



Curriculum Vitae

Ganusevich I I

PERSONAL INFORMATION

Iryna Ivanivna Ganusevich



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Gender F | Date of birth 29/11/1963 | Citizenship Ukraine

Academic degree (degree, specialty)	Doctor of Biological Sciences, Oncology
Academic rank	Senior Researcher, Diploma AC No. 006701 AC
Position	Head of department
Department	Pathophysiology of Metastasis
Institute	R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology NAS of Ukraine (IEPOR)

Academic disciplines in the teaching of which she participated:

In the current year	Tumor Microenvironment (2025)
In previous periods	1. Tumor Microenvironment, Redox Mechanisms of Tumor Progression (2023/2024) 2. Tumor Microenvironment, Postgraduate Students (2019/2022)

EXPERIENCE IN SCIENTIFIC AND SCIENTIFIC-PEDAGOGICAL WORK

Period	Stage
From 2025 to now	<p>Position: Head of the Department of Pathophysiology of Metastasis, IEPOR. R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology NAS of Ukraine (IEPOR), Ukraine, 03022, Kyiv, 45 Vasylykivska St, https://iepor.org.ua/</p> <p>Teaching and research activities: a series of lectures, seminars and practical classes for postgraduate students "Tumor Microenvironment", scientific supervision of students' course and diploma projects, scientific activities</p> <p>Field of activity or sector Education and science</p>
From 2017 to 2025	<p>R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology NAS of Ukraine (IEPOR), Ukraine, 03022, Kyiv, 45 Vasylykivska St, https://iepor.org.ua/</p> <p>Teaching and research activities: a series of lectures, seminars and practical classes for postgraduate students "Tumor microenvironment", "Redox mechanisms of tumor progression" scientific supervision of students' course and diploma projects, scientific activities</p> <p>Field of activity or sector Education and science</p>
From 2003 to 2016	<p>Position: Senior Researcher of the Department of Tumor Cell Microenvironment R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology NAS of Ukraine (IEPOR), Ukraine, 03022, Kyiv, 45 Vasylykivska St, https://iepor.org.ua/</p> <p>Teaching and research activities: scientific supervision of students' course and diploma projects, scientific activities</p> <p>Field of activity or sector Education and science</p>
From 1995 to 2003	<p>Position: Researcher of the Department of Tumor Cell Microenvironment R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology NAS of Ukraine (IEPOR), Ukraine, 03022, Kyiv, 45 Vasylykivska St, https://iepor.org.ua/</p> <p>Teaching and research activities: supervision of students' practical work, scientific activities</p> <p>Field of activity or sector Education and science</p>

From 1990 to 1995	Position: молодший науковий співробітник відділу гемосорбції
	R.E. Kavetsky Institute of Oncology Problems ASU, Ukraine, 03022, Kyiv, 45 Vasylykivska St, https://iepor.org.ua/
	Teaching and research activities: scientific activities
	Field of activity or sector Education and science
From 1986 to 1990	Position: intern-researcher of the Department of hemosorption
	R.E. Kavetsky Institute of Oncology Problems AS USR, Ukraine, 03022, Kyiv, 45 Vasylykivska St, https://iepor.org.ua/
	Teaching and research activities: research activities
	Field of activity or sector Education and science

EDUCATION AND INTERNSHIP

Period	Stage
2019	R.E. Kavetsky Institute of Oncology Problems AS USR, Ukraine, 03022, Kyiv, 45 Vasylykivska St, https://iepor.org.ua/
	Qualification obtained – Doctor of Biological Sciences, specialty: oncology (14.01.07), dissertation "Gelatinases as redox-dependent markers of metastasis and target molecules of antitumor therapy", Diploma No. 008876.
1995	R.E. Kavetsky Institute of Oncology Problems AS USR, Ukraine, 03022, Kyiv, 45 Vasylykivska St, https://iepor.org.ua/
	Qualification obtained - PhD in Biology, specialty: oncology (14.00.14), thesis "Modification of the microenvironment of tumor cells and the effectiveness of thermochemotherapy", Diploma KH No. 007964.
From 1981 to 1986	Faculty of Biology, Taras Shevchenko National University of Kyiv (Ukraine)
	Qualification obtained - biologist-microbiologist, teacher of biology and chemistry, Diploma ПІВ № 694377.

PERSONAL SKILLS

Name	Level
Knowledge of languages	
Ukrainian	Native language, fluent
Russian	Fluent
French	Level B1/B2
English	Level A1/A2
Communication competence	Communication skills acquired while working as the Head of the laboratory of metastatic microenvironment problems of R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology NAS of Ukraine, as well as during her activities as part of conference organizing committees
Organizational/management competence	Management of scientific work (laboratory, department), scientific projects, scientific research works. Management of students' diploma and course works. Member of the organizing committee of conferences and the editorial board of the "Oncology" journal
Computer skills	Experienced user. I can work with the MS Office (Excel, PowerPoint, Word), graphic editors (TotalLab, GelAnalyzer) and Outlook Express. I am confident in working with different browsers (Opera, Firefox, Chrome, Internet Explorer). Skills in working with the Windows operating system. Work with scientific bibliographic databases (Google Scholar, Scopus)
Professional skills	Methods: modern and classical methods of biochemistry and biophysics, immunocyto- and immunohistochemical, experimental oncology, general clinical oncology.
Areas of professional interest	Features of tumour and adipose tissue microenvironment and their influence on metastatic potential and course of tumour progression in overweight patients. The role of gelatinases in the formation of dysfunctional state of adipose tissue. Redox state of adipose and tumour tissue in cancer patients with metabolic syndrome. Hypoxia-associated and redox-dependent mechanisms of matrix metalloproteinases-2 and -9 (gelatinases) activation and possibilities of their use in development of new approaches in cancer target therapy. The role of tumour microenvironment in the development and course of minimal residual disease peculiarities of tumour microenvironment and adipose tissue and their influence on metastatic potential and course of tumour progression in overweight patients.

ADDITIONAL INFORMATION

Name	(titles of publications, presentations, projects, conferences, seminars, awards and prizes, membership in academies, professional and scientific associations, etc.)
Publications	<p>Статті в Scopus:</p> <ol style="list-style-type: none"> 1. Role of ribonucleases in the regulation of immune response / Shlyakhovenko V, Samoylenko O, Verbinenko A, Ganusevich I. // Exp Oncol. – 2024. – №46(3). – P. 192 – 201. 2. Synthesis and application of polyacrylamide hydrogels with incorporated acid-activated Laponite® for diagnosis of oncological diseases / Samchenko YM, Samoylenko OA, Ganusevich et al. // Him Fiz Ta Tehnol Poverhni. – 2024. – №15(4). – P. 514 – 523. 3. Cancer-associated adipocytes and prognostic value of preoperative neutrophil-lymphocyte ratio in gastric cancer / L Bubnovskaya et al. // Exp Oncol. – 2023. – № 45(1). – P. 88–98 4. Coronavirus Sars-COV-2 modifies antitumor redox status of blood and intercellular matrix in metastatic colorectal cancer patients (a pilot study) / A.P. Burlaka et al. // Exp. Oncol. – 2023. – № 45(4). – P. 483–492 5. Redox state of adipose tissue for patients with gastric cancer and its connection with the body mass index and distance from the tumor / A.P. Burlaka et al. // Obes. Res. Clin. Pract. – 2020. – № 1. – P. 34–38 6. Cytochrome P450 content in primary tumors and liver metastases of patients with metastatic colorectal cancer / A.P. Burlaka, S.V. Virko, A.A. Burlaka [et al.] // Exp. Oncol. – 2020. – № 4. – P. 330–332 7. Molecular mechanisms of oxidation damage and liver cell dysfunction in patients with metastatic colorectal cancer / A.P. Burlaka et al. // Exp. Oncol. – 2019. – № 4. – P. 328–334 8. Tumor-Associated redox state in metastatic colorectal cancer / A.P. Burlaka et al. // Exp. Oncol. – 2019. – № 2. – P. 148–152 9. Redox Status of a Metastatic Microenvironment in the Liver of Patients with Colorectal Cancer from EPR / A. Burlaka et al. // Appl. Magn. Reson. – 2019. – № 1-3. – P. 391–402 10. Colorectal Cancer and Mitochondrial Dysfunctions of the Adjunct Adipose Tissues: A Case Study / A.P. Burlaka et al. // Biomed Res. Int. – 2018 11. Stomach Cancer: Interconnection between the Redox State, Activity of MMP-2, MMP-9 and Stage of Tumor Growth / A.P. Burlaka et al. // Cancer Microenviron. – 2016. – № 1. – P. 27–32 12. Superoxide- and no-dependent mechanisms of antitumor and antimetastatic effect of L-arginine hydrochloride and coenzyme Q10 / A.P. Burlaka et al. // Exp. Oncol. – 2016. – № 1. – P. 31–35 13. Remodulating effect of doxorubicin on the state of iron-containing proteins, and redox characteristics of tumor with allowance for its sensitivity to cytostatic agents / V.F. Chekhun et al. // Ukr. Biochem. J. – 2016. – № 1. – P. 99–108 14. Redox-regulation of gelatinases during growth of cisplatin-sensitive and resistant guerin carcinoma / A.P. Burlaka et al. // Exp. Oncol. – 2015. – № 1. – P. 36–39 15. Metalloproteins during development of walker-256 carcinosarcoma resistant phenotype / V.F. Chekhun et al. // Ukr. Biochem. J. – 2015. – № 2. – P. 103–112 16. Disseminated tumor cells in bone marrow of gastric cancer patients: Correlation with tumor hypoxia and clinical relevance / L. Bubnovskaya et al. // J. Oncol. – 2014 17. Superoxide- and NO-dependent mechanisms of the reprogramming of bone marrow cells by tumor cells / A.P. Burlaka et al. // Appl. Magn. Reson. – 2014. – № 11. – P. 1261–1273 18. Electron paramagnetic resonance study of tumor affected bone marrow / A.P. Burlaka, I.I. Ganusevich, M.R. Gafurov [et al.] // Cancer Microenviron. – 2013. – № 3. – P. 273–276 19. USE of vitamin s for correction of the function al state of cytochrome P450 system s at experiment al allergic encephalomyelitis / E.P. Pasichna, G. V Donchenko, A.P. Burlaka [et al.] // Ukr. Biokhimichni Zhurnal. – 2013. – № 5. – P. 137–148 20. International conference "Tumor and host: Novel aspects of old problem" / R.E. Kavetsky, B.E. Paton, V.F. Chekhun [et al.] // Exp. Oncol. – 2011. – № 1. – P. 57–59 21. Hypoxia, tumour-associated macrophages, microvessel density, VEGF and matrix metalloproteinases in human gastric cancer: Interaction and impact on survival / S. Osinsky, L. Bubnovskaya, I. Ganusevich [et al.] // Clin. Transl. Oncol. – 2011. – № 2. – P. 133–138 22. O2- and no-associated mechanisms of selective action of redox-active cobalt complexes on tumor tissue / I.I. Ganusevich, A.P. Burlaka, E.P. Sidorik [et al.] // Exp. Oncol. – 2007. – № 3. – P. 203–206 23. High formation of superoxide anion and nitric oxide, and matrix metalloproteinases activity in vascular wall of rectal carcinoma vessels / A.P. Burlaka, E.P. Sidorik, I.I. Ganusevich [et al.] // Exp. Oncol. – 2006. – № 4. – P. 323–325 24. Effects of radical oxygen species and no: Formation of intracellular hypoxia and activation of

matrix metalloproteinases in tumor tissues / A.P. Burlaka, E.P. Sidorik, I.I. Ganusevich [et al.] // Exp. Oncol. – 2006. – № 1. – P. 49–53

25. Hypoxia level and matrix metalloproteinases-2 and -9 activity in lewis lung carcinoma: Correlation with metastasis / S.P. Osinsky, I.I. Ganusevich, L.N. Bubnovskaya [et al.] // Exp. Oncol. – 2005. – № 3. – P. 202–205

26. Selectivity of effects of redox-active cobalt(III) complexes on tumor tissue / S. Osinsky, I. Levitin, L. Bubnovskaya [et al.] // Exp. Oncol. – 2004. – № 2. – P. 140–144

27. Redox-active cobalt complexes as promising antitumor agents / S.P. Osinsky, I.Y. Levitin, A.L. Sigan [et al.] // Russ. Chem. Bull. – 2003. – № 12. – P. 2636–2645

28. Biological activities of “inorganic” cobalt(III) complexes with tetradentate Schiff bases / S. Osinsky, I. Levitin, L. Bubnovskaya [et al.] // Int. J. Med. Biol. Environ. – 2000. – № 1. – P. 83–87

29. Exploitation of the tumor microenvironment for creation of selective antitumor drugs / S.P. Osinsky, I.Y. Levitin, L.N. Bubnovskaya [et al.] // Exp. Oncol. – 1999. – № 3-4. – P. 216–222

30. Modifying effect of organocobalt complexes on the tumour response to anticancer treatments / S.P. Osinsky, I.Y. Levitin, L.N. Bubnovskaya [et al.] // Anticancer Res. – 1997. – № 5 A. – P. 3457–3462

31. Organocobalt(III) complexes as a new type of thermo-chemosensitizer: In vivo action and possible mechanisms / S.P. Osinsky, I.Y. Levitin, L.N. Bubnovskaya [et al.] // Med. Biol. Environ. – 1997. – № 1. – P. 75–79

32. In vivo thermochemosensitizing activity and pathophysiological effects of hypoxic radiosensitizer AK-2123 / S.P. Osinsky, L.N. Bubnovskaya, I.I. Ganusevich [et al.] // Eksp. Onkol. – 1994. – № 1. – P. 61–66 .

Patents:

1. Ukrainian patent for a utility model No. 153135 «A method for predicting the course of the disease in patients with colorectal cancer»/ I. I. Ganusevch, V. O. Shlyakhovenko, O. A. Samoylenko, A.V. Verbinenko // 2023
2. Ukrainian patent for a utility model No. №143945 «A method for predicting the course of the disease in overweight patients with rectal cancer»/ I. I. Ganusevch, A.P. Burlaka, A.A. Burlaka // 2020
3. Ukrainian patent for a utility model No. №118025 «A method for predicting the course of the disease in patients with rectal cancer» / I. I. Ganusevch, C.M. Lukin, A.V. Vovk, [et al.] // Bulletin No. 17. – 2017
4. Ukrainian patent for a utility model No. №118024 «A method for predicting the course of the minimal residual disease in patients with gastric cancer» / I. I Ganusevch, A.V. Kovel'ska, L.D. Gumeniuk [et al.] // Bulletin No. 14. – 2017
5. Ukrainian patent for a utility model No. №87180 «Method for determining the level of active and latent forms of gelatinases in the tissue of patients with varicocele» / I. I Ganusevch, C.P. Pasechnikov, M.I. Boyko [et al.] // Bulletin No. 2. – 2014
6. Ukrainian patent for a utility model No. №67294 «A method for predicting the course of the disease in patients with gastric cancer» / I.I. Ganusevch, CP. Osinsky, C.P. Merencev [et al.] // Bulletin No. 3. – 2012
7. Ukrainian patent for an invention No. №95753 «A method for predicting the course of the disease in patients with gastric cancer» / I.I. Ganusevch, CP. Osinsky, C.P. Merencev [et al.] // Bulletin No. 16. – 2011
8. Ukrainian patent for a utility model No. №59969 «A method for predicting the course of the disease in patients with gastric cancer» / I.I. Ganusevch, C.P. Osinsky, C.P. Merencev [et al.] // Bulletin No. 11. – 2011
9. Ukrainian patent for a utility model No. №46852 «A method for predicting the course of the disease in patients with gastric cancer» / I.I. Ganusevch, C.P. Osinsky, C.P. Merencev [et al.] // Bulletin No. 1. – 2010
10. Ukrainian patent for a utility model No. №36938 «"Method for evaluating the effectiveness of treatment of arterial hypertension» / I.I. Ganusevch, M.V. Haytovich, V.G. Maydannik [et al.] // Bulletin No. 21. – 2008
11. Ukrainian patent for a utility model No. №22864 «Method for controlling the effectiveness of antitumor autovaccine in patients with gastrointestinal cancer» / I.I. Ganusevch, A.P. Burlaka, E.P. Sidorik [et al.] 2007
12. Ukrainian patent for a utility model No. №14728 «Method for evaluating the effectiveness of therapy for arterial hypertension» / I.I. Ganusevch, A.P. Burlaka, E.P. Sidorik [et al.] // Bulletin No. 5. – 2006

	<p>13. Ukrainian patent for an invention No. №57599 «Cobalt (III) compound with polydentate Schiff bases demonstrating antitumor activity» / I.I. Ganusevch, L.M. Bubnovskaya, I.Ya. Levitin [et al.] // Bulletin No. 6. – 2003</p> <p>14. Ukrainian patent for an invention No. №46812 «Method of local hyperthermia» / I.I. Ganusevch, C.O. Pasko, Yu.M. Maksimov [et al.] // Bulletin No. 6. – 2002</p>
Projects	<p>Manager:</p> <ol style="list-style-type: none"> 1. To determine the role of tumor-associated adipocytes in the influence of factors of the metabolic and stromal microenvironment of the tumor on the course of the tumor process in patients of different ages (2015-2017). 2. To investigate the role of dysfunctional adipose tissue in the formation of the microenvironment and metastatic potential of the tumor of gastrointestinal cancer patients with overweight (2017 - 2020). 3. To investigate the features of the dysfunctional state of adipose tissue, which form the metastatic potential and determine the course of the tumor process (2021-2023). 4. Development of "smart" biomaterials and functionalized nanoparticles for the diagnosis and therapy of cancer under stress conditions (NFDU, 2023-2024). 5. To determine the redox modulation of blood enzymes as markers of the course of breast cancer in adipose tissue dysfunction (2024-2026) <p>Responsible executor:</p> <ol style="list-style-type: none"> 1. Study of the mechanisms of the tumor microenvironment influence on "latent" micrometastases in the bone marrow and determination of markers of their control (2012 – 2014). 2. The role of the tumor cell microenvironment in the body's control of the behavior of "latent" micrometastases (2012-2016). 3. Molecular biological factors of the heterogeneity of malignant cells and the variability of the clinical course of hormone-dependent tumors (2017-2021)
Conferences	<ol style="list-style-type: none"> 1. Scientific and practical conference "Minimal residual disease in solid tumors" (Kyiv, 2015). 2. XIII Congress of Oncologists and Radiobiologists of Ukraine (Kyiv, 2016). 3. International scientific conference «Integrated clinical and pathogenetic approaches in diagnosis and therapy of cancer» (Kyiv, 2016). 4. VII National Congress of Pathophysiologists of Ukraine "Pathophysiology and Pharmacy" (Kharkiv, 2016). XII International Scientific Conference of Students and Postgraduate Students "Youth and Progress in Biology" (Lviv, 2016). 6. Scientific and Practical Conference of Young Scientists "Prospects for Diagnosis and Treatment of Cancer Patients" (Kyiv, 2016). 7. International Scientific Conference «Normal and Cancer Stem Cells: Discovery, Diagnosis and Therapy» (Kyiv, 2017). 8. The 8th Conference on Nitroxide Radicals (Padova, Italy, 2017). 9. The International Scientific Conference «Normal and cancer stem cells: discovery, diagnosis and therapy» (Kyiv, 2017). 10. Scientific and practical conference of young scientists "Fundamental medicine: integral approaches to the therapy of patients with oncopathology" (Kyiv, 2019). 11. Scientific and practical conference "Innovative technologies for screening, diagnostics and personalized cancer therapy" (Kyiv, 2019). 12. II international scientific conference «Tumor and Host: Novel Aspects of Old Problem» (Kyiv, 2019). 13. XIV Congress of Oncologists and Radiologists of Ukraine, dedicated to the 100th anniversary of the National Cancer Institute (Kyiv, 2021). 14. X International Conference "Medical Physics – Current State, Problems, Development Paths. Latest Technologies" (Kyiv, 2021). 15. International Scientific-Practical Internet Conference "Problems and Achievements of Modern Biotechnology" (Kharkiv, 2022). 16. Proceedings of All-Ukrainian conference on molecular and cell biology with international participation dedicated to the heroic struggle of the Ukrainian people against russian invaders (Kyiv, 2022). 17. All-Ukrainian scientific and practical Internet conference with international participation dedicated to the 30th anniversary of the founding of the Department of Clinical Pharmacology and Clinical Pharmacy of the National University of Pharmacy (Kharkiv, 2023). 18. V Scientific and Practical Conference of Students and Young Scientists with International Participation "From Experimental and Clinical Pathophysiology to the Achievements of Modern

	<p>Medicine and Pharmac" (Kharkiv, 2023).</p> <p>19. International Conference on Chemistry and Chemical Technology, Ecology, Bioengineering Dedicated to the 125th Anniversary of Igor Sikorsky Kyiv Polytechnic Institute (Kyiv, 2023).</p> <p>20. IV International Scientific and Practical Internet Conference "Problems and Achievements of Modern Biotechnology" (Kyiv, 2024).</p> <p>21. All-Ukrainian Conference with International Participation "CHEMISTRY, PHYSICS AND SURFACE TECHNOLOGY" (Kyiv, 2024).</p> <p>22. The 12 International research and practice conference: NANOTECHNOLOGY AND NANOMATERIALS (NANO-2024) (Uzhhorod, 2024).</p> <p>23. 1st Scientific conference with international participation «Innovative Directions of Chemistry Development – 2024» (Odesa, 2024).</p> <p>24. BioGENext Conference: Shaping the future of medicine through biomedical R&D (Kyiv, 2024).</p> <p>25. The 5th International Congress on "Green Extraction of Natural Products" (Compiègne, 2024).</p>
Link	<p>https://www.scopus.com/authid/detail.uri?authorId=6507222892</p> <p>https://orcid.org/0000-0002-8597-1935</p>
Expert activity	Expert activity commissioned by the Ministry of Education and Science of Ukraine and the Presidium of the National Academy of Sciences of Ukraine
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