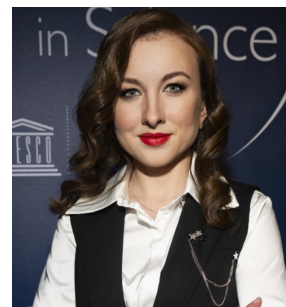


CURRICULUM VITAE

OLHA M. STRILBYTSKA
PhD, Postdoctoral Scientist

Department of Biochemistry and Biotechnology,
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Ministry of Education and Science of Ukraine



ADDRESS

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PERSONAL

Ukrainian, female, born August 8, 1990.
Home address: 30/47 Siryka street, Nadvirna, 78405, Ivano-Frankivsk region, Ukraine
Languages – English, Ukrainian
Family status: Married, two children
Mobile: +380971642209

EDUCATION

2021 – PhD degree in Biochemistry
2013-2019 – Ph.D. student Department of Biochemistry and Biotechnology
2012 – Specialist's degree in Biochemistry
2004 – Bachelor's degree in Biochemistry
2007-2012 – Student in Department of Biochemistry and Biotechnology, Natural Sciences Institute, Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine

PROFESSIONAL AND RESEARCH EXPERIENCE

2023-present – Visiting researcher at the Max Planck Institute for Immunobiology and Epigenetics, Freiburg, Germany
2013-present – Laboratory at the Department of Biochemistry and Biotechnology, Vasyl Stefanyk Precarpathian National University, Ivano-Frankivsk, Ukraine.
2012-2014 – Educator in Nadvirna boarding school

CURRENT AREAS OF INTEREST

- Nutrition&Metabolism
- Aging
- *Drosophila* insulin-like peptides
- Epigenetic mechanisms of regulation of *Drosophila* aging
- Signaling pathways in regulation of aging
- Posttraumatic stress disorder

LABORATORY SKILLS

Physiological methods: fruit fly breeding and maintaining; lifespan assay; fruit fly age-related functional declines (fecundity, mobility, sensitivity to stresses, etc.); capillary feeding assay; “Smurf assay”.

Fly dissection: ovaries, midgut, brain.

Biochemical methods: preparation of tissue and cell extracts, enzyme activities assays, measurement of contents of certain metabolites; spectrophotometric determination of the oxidative stress markers.

Genetic method: gene knock down.

AWARDS AND GRANTS

2024 – Talents for Ukraine, Kyiv school of economy

2024 – VUIAS Fellowship

2023 – Verkhovna Rada of Ukraine Award for Young Scientists for 2022

2023 – TOP-10 finalists of the L'Oréal award “For Women in Science – 2023”

2023 – Grant from the Science and Technology Center in Ukraine. Project title "*Drosophila* midgut as a model to study the tissue homeostasis".

2022 – grant for young researchers in the framework of the EIRENE Max Planck-Ukraine Cooperation & Mobility Grant program from the Max Planck Society (Germany)

2022 – Award of the National Academy of Sciences of Ukraine to young scientists for the best scientific works

2021 – Small Research Grant recipient from U.S.-Ukraine Foundation Biotech Initiative

2020 – Grant from the U.S.-Ukraine Foundation Biotech Initiative for the participation in an international conference “Mechanisms of Aging” (NY, virtual)

2019 – The results of the scientific work were selected within the Research Writing Program (United States Department of Defense, Defense Threat Reduction Agency (DTRA), Biological Threats Reduction Program (BTRP)) by Dr. Luis DaSilva (Metabiota Inc., USA) for the financial support to the publication.

PARTICIPATION IN THE PROJECTS

Senior researcher for the state budget theme “Identification of post-traumatic stress disorder markers based on indicators of oxidative stress and inflammation”, MESU, **2023-2025**

Junior researcher for the state budget theme “Development of drugs to prolong the duration and quality of life and prevent metabolic disorders”, MESU, **2017-2020**

Participant “Nanoparticles in diabetes treatment”, STCU, **2017-2019**

Junior researcher for the project “Development of a methodology for integrated assessment of environmental safety of pesticide pollution for target and non-target organisms”, NRFU, **2020-2022**.

MEMBERSHIP

Ukrainian Biochemical Society

PUBLICATIONS SUMMARY

Experimental papers – 26; Reviews – 13; Book chapters – 5.

BIBLIOMETRICS

October 2024: Scopus h-index – 15, Citations – 528; Google Scholar h-index – 16, Citations – 714.

PUBLICATIONS

* - corresponding author

** - co-corresponding author

Articles

26. Strilbytska O., Yurkevych I., Semaniuk U., Gospodaryov D., Simpson S.J., Lushchak O. Life-history trade-offs in *Drosophila*: Flies select a diet to maximize reproduction at the expense of lifespan. *J Gerontol A Biol Sci Med Sci*. 2024;79(5):glae057.

25. Stefanyshyn N., **Strilbytska O.**, Burdyluk N., Zadorozhna O., Bubalo V., Yurkevych I., Lushchak O. Dietary protein-to-carbohydrate ratio effects development and metabolism in *Drosophila* larvae and imago. *Studia Biologica*. 2024;18(1):69-82.

24. Lushchak O., Velykodna M., Bolman S., **Strilbytska O.**, Berezovskyi V., Storey K.B. Prevalence of stress, anxiety, and symptoms of post-traumatic stress disorder among

- Ukrainians after the first year of Russian invasion: a nationwide cross-sectional study. *Lancet Reg Health Eur.* **2023**, 36, 100773.
23. Matskevych V., Kamyshnyi O., Vasylyk V.M., Grynovska M.B., Lenchuk T., Fishchuk R., Gospodaryov D., Yurkevych I., **Strilbytska O.**, Petakh P., Lushchak O. Morphological prediction of lethal outcomes in the evaluation of lung tissue structural changes in patients on respiratory support with COVID-19: Ukrainian experience. *Pathol Res Pract.* **2023**, 245, 154471.
 22. Serhiyenko V., Holzmann K., Holota S., Derkach Z., Nersesyan A., Melnyk S., Chernysh O., Yatskevych O., Mišik M., Bubalo V., **Strilbytska O.**, Vatsaba B., Lushchak O., Knasmüller S., Cherkas A. An exploratory study of physiological and biochemical parameters to identify simple, robust and relevant biomarkers for therapeutic interventions for PTSD: Study rationale, key elements of design and a context of war in Ukraine. *Proc Shevchenko Sci Soc Med Sci.* **2022**, 69(2).
 21. Semaniuk U.V., Gospodaryov D.V., **Strilbytska O.M.**, Kucharska A.Z., Sokół-Łętowska A., Burdyliuk N.I., Storey K.B., Bayliak M.M., Lushchak O. Chili-supplemented food decreases glutathione-S-transferase activity in *Drosophila melanogaster* females without a change in other parameters of antioxidant system. *Redox Rep.* **2022**, 27(1), 221-229.
 20. Semaniuk U.V., Gospodaryov D.V., **Strilbytska O.M.**, Kucharska A.Z., Sokół-Łętowska A., Burdyliuk N.I., Storey K.B., Bayliak M.M., Lushchak O. Chili pepper extends lifespan in a concentration-dependent manner and confers cold resistance on *Drosophila melanogaster* cohorts by influencing specific metabolic pathways. *Food Funct.* **2022**, 13(15), 8313-8328.
 19. **Strilbytska O.**, Semaniuk U., Bubalo V., Storey K.B., Lushchak O. Dietary choice reshapes metabolism in *Drosophila* by affecting consumption of macronutrients. *Biomolecules.* **2022**, 12 (9), 1201.
 18. **Strilbytska O.***, Semaniuk U., Burdyliuk N., Lushchak O. Evaluation of biological effects of graphene oxide using *Drosophila*. *Phys Chem Solid State.* **2022**, 23(2).
 17. **Strilbytska O.M.****, Semaniuk U.V., Burdyliuk N.I., Lushchak O.V. Protein content in the parental diet affects cold tolerance and antioxidant system state in the offspring *Drosophila*. *Ukr Biochem J.* **2022**, 94(1):86-94.
 16. **Strilbytska O.****, Semaniuk U., Burdyliuk N., Bubalo V., Lushchak O. Developmental diet defines metabolic traits in larvae and adult *Drosophila*. *Ukr Biochem J.* **2022**, 94(1):38-48.
 15. Husak V., Strutynska T., Burdyliuk N., Pitukh A., Bubalo V., Falsfushynska H., **Strilbytska O.**, Lushchak O. Low-toxic herbicides Roundup and Atrazine disturb free radical processes in *Daphnia* in environmentally relevant concentrations. *EXCLI Journal.* **2022**, 21:595-609.
 14. **Strilbytska O.M.**, Semaniuk U.V., Strutynska T.R., Burdyliuk N.I., Tsiumpala S., Bubalo V., Lushchak O. Herbicide Roundup shows toxic effects in nontarget organism *Drosophila*. *Arch Insect Biochem Physiol.* **2022**, e21893.
 13. **Strilbytska O.****, Strutynska T., Semaniuk U., Burdyliuk N., Bubalo V., Lushchak O. Dietary sucrose determines stress resistance, oxidative damages, and antioxidant defense system in *Drosophila*. *Scientifica.* **2022**, 2022, 7262342.
 12. **Strilbytska O.****, Zayachkivska A., Strutynska T., Semaniuk U., Vaiserman A., Lushchak O. Dietary protein defines stress resistance, oxidative damages and antioxidant defense system in *Drosophila melanogaster*. *Ukr Biochem J.* **2021**, 93(5):90-101.
 11. **Strilbytska O.M.***, Strutynska T.R., Semaniuk U.V., Burdyliuk N.I., Storey K.B., Lushchak O. Parental dietary sucrose affects metabolic and antioxidant enzyme activities in *Drosophila*. *Entomological Science.* **2021**, 24(3):270-280.
 10. **Strilbytska O.M.****, Stefanyshyn N. P., Semaniuk U. V., Lushchak O. Yeast concentration in the diet defines *Drosophila* metabolism of both parental and offspring generations. *Ukr Biochem J.* **2021**, 93(6):119-129.

9. Koliada A., Gavrilyuk K., Burdylyuk N., **Strilbytska O.**, Storey K.B., Kuharskii V., Lushchak O., Vaiserman A. Mating status affects *Drosophila* lifespan, metabolism and antioxidant system. *Comp. Biochem. Physiol. A.* **2020**, 246:110716.
8. **Strilbytska O.***, Strutynska T., Semaniuk U., Burdylyuk N., Lushchak O. Dietary sucrose defines lifespan and metabolism in *Drosophila*. *Ukr Biochem J.* **2020**, 92(5):97-105.
7. Gospodaryov D.V., **Strilbytska O.M.**, Semaniuk U.V., Perkhulyn N.V., Rovenko B.M., Yurkevych I.S., Barata A.G., Dick T.P., Lushchak O.V., Jacobs H.T. Alternative NADH dehydrogenase extends lifespan and increases resistance to xenobiotics in *Drosophila*. *Biogerontology.* **2020**, 21(2):155-171.
6. **Strilbytska O.M.**, Storey K.B., Lushchak O.V. TOR signaling inhibition in intestinal stem and progenitor cells affects physiology and metabolism in *Drosophila*. *Comp. Biochem. Physiol. B.* **2020**, 243-244:110424.
5. **Strilbytska O.M.***, Semaniuk U.V., Storey K.B., Yurkevych I.S., Lushchak O. Insulin signaling in intestinal stem and progenitor cells as an important determinant of physiological and metabolic traits in *Drosophila*. *Cells.* **2020**, 9(4):803.
4. **Strilbytska O.**, Velianyk V., Burdylyuk N., Yurkevych I.S., Vaiserman A., Storey K.B., Pospisilik A., Lushchak O. Parental dietary protein-to-carbohydrate ratio affects offspring lifespan and metabolism in *drosophila*. *Comp. Biochem. Physiol. A.* **2020**, 241:110622.
3. **Strilbytska O.M.**, Zayachkivska A., Koliada A., Galeotti F., Volpi N., Storey K.B., Vaiserman A., Lushchak O. Anise Hyssop *Agastache foeniculum* increases lifespan, stress resistance, and metabolism by affecting free radical processes in *Drosophila*. *Front Physiol.* **2020**, 11, 596729.
2. **Strilbytska O.**, Semaniuk U.V., Storey K.B., Edgar B.A., Lushchak O.V. Activation of the Tor/Myc signaling axis in intestinal stem and progenitor cells affects longevity, stress resistance and metabolism in *Drosophila*. *Comp. Biochem. Physiol. B.* **2017**, 203:92-99.
1. **Strilbytska O.**, Koliada A.K., Storey K.B., Mudra O., Vaiserman A.M., Lushchak O. Longevity and stress resistance are affected by activation of TOR/Myc in progenitor cells of *Drosophila* gut. *Open Life Science.* 2017, 12:429-442.

Reviews and book chapters

18. **Strilbytska O.**, Klishch S., Storey K.B., Koliada A., Lushchak O. Intermittent fasting and longevity: From animal models to implication for humans. *Ageing Res Rev.* 2024;96:102274.
17. Lushchak O., Orru M., **Strilbytska O.**, Berezovskyi V., Cherkas A., Storey K.B., Bayliak M. Metabolic and immune dysfunctions in post-traumatic stress disorder: what can we learn from animal models? *EXCLI Journal*, **2023**, 22, 928-945. <https://doi.org/10.17179/excli2023-6391>
16. Lushchak O., **Strilbytska O.**, Storey K.B. Gender-specific effects of pro-longevity interventions in *Drosophila*. *Mech Ageing Dev.* **2023**, 209, 111754.
15. Piskovatska V., Buheruk V., **Strilbytska O.**, Zayachkivska A., Lushchak O. Nonsteroidal anti-inflammatory drugs. *Anti-Aging Pharmacology.* **2023**, 227-243.
14. Lushchak O., **Strilbytska O.**, Koliada A, Storey KB. An orchestrating role of mitochondria in the origin and development of post-traumatic stress disorder. *Front Physiol.* **2023**, 13, 1094076.
13. Lushchak O., Gospodaryov D., **Strilbytska O.**, Bayliak M. Changing ROS, NAD and AMP: A path to longevity via mitochondrial therapeutics. *Advances in Protein Chemistry and Structural Biology.* **2023**.
11. **Strilbytska O.M.**, Tsiumpala S.A., Kozachyshyn I.I., Strutynska T., Burdylyuk N., Lushchak V.I., Lushchak O. The effects of low-toxic herbicide Roundup and glyphosate on mitochondria. *EXCLI J.* **2022**, 21:183-196.
10. Kamyshnyi O., Matskevych V., Lenchuk T., **Strilbytska O.**, Storey K., Lushchak O. Metformin to decrease COVID-19 severity and mortality: Molecular mechanisms and therapeutic potential. *Biomed Pharmacother.* **2021**, 144, 112230.

9. Semaniuk U., Piskovatska V., **Strilbytska O.**, Strutynska T., Burdyliuk N., Storey K., Lushchak O. *Drosophila* insulin-like peptides: from expression to functions. *Entomol Exp Appl.* **2021**, 169(2):195-208.
8. Lushchak O., Piskovatska V., **Strilbytska O.**, Kindrat I., Stefanyshyn N., Koliada A., Bubalo V., Storey K.B., Vaiserman A. Aspirin as a Potential Geroprotector: Experimental Data and Clinical Evidence. *Adv Exp Med Biol.* **2021**, 1286:145-161.
7. Semaniuk U., **Strilbytska O.**, Malinowska K., Storey K.B., Vaiserman A., Lushchak V., Lushchak O. Factors that regulate expression patterns of insulin-like peptides and their association with physiological and metabolic traits in *Drosophila*. *Insect Biochem Mol Biol.* **2021**, 135:103609.
6. Lushchak O., **Strilbytska O.**, Koliada A., Zayachkivska A., Burdyliuk N., Yurkevych I., Storey K.B., Vaiserman A. Nanodelivery of phytoactive compounds for treating aging-associated disorders. *Geroscience.* **2020**, 42(1):117-139.
5. Lushchak O., **Strilbytska O.M.**, Yurkevych I., Vaiserman A.M., Storey K.B. Implications of amino acid sensing and dietary protein to the aging process. *Exp Gerontol.* **2019**, 115:69-78.
4. Piskovatska V., **Strilbytska O.**, Storey K.B., Vaiserman A., Lushchak O. mTOR pharmacology. *Encyclopedia of Biomedical Gerontology.* **2020**, 447-454.
3. Lushchak O., **Strilbytska O.**, Piskovatska V., Koliada A., Storey K. Intermittent fasting. *Encyclopedia of Biomedical Gerontology.* **2019**, 279-290.
2. Piskovatska V., **Strilbytska O.**, Koliada A., Vaiserman A., Lushchak O. Health Benefits of Anti-aging Drugs. *Subcell Biochem.* **2019**, 91:339-392.
1. Lushchak O., **Strilbytska O.**, Piskovatska V., Storey K.B., Koliada A., Vaiserman A. The role of the TOR pathway in mediating the link between nutrition and longevity. *Mech Ageing Dev.* **2017**, 164:127-138.

Book

Strilbytska O., Bayliak M., Lushchak O., Lushchak V.

Laboratory mouse in the study of post-traumatic stress disorder. Practical recommendations: a textbook for students and postgraduates of specialty 091 Biology and Biochemistry / O. Strilbytska, M. Bayliak, O. Lushchak, V. Lushchak; Vasyl Stefanyk National University. 1st ed. Ivano-Frankivsk, PE Goliney O., 2024.

Main conference theses

10. **Strilbytska O.M.** TOR and Insulin signaling in enterocytes regulates the lifespan and metabolism in *Drosophila*. VIII International Conference “*Drosophila* in Experimental Genetics and Biology”, Ivano-Frankivsk, 2023.
9. Stefanyshyn N.P., **Strilbytska O.M.**, Semaniuk U.V., Burdyliuk N.I., Kharuk S.V. Starvation during development affects metabolism in *Drosophila*. *Biotechnologia Acta*, 2023, 16 (2), 44-46.
8. Tsiumpala S., Strutynska T., Yurkevych I., **Strilbytska O.**, Burdyliuk N. Roundup exposure affects longevity, body weight and feeding rate in *Drosophila*. The First Ukrainian-Polish Scientific Forum. AGRO-BIO Perspectives, Lviv, 2021.
7. **Strilbytska O.** Enteroblast cells affected by insulin signaling modulate longevity, stress resistance and metabolism in *Drosophila*. Mechanism of Aging. Cold Spring Harbor Laboratory, virtual, 2020.
6. **Strilbytska O.**, Burdyliuk N. Insulin signaling in intestinal stem and progenitor cells is important determinant of *Drosophila* survival via regulation of gut homeostasis. Fourth annual BTRP Ukraine regional One Health research symposium, Kyiv, 2019.
5. **Strilbytska O.M.**, Lushchak O.V. *Anise Hyssop* affects the metabolism and life expectancy of *Drosophila melanogaster*. XII Ukrainian Biochemical Congress, Ternopil, 2019 (In Ukrainian).
4. Zvarych T.V., **Strilbytska O.M.**, Semaniuk U.V. TOR and Insulin signaling in stem and progenitor cells regulates the lifespan, stress resistance and metabolism in *Drosophila*.

XIII International Scientific Conference of Young Scientists. Shevchenkivska vesna: LIFE SCIENCES, Kyiv, 2015.

3. Arabchuk O.I., **Strilbytska O.M.**, Semaniuk U.V. TOR and Insulin signaling in visceral muscle cells are involved in the regulation of the lifespan, stress resistance and metabolism in *Drosophila*. XIII International Scientific Conference of Young Scientists. Shevchenkivska vesna: LIFE SCIENCES, Kyiv, 2015 (In Ukrainian).
2. **Strilbytska O.M.**, Yurkevych I.S., Lushchak O.V. Parental diet affects the physiological and biochemical state of *Drosophila melanogaster* offspring. XI Ukrainian Biochemical Congress, 2014, Kyiv. (In Ukrainian)
1. **Strilbytska O.M.**, Lushchak O.V. Parental dietary calorie content affects the metabolism of offspring in *Drosophila melanogaster*. XII International Scientific Conference of Students and Young Scientists, Shevchenkivska vesna: LIFE SCIENCES, 2014, Kyiv (In Ukrainian).

RESEARCH PROFILES

SCOPUS <https://www.scopus.com/authid/detail.uri?authorId=57191544334>
ORCID <https://orcid.org/my-orcid?orcid=0000-0003-3277-2294>
WEB OF SCIENCE <https://www.webofscience.com/wos/author/record/ADI-6794-2022>
ResearchGate <https://www.researchgate.net/profile/Olha-Strilbytska>
Goggle Scholar <https://scholar.google.com/citations?user=YySMYb8AAAAJ&hl=ua>