

Curriculum Vitae

Personal information

Name Alexander (Oleksandr) Dakhovnik

Date of birth 04/06/1988

Place of birth Kyiv, Ukrainian SSR

Marital status Single

Citizenship Ukrainian

Email alex1988d@gmail.com - personal

oleksandr.dakhovnik@hest.ethz.ch - work



Education

2015 – 2020 – PhD thesis work with Dr. M.A. Ermolaeva, The Leibniz Institute on Aging – Fritz Lipmann Institute (FLI), on aging and metabolism (*C. elegans*)

2011 – 2015 – PhD thesis work with Prof. Dr. Björn Schumacher, CECAD & The University of Cologne, on DNA-damage and stress resistance (*C. elegans*)

2009 – 2011 – Taras Shevchenko National University of Kyiv, Master of Science student in Molecular Biology

2005 – 2009 – Taras Shevchenko National University of Kyiv, Bachelor of Science, Biology

2002 – 2005 – Kyiv lyceum number 157, a class with Phys-Chem-Bio specialization

1995 – 2002 – Kyiv school number 114 with intensive English learning

Work experience

04/2021 – present – postdoctoral researcher at Prof. Ewald lab

01/2021 – 04/2021 – guest scientist at Prof. Ewald lab

04/2015 – 03/2020 – PhD student Dr. M.A. Ermolaeva lab

04/2012 – 03/2015 – PhD student Prof. Dr. Björn Schumacher lab (moved to Ermolaeva lab)

01/2012 – 03/2012 – 7 weeks rotation project in Prof. Matthias Hammerschmidt's lab

10/2011 – 12/2011 – 7 weeks rotation project in Dr. Björn Schumacher's lab

09/2011 – 10/2011 – 7 weeks rotation project in Prof. Dr. Jens Brünin's lab

05/2007 – 05/2011 – Institute of Molecular Biology and Genetics National Academy of Science of Ukraine

department: Regulatory Mechanisms of Cell (advisor: Academician Prof. Vitaliy Kordyum)

10/2005 – 06/2006 – trainee at Taras Shevchenko National University of Kyiv

department: Pharmaceutical Physiology

Contribution to the conference

- 2012 – 2019 – annual progress reports for PhD thesis
- 03/2012 Institute of Genetics of Cologne University. Report "1. Mapping of a new Zebrafish mutant with a “psoriasis”-like phenotype. 2. Characterization of the finless phenotype of the Zebrafish mutant NZ 124-08.”
- 12/2011 Institute of Genetics of Cologne University. Report "Investigating the potential role of Ikb-1 in DNA-damage checkpoint.”
- 10/2011 Institute of Genetics of Cologne University. Report "The role of LASS6 in brown adipose tissue differentiation.”
- 05/2010 Institute of Molecular Biology and Genetics. Report "Cloning and research of VEGF-A.”
- 02/2011 Institute of Molecular Biology and Genetics. Report "Research of SDF-1 γ "

Current Publications

[“Youthful and age-related matreotypes predict drugs promoting longevity”](#)

Cyril Statzer, Elisabeth Jongsma, Sean X Liu, [Alexander Dakhovnik](#), Franziska Wandrey, Pavlo Mozharovskyi, Fred Züllli, Collin Y Ewald

Aging Cell. 2021 Aug 4;e13441. doi: 10.1111/accel.13441

[“Lifespan-Associated Gene Expression Signatures of Recombinant BXD Mice Implicates Coro7 and Set in Longevity”](#)

David Vitiello, [Alexander Dakhovnik](#), Cyril Statzer, Collin Y Ewald

Frontiers in Genetics. 2021 Jul 9;12:694033. doi: 10.3389/fgene.2021.694033

[“Mitochondrial dysfunction and loss of metabolic plasticity reverse survival benefits of metformin in old *Caenorhabditis elegans* and primary human cells”](#)

Lilia Espada♣, [Alexander Dakhovnik♣](#), Prerana Chaudhari♣, Asya Martirosyan, Laura Miek, Tetiana Poliezhaieva, Yvonne Schaub, Ashish Nair, Nadia Döring, Norman Rahnis, Oliver Werz, Andreas Koeberle, Joanna Kirkpatrick, Alessandro Ori and Maria A. Ermolaeva*.

♣- first co-authorship

Nature Metabolism. 2020 Nov;2(11):1316-1331. doi: 10.1038/s42255-020-00307-1

[“Species comparison of liver proteomes reveals links to naked mole-rat longevity and human aging.”](#)

Heinze I, Bens M, Calzia E, Holtze S, [Dakhovnik O](#), Sahm A, Kirkpatrick JM, Szafranski K, Romanov N, Sama SN, Holzer K, Singer S, Ermolaeva M, Platzer M, Hildebrandt T, Ori A.

BMC Biol. 2018 Aug 2;16(1):82. doi: 10.1186/s12915-018-0547-y

[“Quality control mechanisms in cellular and systemic DNA damage responses”](#)

Ermolaeva MA, [Dakhovnik A](#), Schumacher B.

Ageing Res Rev. 2015 Jan 3. doi: 10.1016/j.arr.2014.12.009. PMID: 25560147

[“DNA damage in germ cells induces an innate immune response that triggers systemic stress resistance.”](#)

Ermolaeva MA, Segref A, [Dakhovnik A](#), Ou HL, Schneider JI, Utermöhlen O, Hoppe T, Schumacher B.

Nature. 2013 Sep 19;501(7467):416-20. doi: 10.1038/nature12452. PMID: 23975097

[“Studying the features of the development of mouse blastocysts during prolonged cultivating.”](#)

Gulko T., Deryabina E., Rimar S., Ruban T., Suhorada E., Maslova O., Lihachova L., [Dakhovnik A.](#), Kordyum V.

Collection of articles: Factors of the organisms' experimental evolution (Volume 9). 2010 Jun; 403-408.

Fellowships and awards

09/2017 – FLI retreat (Luisenthal) – The best PhD poster award

2011 – 2014 – International Graduate School in Development Health and Disease
(IGS DHD) scholarship

03/2010 – Beijing Youth Science Creation Competition (BYSCC) 2010. “The development and tests of the thermal biosensors on the base of enzymes: glucose oxidase, catalase, and peroxidase”. (winner)

Memberships and meetings

02/2014 5th International Symposium “Crossroads in Biology 2014” co-organizer (Köln)

Since 10/2010 Member of AEGEE (Association des États Généraux des Étudiants de l'Europe) in Kyiv

Technical skills

- Lifespan and motility (& fitness) assays in *C. elegans*
- Stress and survival assays in *C. elegans*
- PCR & RT-/qPCR
- Western blotting
- Reverse (RNAi) and forward genetic screening (with mutagenesis) in *C. elegans*
- *Bacillus subtilis* and *Pseudomonas aeruginosa* immunogenic assays in *Caenorhabditis elegans*
- DNA damage assays with hydroxyurea, UV-B, and Ionizing Radiation (IR)
- Immunofluorescent microscopy
- DIC & fluorescent microscopy
- Creating transgenic animals via “Gene gun” and microinjection with FOSmids/BACs
- Microsatellite mapping in *Danio rerio* (zebrafish)
- Live imaging microscopy of *Danio rerio*
- TUNEL assay in *Danio rerio*
- Cell culture work with mouse pre-adipocytes

- Protein expression in *E. coli*
- Molecular cloning (VEGF α and SDF-1 γ – as part of Master Thesis)
- Gene therapy in mouse (in the diabetes type I model)
- Cell transfection with liposomes and PEI (Polyethylenimine)
- Work with stem cells and microinjection of mouse blastocysts using micromanipulator

Languages

English	Fluent
German	Basic (~A2)
Ukrainian	Native language
Russian	Native language

Hobbies

Gym, C++ programming, cosmology, artificial neural networks & electronics