

Curriculum Vitae

Prof. dr hab. d.h.c. Paweł Żukowski

Born: 27.08.1950

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Education and Employment

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| 2023 – at present | Department of Economy, Vincent Pol University in Lublin, 2, Choiny Str., 20-816 Lublin, Poland |
| 2016 | Professor Direction: <i>Electrotechnologies and Materials</i> . Title conferred by the President of the Republic of Slovakia |
| 2015 | Doctor honoris causa of Sumy State University, Sumy, Ukraine |
| 1992–2023 | Associate professor – Faculty of Electrical Engineering and Computer Science, Lublin University of Technology, Lublin, Poland 2003–2023 – Head of Department of Electrical Devices and High Voltage Technology. |
| 1992 | D.Sc. degree (habilitation) Direction: <i>Physics</i> . Maria Curie-Skłodowska University, Lublin, Poland |
| 1980 | Ph.D. degree Direction: <i>Physics and Mathematical Science</i> . Faculty of Physics, Belarusian State University, Minsk, Belarus |

Honours and awards for didactic and scientific activity

- Honorary Badge "For Merit to Inventiveness", Poland (2019). Prime Minister of the Republic of Poland.
- Silver Medal for long-Time Service (2019) – President of the Republic of Poland.
- Officer's Cross of the Order for Merit of the Republic of Poland (2012) – President of the Republic of Poland.
- Cavalier's Cross of the Order of Merit of the Republic of Poland (2003) – President of the Republic of Poland.
- Medal of the Commission of National Education, Poland (2005) – Minister of Education of the Republic of Poland.
- 20 Awards of Rector of the Lublin University of Technology.

Main directions of scientific research

- Modification of electro-technological materials and electrical devices by means of ion techniques.
- Research of electrical properties of ion-implanted silicon and gallium arsenide.
- Testing of the structure and electrical properties of metal-dielectric nanocomposites produced by ion techniques.
- Testing of electrical properties of paper-oil insulation for power transformers and the development of new methods for the moisture content determination.
- Participation in research projects financed by the State Committee for Scientific Research – KBN (Poland), Ministry of Science and Higher Education (Poland) and the EU.

Monographs and textbooks

Scientific monographs:

- **P. Żukowski:** *Półprzewodniki ze skokowym mechanizmem przenoszenia ładunków*, Wydawnictwo Politechniki Lubelskiej. 1999, 152 s.
- **P. Żukowski, F. Komarov, C. Karwat, A. Komarov:** *Wybrane zagadnienia teorii i zastosowań implantacji jonowej*. P. Żukowski (Eds.), Wydawnictwo Politechniki Lubelskiej. 2003, 145 s.
- N. Drozdov, A. Fedotov, A. Mazanik, J. Partyka, **P. Żukowski**, P. Węgierek: *Ogniwa fotowoltaiczne dla energetyki słonecznej – zagadnienia materiałowe*. P. Żukowski (Eds.), Wydawnictwo Politechniki Lubelskiej. 2006, 103 s.
- J. Fedotova, T.N. Kołtunowicz, **P. Żukowski:** *Transport ładunków i właściwości strukturalne wybranych nanokompozytów metal-dielektryk*, P. Żukowski (Eds.), Wydawnictwo Politechniki Lubelskiej, 2012, 173 p.

Academic textbooks:

- A.K. Fedotov, M. Malinski, A. Patryn, **P. Zukowski**, N. Drozdov, T.N. Kołtunowicz, A.V. Mazanik, M. Tivanov, K. Kierczyński: *Energy Effective Materials*, P. Zukowski (Eds.), Wydawnictwo Politechniki Lubelskiej, Lublin University of Technology, 2015, 528 p., ISBN: 978-83-7947-163-8.
- L. Ribickis, I.V. Ion, J. Peuteman, J. Radosavljevic, N. Arsic, **P. Zukowski**, T.N. Kołtunowicz, A. Zhiravetska, N. Kunicina, A. Zabasta, A. Avotins, R. De Cramer, V. Brazis, L.-R. Adrian: *Energy Saving Technologies*, L. Ribickis (Eds.), RTU Press, Riga University of Technology, 2015, 240 p., ISBN: 978-9934-10-605-7.

A member of Editorial Boards and international program committees:

- *High Temperature Material Processes*, USA (SCOPUS).
- *Informatics, Control, Measurement in Economy and Environmental Protection*, Lublin University of Technology, Poland (SCOPUS).
- *Journal of Nano- and Electronic Physics*, Sumy State University, Ukraine (SCOPUS).
- *Energetika*, Belarusian National Technical University, Belarus (SCOPUS).
- *Devices and Methods of Measurements (Приборы и методы измерений)*, Belarusian National Technical University, Belarus (Web of Science).
- Organiser of 11 and co-organiser of 12 international conferences.
- Member of 43 international conferences scientific committees.

Other scientific information

I am author or co-author of 219 articles in journals from Web of Science database, many articles in journals of lower rank and papers published at international conferences.

- Hirsch index $h = 30$ (according to the Web of Science database).
- Hirsch index $h = 28$ (according to the SCOPUS database).

Inventor of 45 patents for ion techniques devices and new methods.

Scientific supervisor of 11 completed and defended doctoral theses.

List of peer-reviewed publications published in the last 5 years

1. A.D. Pogrebnyak, V. Ivashchenko, O. Maksakova, V. Buranich, P. Konarski, V. Bondariev, **P. Zukowski**, P. Skrynskyy, A. Sinelnichenko, I. Shelest, N. Erdybaeva, P. Galaszkiwicz, T.N. Koltunowicz: *Comparative measurements and analysis of the mechanical and electrical properties of Ti-Zr-C nanocomposite: role of stoichiometry*, **Measurement**, vol. 176, 2021, Article number: 109223. **IF₂₀₂₁ = 5.131**
2. A.D. Pogrebnyak, C.-H. Kong, R.F. Webster, R.D. Tilley, Y. Takeda, K. Oyoshi, O.V. Bondar, V.V. Buranich, S. Konstantinov, L.S. Baimoldanova, M. Opielak, **P. Żukowski**, P. Konarski: *Antibacterial effect of Au Implantation in Ductile Nanocomposite Multilayer (TiAlSiY)N/CrN Coatings*, **ACS Applied Materials & Interfaces**, vol. 11, n. 51, 2019, p. 48540-48550. **IF₂₀₁₉ = 8.758**
3. **P. Zukowski**, K. Kierczyński, T.N. Koltunowicz, P. Rogalski, J. Subocz, D. Korenciak: *AC conductivity measurements of liquid-solid insulation of power transformers with high water content*, **Measurement**, vol. 165, 2020, Article number: 108194. **IF₂₀₂₀ = 3.927**
4. A.D. Pogrebnyak, R.F. Webster, R.D. Tilley, V.V. Buranich, V.I. Ivashchenko, Y. Takeda, K. Oyoshi, R.E. Sakenova, K. Piotrowska, **P. Żukowski**, P. Konarski, A.I. Kupchishin, P. Budzyński: *Formation of Si-rich interfaces by radiation-induced diffusion and microsegregation in CrN/ZrN nanolayer coating*, **ACS Applied Materials & Interfaces**, vol. 13, n. 14, 2021, p. 16928-16938. **IF₂₀₂₁ = 10.383**
5. **P. Zukowski**, P. Rogalski, T.N. Koltunowicz, K. Kierczyński, J. Subocz, M. Sebok: *Influence of temperature on phase shift angle and admittance of moistened composite of cellulose and insulating oil*, **Measurement**, vol. 185, 2021, Article number: 110041. **IF₂₀₂₁ = 5.131**
6. K. Diedkova, A. Pogrebnyak, S. Kyrylenko, K. Smyrnova, V. Buranich, P. Horodek, **P. Zukowski**, T.N. Koltunowicz, P. Galaszkiwicz, K. Makashina, V. Bondariev, M. Sahul, M. Čaplovičová, Y. Husak, W. Simka, V. Korniienko, A. Stolarczyk, A. Blacha-Grzechnik, V. Balitskyi, V. Zahorodna, I. Baginskiy, U. Riekstina, O. Gogotsi, Y. Gogotsi, M. Pogorielov: *Polycaprolactone-MXene nanofibrous scaffolds for tissue engineering*, **ACS Applied Materials & Interfaces**, vol. 15, n. 11, 2023, p. 14033-14047. **IF₂₀₂₂ = 9.5**
7. **P. Żukowski**, P. Gałaszkiwicz, V. Bondariev, P. Okal, A. Pogrebnyak, A. Kupchishin, A. Ruban, M. Pogorielov, T.N. Kołtunowicz: *Comparative measurements and analysis of the electrical properties of nanocomposites $Ti_xZr_{1-x}C+\alpha-C_y$ ($0.0 \leq x \leq 1.0$)*, **Materials**, vol. 15, n. 22, 2022, Article number: 7908. **IF₂₀₂₂ = 3.4**

8. **P. Zukowski**, P. Rogalski, T.N. Kołtunowicz, K. Kierczynski, M. Zenker, A.D. Pogrebnjak, M. Kucera: *DC and AC tests of moisture electrical pressboard impregnated with mineral oil or synthetic ester – determination of water status in power transformer insulation*, **Energies**, vol. 15, n. 8, 2022, Article number: 2859. **IF₂₀₂₂ = 3.2**
9. **P. Żukowski**, P. Rogalski, V. Bondariev, M, Šebok: *Diagnostics of high water content paper-oil transformer insulation based on the temperature and frequency dependencies of the loss tangent*, **Energies**, vol. 15, n. 8, 2022, Article number: 2813. **IF₂₀₂₂ = 3.2**
10. **P. Zukowski**, P. Rogalski, K. Kierczynski, T.N. Koltunowicz: *Precise measurements of the temperature influence on the complex permittivity of power transformers moistened paper-oil insulation*, **Energies**, vol. 14, n. 18, 2021, Article number: 5802. **IF₂₀₂₁ = 3.252**
11. **P. Zukowski**, P. Rogalski, T.N. Koltunowicz, K. Kierczynski, V. Bondariev: *Precise measurements of the temperature-frequency dependence of the conductivity of cellulose – insulating oil – water nanoparticles composite*, **Energies**, vol. 14, n. 1, 2021, Article number: 32. **IF₂₀₂₁ = 3.252**
12. **P. Zukowski**, P. Rogalski, T.N. Koltunowicz, K. Kierczynski, J. Subocz, M. Zenker: *Cellulose ester insulation of power transformers: researching the influence of moisture on the phase shift angle and admittance*, **Energies**, vol. 13, 2020, Article number: 5511. **IF₂₀₂₀ = 3.004**
13. **P. Zukowski**, T.N. Koltunowicz, K. Czarnacka, A.K. Fedotov, I.E. Tyschenko: *Carrier transport and dielectric permittivity of SiO₂ films containing ion-beam synthesized InSb nanocrystals*, **Journal of Alloys and Compounds**, vol. 846, 2020, Article number: 156482. **IF₂₀₂₀ = 5.316**
14. J.A. Fedotova, A.V. Pashkevich, Ali Arash Ronassi, T.N. Kołtunowicz, A.K. Fedotov, **P. Zukowski**, A.S. Fedotov, J.V. Kasiuk, Yu.E. Kalinin, A.V. Sitnikov, V.V. Fedotova, A. Evtuh: *Negative capacitance of nanocomposites with CoFeZr nanoparticles embedded into silica matrix*, **Journal of Magnetism and Magnetic Materials**, vol. 511, 2020, Article number: 166963. **IF₂₀₂₀ = 2.993**
15. T.N. Kołtunowicz, V. Bondariev, **P. Żukowski**, J.A. Fedotova, A.K. Fedotov: *AC electrical resonances in nanocomposites with partly oxidized FeCoZr grains embedded in CaF₂ ceramic matrix – effects of annealing*, **Journal of Alloys and Compounds**, vol. 819, 2020, Article number: 153361. **IF₂₀₂₀ = 5.316**
16. **P. Żukowski**, K. Kierczyński, T.N. Kołtunowicz, P. Rogalski, J. Subocz: *Application of elements of quantum mechanics in analysing AC conductivity and determining the dimensions of water nanodrops in the composite of cellulose and mineral oil*, **Cellulose**, vol. 26 n. 5, 2019, p. 2969-2985. **IF₂₀₁₉ = 4.210**
17. K. Czarnacka, T.N. Koltunowicz, **P. Zukowski**, A.K. Fedotov: *Dielectric properties of multi-layer nanocomposites SiO_x/ZrO₂ after high temperature annealing*, **Ceramics International**, vol. 45, 2019, p. 6499-6502. **IF₂₀₁₉ = 3.830**
18. O.V. Maksakova, R.F. Webster, R.D. Tilley, V.I. Ivashchenko, B.O. Postolnyi, O.V. Bondar, Y. Takeda, V.M. Rogoz, R.E. Sakenova, **P. Żukowski**, M. Opielak, V.M. Beresnev, A.D. Pogrebnjak: *Nanoscale architecture of (CrN/ZrN)/(Cr/Zr) nanocomposite coatings: microstructure, composition, mechanical properties and first-principles calculations*, **Journal of Alloys and Compounds**, vol. 831, 2020, Article number: 154808. **IF₂₀₂₀ = 5.316**
19. P.H. Linh, J. Fedotova, S. Vorobyova, L.H. Nguyen, T.T. Huong, H.N. Nguyen, T.N.A. Nguyen, A.S. Hoang, Q.A. Nguyen, U. Gumienik, A. Konakov, M. Bushinskij, **P. Zukowski**, T.N. Koltunowicz: *Correlation of phase composition, magnetic properties and hyperthermia efficiency of silica-coated FeCo nanoparticles for therapeutic applications*, **Materials Science & Engineering B**, 2023, Article number: 116571. **IF₂₀₂₁ = 3.407**
20. A.V. Pashkevich, A.K. Fedotov, E.N. Poddenezhny, L.A. Bliznyuk, J.A. Fedotova, N.A. Basov, A.A. Kharchanka, **P. Zukowski**, T.N. Koltunowicz, O.V. Korolik, V.V. Fedotova: *Structure, electric and thermoelectric properties of binary ZnO-based ceramics doped with Fe and Co*, **Journal of Alloys and Compounds**, vol. 895 Part 2, 2022, Article number: 162621. **IF₂₀₂₁ = 6.371**
21. A.K. Fedotov, A.V. Pashkevich, J.A. Fedotova, A.S. Fedotov, T.N. Kołtunowicz, **P. Zukowski**, Ali Arash Ronassi, V.V. Fedotova, I.A. Svito, M. Budzyński: *Electron transport and thermoelectric properties of ZnO ceramics doped with Fe*, **Journal of Alloys and Compounds**, vol. 854, 2021, Article number: 156169. **IF₂₀₂₁ = 6.371**
22. **P. Żukowski**, V. Bondariev, T.N. Kołtunowicz, G. Bondarenko: *Influence of annealing on the chemical composition of nanocomposites with the ferromagnetic grains in the CaF₂ dielectric matrix*, **Thermochimica Acta**, vol. 676, 2019, p. 224-233. **IF₂₀₁₉ = 2.762**