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| **Name** | Vlada Pashynska |
| **Position, Department/Faculty** | Professor of the Department of Radioelectronic and Biomedical Computerized Means and Technologies (502) / Faculty of Radio Electronics, Computer Systems and Infocommunications |
| **Academic Degree, Academic Title** | Doctor of Physical and Mathematical Sciences (Doctor habilitatus) in Biophysics, Senior Researcher |
| **Email:** | v.pashynska@khai.edu |
| **Scopus Author ID:** | ID: 8293676000 |
| **Web of Science ResearcherID:** | ResearcherID: R-2420-2018 |
| **ORCID iD:** | ID: 0000-0001-9786-6828 |
| **Google Scholar:** | https://scholar.google.com.ua/citations?hl=uk&user=DBzL1yQAAAAJ%20&user=XvXHM7EAAAAJ |

## EDUCATION:

**Basic education** (university, major, year of graduation):

| **Kharkiv State University (now -Karazin Kharkiv National University)** | |
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| **1993** | Master of Sciences in Biophysics, Department of Radiophysics, Chair of Molecular and Applied Biophysics, graduated with honour and a "red" diploma |

**Postgraduate/Doctoral studies:**

| **B. Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine** | |
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| **2000** | Candidate of Physical and Mathematical Sciences (PhD in Biophysics), specialty: 03.00.02 - biophysics. |
| **V.N. Karazin Kharkiv National University** | |
| **2024** | Doctor of Physical and Mathematical Sciences, specialty: 03.00.02 - biophysics. |
| **International Institute of Management LINK** | |
| **2011** | Master of Business Administration (MBA) |

**Additional training, certification programs:**

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| **2001** | Postdoctoral training (fellowship) of the Belgian Office for Scientific, Technical and Cultural Affairs (OSTC), Belgium, within the frame of its program to stimulate academic exchange between researchers from Belgium and East European countries, 1 year |
| **2002** | Postdoctoral training (fellowship) in the University of Antwerp (UIA), Belgium, 2002, 1 year |
| **2008** | Professional Certificate in Management, the Open University, Milton Keynes, UK. |
| **2010** | Professional Diploma in Management with distinction, Open University, Milton Keynes, the United Kingdom |

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| **2024** | Graz University of Technology (Graz, Austria), Certificate of the Summer School «Hands-on Design of Metasurfaces for Ultrafast Lasers», 32 educational hours (1.1 educational credits). |

## WORK EXPERIENCE:

**Professional Career (Workplace, Years, Position):**

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| **B. Verkin Institute for Low Temperature Physics and Engineering of the NAS of Ukraine, Kharkiv, Ukraine** | |
| **1993-1999** | Postgraduate student, postgraduate researcher of the Molecular Biophysics Department |
| **2000-2001** | Postdoctoral researcher of the Molecular Biophysics Department |
| **University of Antwerp, Antwerp, Belgium** | |
| **2001-2003** | Visiting postdoctoral fellow at the Department of Pharmaceutical Sciences, Mass Spectrometry laboratory |
| **B. Verkin Institute for Low Temperature Physics and Engineering (ILTP) of the NAS of Ukraine, Kharkiv, Ukraine** | |
| **2003-2004** | Postdoctoral researcher of the Molecular Biophysics Department |
| **2005-2008** | Researcher of the Molecular Biophysics Department |
| **2009 - till now** | Senior Researcher of the Molecular Biophysics Department |
| **O.Ya. Usikov Institute for Radiophysics and Electronics of the NAS of Ukraine, Kharkiv, Ukraine** | |
| **2021 - till now** | Senior Researcher (part-time) of the Department of acoustic and electromagnetic spectroscopy |
| **National Aerospace University «Kharkiv Aviation Institute»** | |
| **2024 - till now** | Professor (part-time) of the Department of Radioelectronic and Biomedical Computerized Means and Technologies |

**Teaching Experience:**
2 years.

**Experience in International or National Projects:**

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| **Organization for Security and Co-operation in Europe** | |
| **2021-2023** | Leading Expert and Trainer in EU-funded OSCE Project component “Awareness raising, education, and training for life scientists on biosafety and biosecurity” |
| **Science and Technology Center in Ukraine (STCU), Kharkiv Field Office, Kharkiv, Ukraine** | |
| **2004-2021** | STCU Projects Coordinator in the STCU Kharkiv Fiels Office: Coordination, development, scientific review of the STCU R&D international cooperative projects in areas of Biosafety&Biosecurity, CBRN and Life Sciences related areas. |
| **Other projects** | |
| **2004-2007** | Personal NATO Reintegration Grant CBP.NUKR.RIG.981328, ILTP, Kharkiv Ukraine |
| **2019-2022** | Principal researcher of the international Inter-academy research&development cooperative project between Ukrainian and Hungarian Academies of Sciences “Molecular bases of the functioning of |

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| | drug delivery agents: development of mass spectrometry approach” |
| **2021-2022** | Global Campus Collaborative Virtual Visitorship Grant from Northwestern Buffett Institute for Global Affairs, principal researcher |

## RESEARCH ACTIVITIES:

**Main Research Areas:**
Molecular Biophysics and its Medical, Pharmaceutical and Environmental Applications, Biosafety and Biosecurity, Laboratory biorisk management, Mass Spectrometry, Quantum-Chemical Computational Modelling, Microwave Dielectrometry

**Number of Publications (Scopus, WoS, others):**
**165** scientific publications, including: **60 articles** with peer review in international and national scientific journals, 105 abstracts and papers in the materials of international scientific conferences.

**Monographs, Textbooks:**
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**Participation in Scientific Conferences:**
Personal participation in more than 60 international scientific conferences (105 abstracts and papers in the materials of international scientific conferences).
Recent conferences:

1. 1. V. Pashynska, S. Stepanian, M. Kosevich, A. Gomory, L. Drahos, L. Adamowicz. Noncovalent complexes of dimethyl sulfoxide with anticancer thioderivatives of purine nucleobases: model mass spectrometry and quantum chemical study on molecular mechanisms of transmembrane drug delivery facilitation // XXVI Galyna Puchkovska International School-Seminar “Spectroscopy of Molecules and Crystals”, September 22-25, 2024, Wojanov, Poland
   Book of Abstarcts, Wroclaw 2024, P. 41.
2. V. A. Pashynska, V. O. Karachevtsev, A. Gomory, L. Drahos. Biologically significant intermolecular interactions of doxorubicin with phospholipids and supporting drug molecules // IV International Conference “Condensed Matter & Low - Temperature Physics (CM&LTP 2023), June 3 – 7, 2024, Kharkiv, Ukraine
   Book of abstracts, Kharkiv 2024, P.161.
3. K. S. Kuznetsova, V. A. Pashynska, Z. E. Eremenko. Metal-dielectric metasurface sensoring structure for IgG/glucose concentration determination in solutions // IV International Conference “Condensed Matter & Low - Temperature Physics (CM&LTP 2023), June 3 – 7, 2024, Kharkiv, Ukraine
   Book of abstracts, Kharkiv 2024, P.160.
4. O. A. Boryak, V. A. Pashynska, M. V. Kosevich, P. O. Kuzema, V. A. Karachevtsev. Intermolecular interactions of glutathione with molybdenum disulfide probed by laser desorption/ionization mass spectrometry // IV International Conference “Condensed Matter & Low - Temperature Physics (CM&LTP 2023), June 3 – 7, 2024, Kharkiv, Ukraine. Book of abstracts, Kharkiv 2024, P.165.
5. K. S. Kuznetsova, V. A. Pashynska, Z. E. Eremenko. Metal-dielectric metasurface with enhanced sensitivity for biomedical applications // Ukrainian Conference with International Participation “CHEMISTRY, PHYSICS AND TECHNOLOGY OF SURFACE”, 29-30 May, 2024, Kyiv, Ukraine. Book of abstracts, Kyiv, 2024, P. 198.
6. O. A. Boryak, V. A. Pashynska, M. V. Kosevich, P. O. Kuzema, V. A. Karachevtsev. Probing of molybdenum disulfide – histidine amino acid composite by laser desorption/ionization mass spectrometry // Ukrainian Conference with International Participation “CHEMISTRY, PHYSICS

AND TECHNOLOGY OF SURFACE", 29-30 May , 2024, Kyiv, Ukraine. Book of abstracts, Kyiv, 2024, P. 94.

## TEACHING ACTIVITIES:

**Courses Taught:**
Biosecurity and Biosafety of the Medical Apparatus Investigations, Biophysics and Biomechanics, Biomedical informatics

**Author Courses, Academic Programs:**
Pashynska. V.A., Yegorova O.O., Marushak L.V., Rath J., Novossiolova T.,Higgs S. Training course "Biosafety and Biosecurity for the specialists working in biomedical laboratories of Ukraine" (on-line training course **https://uba.bioinfo.org.ua/)**

**Methodological Materials, Textbooks:**
Pashynska. V.A., Yegorova O.O., Marushak L.V., Rath J., Novossiolova T.,Higgs S. Training course "Biosafety and Biosecurity for the specialists working in biomedical laboratories of Ukraine" (on-line training course **https://uba.bioinfo.org.ua/)**

## GRANTS AND PROJECTS:

**Participation in International and National Projects:**

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| **2021-2023** | Leading Expert and Trainer in EU-funded OSCE Project component "Awareness raising, education, and training for life scientists on biosafety and biosecurity" |
| **2004-2007** | Personal NATO Reintegration Grant CBP.NUKR.RIG.981328, ILTP, Kharkiv Ukraine |
| **2019-2022** | Principal researcher of the international Inter-academy research&development cooperative project between Ukrainian and Hungarian Academies of Sciences "Molecular bases of the functioning of drug delivery agents: development of mass spectrometry approach" |
| **2021-2022** | Global Campus Collaborative Virtual Visitorship Grant from Northwestern Buffett Institute for Global Affairs, principal researcher |

**Grants, Scholarships, Academic Mobility Programs:**

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| **1994** | Soros grant for young scientists, individual scholarship supported by the Soros Fund, 1 year |
| **1999** | Fellowship of the President of the Ukraine for young scientists, individual fellowship, 1 year |
| **2000** | I.I. Mechnikov fellowship in the field of biology and medicine for young scientists supported by Kharkov City Administration, Ukraine, 1 year |
| **2001** | Postdoctoral fellowship of the Belgian Office for Scientific, Technical and Cultural Affairs (OSTC), Belgium, within the frame of its program to stimulate academic exchange between researchers from Belgium and East European countries, 1 year |
| **2002** | Postdoctoral fellowship of the Research Council of the University of Antwerp (UIA), Belgium, 1 year |
| **2004-2007** | Personal NATO Reintegration Grant CBP.NUKR.RIG.981328, ILTP, Kharkiv |

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## PROFESSIONAL ACHIEVEMENTS AND AWARDS:

**Honorary Titles:**
**2010** - Senior Researcher (academic title) in Molecular physics, issued by High Attestation Commission of Ukraine

**Distinctions, Awards, Prizes:**

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| **2000** | Journal of Mass Spectrometry Young Scientists Award |
| **2023** | Femails in Mass Spectrometry (FeMS) Empowerment award Q3 2023 |

**Membership in Professional Associations:**
Member of the Board of Ukrainian Biophysical Society, Member of European Biosafety Association, Member of Ukrainian Biosafety Association

## INTERNATIONAL ACTIVITIES:

**Internships:**
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**Cooperation with Foreign Universities:**
Antwerp University (Belgium), Wroclaw University, Lodz University (Poland), University of Arizona (USA)

**Teaching/Lecturing Abroad:**
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## SELECTED PUBLICATIONS:

**Key Articles (Scopus, WoS, others):**
1. V. Pashynska, S. Stepanian, Á. Gömöry, L. Drahos, L. Adamowicz
   Noncovalent complexes of dimethyl sulfoxide with anticancer thioderivatives of purine nucleobases: insights into drug delivery mechanisms // *Journal of Molecular Structure,* **1340**, 142556 (2025). -Q2
   https://doi.org/10.1016/j.molstruc.2025.142556
2. K. S. Kuznetsova; V. A. Pashynska; Z. E. Eremenko
   Optimization of the metal-dielectric metasurface unit cell for sensitivity enhancement in determination of IgG concentration in solutions // *Low Temp. Phys.* **51**, N1, 65–71 (2025). – Q3
   https://doi.org/10.1063/10.0034647
3. K. S. Kuznetsova, V. A. Pashynska, Z. E. Eremenko
   Numerical modeling of metal-dielectric metasurface as an element of microwave sensors for biomedical applications // *Low Temp. Phys*. **50**, N1, 15-20 (2024); – Q3
   https://doi.org/10.1063/10.0023885
4. K. S. Kuznetsova, V. A. Pashynska, Z. E. Eremenko, O. I. Shubnyi, A.V. Martynov, A.A. Prokopenko
   Monitoring of the enzymatic reactions course by differential microwave dielectrometry method in real time // *Ukr. J. Phys.*, **68** (No. 9), 608-618 ( 2023) – Q3
   https://doi.org/10.15407/ujpe68.9.608

5. Z.E. Eremenko, V.A. Pashynska, K.S. Kuznetsova , A. Shaposhnikova, B. Minofar
   Combined microwave dielectrometry and molecular dynamic study of aqueous solutions of human serum albumin with additives // *Journal of Molecular Liquids*, **364**, 119981 (2022) – Q1
   https://doi.org/10.1016/j.molliq.2022.119981
6. V. Pashynska, S. Stepanian, Á. Gömöry, L. Adamowicz
   What are molecular effects of co-administering vitamin C with artemisinin-type antimalarials? A model mass spectrometry and quantum chemical study // *Journal of Molecular Structure,* 1232, 130039 (2021)-Q2
   https://doi.org/10.1016/j.molstruc.2021.130039
7. Z. E. Eremenko, V. A. Pashynska, K. S. Kuznetsova, and A. V. Martunov
   Development of experimental techniques for antibiotics detection in aqueous solutions: real-time microwave dielectrometry and UV-Vis spectrophotometry study // *Low Temp. Phys*. **47,** N12, 1139-1147 (2021); – Q3
   doi: 10.1063/10.0007079
8. V. Pashynska, S. Stepanian, A. Gomory, K. Vekey, L. Adamowicz
   New cardioprotective agent flokalin and its supramolecular complexes with target amino acids: An integrated mass-spectrometry and quantum-chemical study // *Journal of Molecular Structure,* **1146**, 441-449 (2017) -Q3
   http://dx.doi.org/10.1016/j.molstruc.2017.06.007
9. V. Pashynska, S. Stepanian, A. Gomory, K.Vekey, L. Adamowicz
   Competing intermolecular interactions of artemisinin-type agents and aspirin with membrane phospholipids: Combined model mass spectrometry and quantum-chemical study // *Chemical Physics*, **455**, 81-87 (2015). –Q2
   http://dx.doi.org/10.1016/j.chemphys.2015.04.014
10. N.A.Kasian, V.A. Pashynska, O.V. Vashchenko, A.O. Krasnikova, A.Gomory, M.V. Kosevich, L.N. Lisetski
    Probing of the combined effect of bisquaternary ammonium antimicrobial agents and acetylsalicylic acid on model phospholipid membranes: differential scanning calorimetry and mass spectrometry studies // *Molecular BioSystems,* **10**, 3155-3162 (2014). –Q1
    DOI: 10.1039/c4mb00420e

**Books, Chapters in Collective Monographs:**

1. O.V. Vashenko, N.A. Kasian, V.A. Pashynska, M.V. Kosevich, Yu.L. Ermak, L.N. Lisetski
   Lipid membranes as a model medium for solution of the applied biomedical problems. In the book Functional materials for scintillation technology and biomedicine.
   Kharkiv: ISMA, 2012.- 428 p..

**Links to Citation Database Profiles:**
https://scholar.google.com.ua/citations?hl=uk&user=DBzL1yQAAAAJ%20&user=XvXHM7EAAAAJ
https://orcid.org/0000-0001-9786-6828

## ADDITIONAL INFORMATION:

**Language Proficiency:**
Ukrainian – native, English – fluent.

**IT Skills:**

Knowledge of GAMESS package for quantum-chemical calculations, Origin, CorelDraw, various chemical drawing and modeling packages, Finnigan Xcalibur software.

**Social and Community Activities:**

1. 2004-2017 – work as a project coordinator of the Science and Technology Center in Ukraine (STCU), STCU Kharkiv Field Office: Coordination, development, scientific&technical expertise of the STCU R&D international cooperative projects in areas of Biosafety&Biosecurity, CBRN and Life Sciences related areas. STCU trainings in Biosafety and Biosecurity for Ukrainian researchers.
2. Member of the Board of the Ukrainian Biophysical Society, organization of the events in the framework of the Society activity.
3. Member of the organizing committee of the international conference “Nanobiophysics: Fundamentals and Applied Aspects”
4. Work as an expert of the joint projects National Academy of Sciences of Ukraine and Ministry of Science and Education