

# Oleksandr Petrenko

Version 2021.02.24

@ oleksandr.petrenko@meduniwien.ac.at +43-1/40400-47190

orcid.org/0000-0002-8586-4910 github.com/xander-p

c/o CeMM, Lazarettgasse 14, AKH BT 25.3, 1090 Vienna, Austria

PhD student with a background in General Medicine (M.D.) and a passion for molecular medicine. Experienced in bioinformatics as a result of routine analysis of human disease-related multi-omics data. Contributor to *in-vitro* & *in-vivo* studies through daily lab work in an interdisciplinary team.

## Education & Training

Current August 2019	UN094, <b>Medical University of Vienna</b> PhD Student in Vascular Biology
September 2018 August 2018	University Emergency Hospital, <b>Carol Davila University of Medicine and Pharmacy</b> Exchange student in flow cytometry and molecular biology (hematology)
June 2017 August 2016	Department of Pathology, <b>Odesa Regional Pathology Bureau</b> Research intern in human pathology
November 2014 June 2014	Department of Pharmacology, <b>Odessa National Medical University</b> Research intern in acute and chronic animal toxicity studies
June 2016 August 2010	Medical Faculty #2, <b>Odessa National Medical University</b> Master's Degree in General Medicine (M.D.)

## Work experience

Current August 2019	PhD student @ Ludwig Boltzmann Institute for Rare and Undiagnosed Diseases <ul style="list-style-type: none"><li>▶ Received an offer after highly competitive recruitment program of CeMM and LBI-RUD (12 offers out of ~700 applications).</li><li>▶ Joined the laboratory of Prof. Thomas Reiberger to study immunovascular microenvironment in rare and undiagnosed liver diseases.</li><li>▶ Contributing to <i>in-vitro</i> and <i>in-vivo</i> studies, and complement the team from the computational perspective.</li><li>▶ Enrolled in the PhD program of the Medical University of Vienna (UN094).</li><li>▶ Passed the introductory courses held by the CeMM faculty and relevant courses of the Medical University.</li><li>▶ Contributed to institutional activities within the "Pro Rare Austria 2020" and "European Researcher's Night 2020" events.</li></ul>
July 2019 August 2017	Medical resident in General Practice - Family Medicine @ Kyiv Medical University <ul style="list-style-type: none"><li>▶ Performed supervised clinical work with patients in an outpatient and inpatient basis.</li><li>▶ August 2017 - September 2018 - medical center "Into-Sana".</li><li>▶ October 2018 - June 2019 - Odesa Specialized Center for Medical Genetics.</li></ul>

August 2018	Chief Innovation Officer @ Reproductive Health Center "Lada"
February 2017	
	<ul style="list-style-type: none"> <li>› Developed local guidelines and logistical chain which allowed the application of preimplantation genetic testing (D5 embryos). It was used in IVF patients with increased risks of aneuploidies and monogenic carriers.</li> <li>› Started direction of medical tourism which attracted international patients with indications for infertility treatment.</li> <li>› Updated program infrastructure for gamete donations and gestational carriers.</li> <li>› Supervised and successfully received certification according to ISO 9001:2015.</li> <li>› Developed a business intelligence methodology for tracking KPI for IVF programs.</li> <li>› Established clinical access for the BMJ Learning portal and tracked the lifelong education of medical personnel.</li> <li>› Established contacts with a local representative of IFMSA and successfully supervised an exchange student.</li> </ul>
February 2017	Junior Clinical Embryologist @ Reproductive Health Center "Lada"
July 2016	
	<ul style="list-style-type: none"> <li>› Received hands-on training with human gametes and embryos and relevant techniques (IVF, ICSI, gametes grading, cryopreservation, WHO 2010 semen analysis, laser-assisted biopsies).</li> <li>› Worked in the IVF laboratory independently and in pair with senior embryologists.</li> </ul>

## Publications

- › Petrenko O.O., Petrenko A.O., Harmatina E.O **Thoraco-omphalopagus conjoined twins (case report)**, INTER COLLEGAS, VOL. 4, No. 1, 2017, pp. 38-41. Access: <https://goo.gl/Wr8sCW>
- › V. O. Sitnikova, O. O. Petrenko **Tendencies of using the assisted reproductive technologies in Ukraine**, Odes'kij medicnij žurnal #1 (159), 2017, pp. 67-69.  
Access: [http://files.odmu.edu.ua/journal/OMJ\\_2017.01/m171\\_67.pdf](http://files.odmu.edu.ua/journal/OMJ_2017.01/m171_67.pdf)
- › Petrenko O., Malanchenko I. **Bioethical issues of embryology in aspects of modern achievements of gene engineering**, The Sixth National Bioethics Congress materials, 2016, pp. 121-122.  
Access: <http://biomed.nas.gov.ua/files/Proceedings6.pdf>
- › K. Bakhniuk, O. Petrenko **Molecular and genetic aspects of targeted therapy in breast cancer: the new approaches**, Clinical Oncology, #4 (24), 2016, p. 86. Access: <https://goo.gl/JSLPGY>
- › Petrenko O. **Characteristics of collagen expression in the placenta of HIV infected women**, Modern Theoretical and Practical Aspects of Clinical Medicine conference materials, 2015, pp. 52-53.  
Access: [http://files.odmu.edu.ua/nwes/konf\\_mat\\_tez\\_2015.pdf](http://files.odmu.edu.ua/nwes/konf_mat_tez_2015.pdf)

## Science communication


- › **Check thy evidence: ibuprofen menace (or not)**. Access: <http://bit.ly/3aNFNce>
- › **Diagnostic odyssey of patients with mitochondrial diseases. Information about the diagnosis, about those who diagnose, and some numbers**. Access: <https://bit.ly/2QPpsLO>
- › **Zika Virus: infected cells and their transcriptome**. Access: <https://bit.ly/2EQCTVv>
- › **CRISPR: make cancer cells fight each other**. Access (in Ukrainian): <https://bit.ly/2Tb3vDR>
- › **Nobel Prize 2018 in Medicine: what is it for and why it may help us**.  
Access (in Russian): <https://bit.ly/2VarZyJ>
- › **The first genetic engineering children were born in China. And it causes questions**.  
Access (in Russian): <https://bit.ly/2GKyK7h>
- › **15 minutes about bioethics**. Access (in Russian): <https://bit.ly/2AictId>

## Languages

<b>Ukrainian</b>	Native.
<b>Russian</b>	Native.
<b>English</b>	Working proficiency.
<b>German</b>	Elementary proficiency.

## Competences

---

<b>Bioinformatics</b>	Analysis of WES and WGS data (GATK) , Analysis of bulk and scRNA seq data , Processing and QC of raw sequencing data , Downstream analysis , Molecular Docking , Network visualization and analysis , Literature topics modeling , Public databases , Data visualization .
<b><i>In vitro</i></b>	Mammalian cell culture handling , Cell treatment , Cell counting & viability assays , Liver tissue dissociation , RNA isolation , IVF techniques , Cell microinjection , Imaging (phase-contrast, dark-field microscopy) , Antibody staining for flow cytometry .
<b><i>In vivo</i></b>	Handling of adult rodents , Assisting during rodents surgeries , Acute toxicity assessment (neurotropic) , Open field test , Calculation of LD <sub>50</sub> , Intraperitoneal injections (rats) .
<b>Computers</b>	Git , SSH , Python , R ,  Linux , Bash , Cloud computing , work with API , parsing , Virtual machines and WSL , CellRanger , Cytoscape , Gephi .
<b>Other</b>	Evidence-based medicine , PICO , Public speaking , Science communication .
<b>Graphics</b>	Adobe Illustrator & Inkscape (vector) , BioRender , Mind the Graph .

## Leadership & Awards

---

- › **February 2021** Elected as a CeMM PhD representative (February 2021).
- › **December 2018:** Co-founded a non-governmental organization "Genomics UA". Until the present time, we organize regular educational and networking events and promote the application of omics in Ukrainian industrial and clinical sectors. I contribute by communicating with our partners and supporting our operating activities.
- › **August 2017:** Tutoring an exchange student from Brazil (IFMSA Professional Exchanges).
- › **August 2016:** Co-founded a local branch of the international popular science project "15x4". In the following years, we regularly hosted events, and I was elected to preview biomedicine-related talks.
- › **August 2016:** Co-founded lectorium for non-formal medical education "Med HUB Odessa". We were operating until 2017 and hosted a few dozen events, such as case-studies, English-speaking clubs, and pre-clinical lectures.
- › **July 2016:** "Many Languages – One World" Essay Contest Award, organized by ELS Educational Services, Inc and the United Nations Academic Impact. After being selected among 60 finalists out of 3500 participants, I joined the working group on Sustainable Development Goal #16 ("Promote just, peaceful and inclusive societies"). The results of our work were presented in the UN General Assembly in New York.
- › **September 2014:** Elected as the Chair of the Students' scientific club on Pathology (2 years).