martel, V.M. Garamus, M.V. Avdeev, V.I. Petrenko, L. Almásy, and P. Kopčanský. The impact of redox, hydrolysis and dehydration chemistry on the structural and magnetic properties of magnetoferritin prepared in variable thermal conditions. *Molecules*, 26(22), 2021. cited By 0.
- [5] K. Saksli, I. Pethes, P. Jóvári, Z. Molčanová, J. Ďurišin, B. Ballóková, L. Temleitner, Š. Michalik, M. Šulíková, K. Šulová, M. Fejerčák, D. Varcholová, and R. Motýl. Atomic structure of the mg66zn30ca4 metallic glass. *Journal of Non-Crystalline Solids*, 558, 2021. cited By 0.
- [6] Š. Michalik, P. Jóvári, K. Saksli, M. Ďurišin, D. Balga, J. Darpentigny, and M. Drakopoulos. Short range order and crystallization of cu-hf metallic glasses. *Journal of Alloys and Compounds*, 853, 2021. cited By 0.
- [7] O. Shylenko, B. Bilanych, V. Bilanych, V. Latyshev, K. Saksli, Z. Molcanova, B. Balloková, J. Durisin, P.M. Lytvyn, A. Feher, V. Rizak, and V. Komanicky. Investigation of structural changes in asxse100-x amorphous thin films after electron beam irradiation with xafs, xanes and kelvin force microscopy. *Applied Surface Science*, 530, 2020. cited By 0.
- [8] V. Vozda, T. Burian, V. Hájková, L. Juha, H. Enkisch, B. Faatz, M. Hermann, I. Jacyna, M. Jurek, B. Keitel, D. Klinger, R. Loch, E. Louis, I.A. Makhotkin, E. Plönjes, K. Saksli, F. Siewert, R. Sobierajski, S. Strobel, K. Tiedtke, S. Toleikis, G.D.E. Vries, Z. Zelinger, and J. Chalupský. Characterization of megahertz x-ray laser beams by multishot desorption imprints in pmma. *Optics Express*, 28(18):25664–25681, 2020. cited By 3.
- [9] V. Koval, Y. Shi, I. Skorvanek, G. Viola, R. Bures, K. Saksli, P. Roupčova, M. Zhang, C. Jia, and H. Yan. Cobalt-induced structural modulation in multiferroic aurivillius-phase oxides. *Journal of Materials Chemistry C*, 8(25):8466–8483, 2020. cited By 6.
- [10] M. Šulíková, Z. Molčanová, B. Ballóková, J. Ďurišin, S. Martinková, D. Varcholová, Š. Michalik, R. Tang-Kong, L. Ward, A. Mehta, K. Šulová, M. Fejerčák, A. Lachová, R. Džunda, and K. Saksli. Development of new mg-zn-sr alloys for medical purpose. *International Journal of Nanotechnology*, 17(7-10):573–582, 2020. cited By 0.
- [11] M. Lisnichuk, Yu. Katuna, K. Saksli, M. Fejerčák, M. Šulíková, Š. Michalik, E. Čižmár, A. Kliuikov, V. Girman, S. Vorobiov, Z. Molčanová, B. Balloková, and P. Sovák. Magnetic characterization and thermal stability of gd50co48fe2 metallic glass. *Acta Physica Polonica A*, 137(5):914–917, 2020. cited By 0.
- [12] K. Saksli, Z. Molčanová, J. Ďurišin, P. Jóvári, Š. Michalik, L. Temleitner, B. Ballóková, V. Girman, Y. Katuna, M. Šulíková, K. Šulová, M. Fejerčák, M. Lisnichuk, A. Lachová, and L. Kapuscinský. Atomic structure of ca-mg biodegradable metallic glass. *Journal of Alloys and Compounds*, 801:651–657, 2019. cited By 0.
- [13] A. Pietrikova, T. Girasek, L. Livovsky, J. Durisin, and K. Saksli. Joints realized by sintering of pressureless ag paste. *Circuit World*, 45(1):2–8, 2019. cited By 1.
- [14] L. Balejčíková, M. Molcan, J. Kovac, M. Kubovcikova, K. Saksli, Z. Mitroova, M. Timko, and P. Kopcansky. Hyperthermic effect in magnetoferritin aqueous colloidal solution. *Journal of Molecular Liquids*, 283:39–44, 2019. cited By 8.

- [15] Z. Molčanová, B. Balloková, J. Ďurišin, K. Šulová, M. Šulíková, A. Lachová, M. Lisnichuk, M. Fejerčák, S. Martinková, Š. Michalik, and K. Saksli. Development of new biodegradable alloys for medical applications. pages 1204–1209, 2019. cited By 0.
- [16] M. Fejerčák, K. Saksli, Z. Molčanová, K. Šulová, M. Šulíková, M. Russina, V. Grzimek, and G. Guenther. Investigation of phonon suppression by nanostructuring and doping in thermoelectric half-heusler materials. pages 1375–1380, 2019. cited By 0.
- [17] A. Pietrikova, T. Girasek, J. Durisin, and K. Saksli. Pressureless silver sintering in power application. 2018. cited By 1.
- [18] I.A. Makhotkin, I. Milov, J. Chalupský, K. Tiedtke, H. Enkisch, G. De Vries, F. Scholze, F. Siewert, J.M. Sturm, K.V. Nikolaev, R.W.E. Van De Kruijs, M.A. Smithers, H.A.G.M. Van Wolferen, E.G. Keim, E. Louis, I. Jacyna, M. Jurek, D. Klinger, J.B. Pelka, L. Juha, V. HÁJKOVÁ, V. Vozda, T. Sburian, K. Saksli, B. Faatz, B. Keitel, E. PlÖNjes, S. Schreiber, S. Toleikis, R. Loch, M. Hermann, S. Strobel, R. Donker, T. Mey, and R. Sobierajski. Damage accumulation in thin ruthenium films induced by repetitive exposure to femtosecond xuv pulses below the single-shot ablation threshold. *Journal of the Optical Society of America B: Optical Physics*, 35(11):2799–2805, 2018. cited By 5.
- [19] D.M. Fronczek, K. Saksli, R. Chulist, S. Michalik, J. Wojewoda-Budka, L. Sniezek, M. Wachowski, J. Torzewski, M. Sulikova, K. Sulova, A. Lachova, M. Fejercak, D. Daisenberger, Z. Szulc, and Z. Kania. Residual stresses distribution, correlated with bending tests, within explosively welded ti gr. 2/a1050 bimetals. *Materials Characterization*, 144:461–468, 2018. cited By 8.
- [20] D.M. Fronczek, A. Wierzbicka-Miernik, K. Saksli, K. Miernik, R. Chulist, D. Kalita, Z. Szulc, and J. Wojewoda-Budka. The intermetallics growth at the interface of explosively welded a1050/ti gr. 2/a1050 clads in relation to the explosive material. *Archives of Civil and Mechanical Engineering*, 18(4):1679–1685, 2018. cited By 6.
- [21] I. Milov, I.A. Makhotkin, R. Sobierajski, N. Medvedev, V. Lipp, J. Chalupský, J.M. Sturm, K. Tiedtke, G. de Vries, M. Störmer, F. Siewert, R. van de Kruijs, E. Louis, I. Jacyna, M. Jurek, L. Juha, V. HÁJKOVÁ, V. Vozda, T. Burian, K. Saksli, B. Faatz, B. Keitel, E. Plönjes, S. Schreiber, S. Toleikis, R. Loch, M. Hermann, S. Strobel, H.-K. Nienhuys, G. Gwalt, T. Mey, H. Enkisch, and F. Bijkerk. Mechanism of single-shot damage of ru thin films irradiated by femtosecond extreme uv free-electron laser. *Optics Express*, 26(15):19665–19685, 2018. cited By 14.
- [22] I.A. Makhotkin, R. Sobierajski, J. Chalupský, K. Tiedtke, G. De Vries, M. Störmer, F. Scholze, F. Siewert, R.W.E. Van De Kruijs, I. Milov, E. Louis, I. Jacyna, M. Jurek, D. Klinger, L. Nittler, Y. Syryanyy, L. Juha, V. HÁJKOVÁ, V. Vozda, T. Burian, K. Saksli, B. Faatz, B. Keitel, E. Plönjes, S. Schreiber, S. Toleikis, R. Loch, M. Hermann, S. Strobel, H.-K. Nienhuys, G. Gwalt, T. Mey, and H. Enkisch. Experimental study of euv mirror radiation damage resistance under long-term free-electron laser exposures below the single-shot damage threshold. *Journal of Synchrotron Radiation*, 25(1):77–84, 2018. cited By 16.
- [23] N. Jasminská, T. Brestoviè, M. Lázár, K. Saksli, K. Šulova, M. Čarnogurská, and L. Bednárová. Determining the material and physical properties of alloy la0.85ce0.15ni5 used in hydrogen storage. *Strength of Materials*, 49(4):514–520, 2017. cited By 0.
- [24] M. Obaida, L. Galdun, T. Ryba, V. Komanicky, K. Saksli, M. Durisin, J. Kovac, V. Haskova, P. Szabo, Z. Vargova, and R. Varga. Spin polarization in cu2mnsn heusler alloy produced by melt-spinning. *Intermetallics*, 85:139–143, 2017. cited By 7.
- [25] Yu. Katuna, M. Lisnichuk, K. Saksli, V. Girman, J. Gamcová, D. Balga, M. Durišin, J. Kováč, and P. Sovák. The structural characterization of ni-ti-zr metallic glass. *Acta Physica Polonica A*, 131(4):750–752, 2017. cited By 1.
- [26] J. Mino, M. Ipatov, J. Gamcova, K. Saksli, M. Durisin, V. Zhukova, Z. Vargova, A. Zhukov, and R. Varga. Magnetic characterization of melt-spun co-ni-ga ferromagnetic superelastic alloy. *Acta Physica Polonica A*, 131(4):1075–1077, 2017. cited By 1.
- [27] P. Kanuch, T. Ryba, J. Gamcová, M. Kanuchova, M. Durisin, K. Saksli, Z. Vargova, and R. Varga. Coexistence of ferromagnetism and superconductivity in rapidly quenched ni2nbsn heusler alloy. *Acta Physica Polonica A*, 131(4):1057–1059, 2017. cited By 2.

- [28] E. Mazancová, K. Saksli, and P. Kučera. Prediction of formed phases in two high entropy systems. volume 2017-January, pages 918–923, 2017. cited By 0.
- [29] K. Saksli, J. Ďurišin, D. Balga, O. Milkovič, T. Brestovič, N. Jasminská, M. Ďurišin, V. Girman, J. Balko, Y. Kattana, M. Šulíková, K. Šulfová, M. Fejerčák, J. Boldi, and F. Bertram. Devitrification and hydrogen storage capacity of the eutectic $\text{Ca}_{72}\text{Mg}_{28}$ metallic glass. *Journal of Alloys and Compounds*, 725:916–922, 2017. cited By 2.
- [30] V. Koval, I. Skorvanek, J. Durisin, G. Viola, A. Kovalcikova, P. Svec, K. Saksli, and H. Yan. Terbium-induced phase transitions and weak ferromagnetism in multiferroic bismuth ferrite ceramics. *Journal of Materials Chemistry C*, 5(10):2669–2685, 2017. cited By 21.
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- [32] A. Pietrikova, T. Girasek, J. Durisin, L. Livovsky, K. Saksli, and M. Durisin. Study of die attachment on dbc substrate. 2016. cited By 0.
- [33] R. Sobierajski, I. Jacyna, P. Dłuzewski, M.T. Klepka, D. Klinger, J.B. Peřka, T. Burian, V. Hájková, L. Juha, K. Saksli, V. Vozda, I. Makhotkin, E. Louis, B. Faatz, K. Tiedtke, S. Toleikis, H. Enkisch, M. Hermann, S. Strobel, R.A. Loch, and J. Chalupsky. Role of heat accumulation in the multi-shot damage of silicon irradiated with femtosecond xuv pulses at a 1 mhz repetition rate. *Optics Express*, 24(14):15468–15477, 2016. cited By 9.
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- [36] Z. Dufalová, E. Mazancová, K. Saksli, D. Ostroushko, M. Ďurišin, D. Balga, J. Szabo, and P. Kučera. Selected properties of two high entropy alloys. pages 700–705, 2016. cited By 1.
- [37] K. Saksli, Z. Szulc, M. Gloc, O. Milkovič, J. Ďurišin, Ł. Ciupiński, A. Arnbjörnsson, D. Ostroushko, E. Mazancová, and F. Bertram. Evaluation of residual strains and stresses using two-dimensional x-ray diffraction. pages 29–34, 2016. cited By 3.
- [38] D. Balga, M. Ďurišin, P. Zubko, O. Milkovič, J. Gamcová, V. Girman, and K. Saksli. Critical casting thickness of $\text{Cu}_{60}\text{Zr}_{30}\text{Ti}_{10}$ at. investigated by synchrotron radiation. pages 1301–1306, 2016. cited By 0.
- [39] Š. Michalík, J. Ďurišin, D. Balga, K. Saksli, M. Ďurišin, and M. Drakopoulos. In situ hexrd study of a $\text{Ca}_{61}\text{Al}_{39}$ metallic glass. *Journal of Alloys and Compounds*, 687:188–196, 2016. cited By 10.
- [40] K. Giewekemeyer, C. Hackenberg, A. Aquila, R.N. Wilke, M.R. Groves, R. Jordanova, V.S. Lamzin, G. Borchers, K. Saksli, A.V. Zozulya, M. Sprung, and A.P. Mancuso. Tomography of a cryo-immobilized yeast cell using ptychographic coherent x-ray diffractive imaging. *Biophysical Journal*, 109(9):1986–1995, 2015. cited By 9.
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