Oleksandr Petrenko

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WORK EXPERIENCE

15/08/2019 – CURRENT – Vienna, Austria

PHD STUDENT / PREDOCTORAL FELLOW – Ludwig Boltzmann Institute for Rare and Undiagnosed Diseases

I work on a research project "Characterization of the Immunovascular Microenvironment in Rare and Undiagnosed Liver Diseases" in the experimental laboratory of Dr. Thomas Reiberger.
Affiliations: Ludwig Boltzmann Institute for Rare and Undiagnosed Diseases, The CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences and the Medical University of Vienna.

Vienna, Austria

01/08/2017 – 20/06/2019

RESIDENT DOCTOR – Kyiv Medical University

I performed supervised clinical work as a resident doctor in General Practice - Family Medicine.
My clinical bases were:

- August 2017 - September 2018 - private medical center "Into-Sana" (Odesa, Ukraine).
- October 2018 - June 2019 - "Odesa Specialized Medical Genetics Center" (Odesa, Ukraine)

Kyiv, Ukraine

01/02/2017 – 01/09/2018

CHIEF INNOVATION OFFICER – Lada Reproductive Health Clinic

As CINO I entered the Board of Directors and my direct responsibilities are:

- Lifelong education of doctors & Patient education;
- Planning of scientific priorities and investigations of the clinic;
- Modernization of equipment of the clinic;
- International affairs of the clinic;
- Project management;
- Certification & KPI tracking;
- Communications with NGOs.

Odesa, Ukraine

01/08/2016 – 01/06/2017 – Odesa, Ukraine

RESEARCH INTERN – Odesa Regional Pathologic Bureau

- Autopsy technique of adults and newborns;
- Histological slides preparation skills;
- Light microscopy;
- Tumors grading;
- Investigation of development anomalies macro- and microscopically;
- Determining the cause of death;
- Participation in clinico-histologic conferences;

During my internship, I have collected material and published paper “THORACO-OMPHALOPAGUS CONJOINED TWINS (CASE REPORT)”.

Odesa, Ukraine

01/07/2016 – 01/02/2017 – Odesa

JUNIOR CLINICAL EMBRYOLOGIST – Lada Reproductive Health Clinic

As a clinical embryologist intern, I performed biosamples investigation and preparation for embryological procedures (IVF, ICSI). Starting from November 2016 I worked in the IVF laboratory, until I was proposed to join the management team of the clinic.

Odesa, Ukraine

01/06/2014 – 01/11/2014

LABORATORY ASSISTANT – Odessa National Medical University

I worked in the animal facility of the General and Clinical Pharmacology Department of ONMedU under the supervision of a Master's student. My duties were to assist in animal studies, to control the doses of injected substances, to prepare the necessary amount of studied substances, to analyze the received data. My work finished with the ending of my tutor's research project.

Odesa, Ukraine

EDUCATION AND TRAINING

01/10/2019 – CURRENT – Vienna, Austria

PhD courses – Medical University of Vienna

Participation in courses of the UN 094 Doctoral Program. Selected courses:

- Propaedeutics: Molecular and Cell Biology for Medics; Ethics in Medicine and Good Scientific Practice; Project management and intellectual property rights
- Journal Clubs: Hot topics in Molecular Medicine; Molecular Gastroenterology and Colon; High-throughput bioinformatics with focus on next-generation sequencing and cancer genomics.
- Thesis seminar: Experimental Design in Molecular Medicine.

15/09/2019 – 31/12/2019 – Vienna, Austria

PhD introductory course – The CeMM Research Center for Molecular Medicine of the Austrian Academy of Sciences

This introductory program was focused on novel insights, methods in molecular medicine and translational research. It was held by faculty members of CeMM, Ludwig Boltzmann Institute for Rare and Undiagnosed Diseases and the Medical University of Vienna. It included theoretical lectures, seminars, and hands-on workshops.
The course finished with a 4-weeks rotation in the laboratories of CeMM to work on a research project. My rotation project “A pipeline for data extraction from Virtual Metabolic Human Database, characterization of the metabolites and network building” was completed in Jörg Menche Group. It was part of the group's metabolic diseases project, and my results were presented to the faculty in February 2020.

01/09/2018 – 30/09/2018 – Bucharest, Romania

Research internship – Carol Davila University of Medicine and Pharmacy

I was enrolled for a month internship in the Carol Davila University of Medicine and Pharmacy, the name of the project: "Molecular Techniques and Flow Cytometry in the Diagnosis of Hematologic Diseases". I was involved in the next activities:

- Flow cytometric immunophenotyping for hematologic neoplasms and data analysis;
- PCR protocol preparation, sample preparation, classical and capillary electrophoresis, data analysis;

I observed the next activities:

- Sanger sequencing run;
- FISH imaging;
- Analysis data, obtained from aCGH and NGS analyses.

The internship was done under the supervision of Dr. Horia Bumbea, Dr. Dumitru Ion, Dr. Eugen Radu, Dr. Soare Dan, Dr. Aurora Arghir (The "Victor Babeş" Institute).

01/09/2010 – 01/06/2016 – Odesa, Ukraine

Master's degree in General Medicine – Odessa National Medical University

- Fundamental biomedical and clinical sciences;
- Subjects and skills relevant to the National standard for Master's degree in General Medicine.

During my education, I've participated in students' scientific clubs (Department of Pathology, Department of Oncology), was selected for a position of a deputy head of Students' Scientific Society and then for a head of Council of Young Scientists.

EQF level 7

LANGUAGE SKILLS

Mother tongue(s): **UKRAINIAN** | **RUSSIAN**

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
GERMAN	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Scientific graphics | GNULinux | Linux

Bioinformatics

Systems Biology | Python | R | Familiar with biological databases and resources | Analysis and interpretation of exomegenome sequencing | Bioinformatics

PUBLICATIONS

Publications

- 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. Publication: http://files.odmu.edu.ua/nwes/konf_mat_tez_2015.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. Publication: 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. Publication: https://goo.gl/JSLPGY
- 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. Publication: https://goo.gl/Wr8sCW
- V. O. Sitnikova, O. O. Petrenko, 'TENDENCIES OF USING THE ASSISTED REPRODUCTIVE TECHNOLOGIES IN UKRAINE', Odes'kij medičnij žurnal #1 (159), 2017, pp. 67-69. Publication: http://files.odmu.edu.ua/journal/OMJ_2017.01/m171_67.pdf

RECOMMENDATIONS

- Priv. Doz. Dr. Thomas Reiberger, Associate Professor of Hepatology at the Medical University of Vienna, Vienna, Austria. thomas.reiberger@meduniwien.ac.at
- Dr. Shibashish Giri, Deputy Head of the Biotechnologisch-Biomedizinisches Zentrum, University of Leipzig, Leipzig, Germany. shibashish.giri@bbz.uni-leipzig.de
- Dr. Yuliya Sytnikova, Postdoctoral Researcher, Harvard Medical School, Boston, USA. ysytniko@broadinstitute.org
- Dr. Pavel Itsykson, Director of Embryology Facility in IVF Unit at Assuta Rishon Medical Center, Rishon LeZion, Israel. pauli@assuta.co.il
- Dr. Oleksiy Boldyriev, Researcher in O. O. Bohomolets Institute of Physiology, Kyiv, Ukraine. alexey@biph.kiev.ua
- Dr. Dumitru Ion, Hematology Clinic, University Emergency Hospital, Bucharest, Romani a. punctdoc@yahoo.com

ORGANISATIONAL SKILLS

Organisational skills

- I have a background in organizing scientific seminars and conferences due to my experience in the Scientific Society of my Alma Mater and in popular science project "15x4" ;
- Managing experience in Lada Reproductive Health Clinic allowed me to improve my communication with subordinate people and how to act to facilitate/optimize collaboration, as well as to find IT-solutions for effective project management;
- During the National actions (like "National Days of Science", "National Medical Tournament", "Rare Disease Day in Ukraine") I have learned how to cooperate with volunteers effectively, how to react in crisis situations, and how to provide activity reports after it.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

- Ability to maintain sustainable communications with patients, colleagues, mentors due to university background and previous clinical work;
- Good communications via email and messengers, which I was able to develop during my work as Chief Innovation Officer in Reproductive Clinic

JOB-RELATED SKILLS

Job-related skills

- **Laboratory skills**

Cell culture, viability assays, mass spectrometry, flow cytometry, PCR, basics of Sanger sequencing, basics of FISH, light microscopy, confocal microscopy, data analysis.

- **In vivo studies**

Experience of work with laboratory animals (mice and rats): intraperitoneal injections, finding LD50, performing an open field test, investigation of acute and chronic toxicity (CNS-active agents), data recording, grouping animals, calculating individual doses of administered substances;

- **IVF clinical laboratory**

Oocyte retrieval and washing, spermatozoa selection for ICSI, oocyte fertilization (IVF and ICSI), zygote and embryo cultivation and grading, assisted hatching (laser assisted and mechanical one), oocyte and embryo freezing by vitrification and thawing, preparation of embryos for an embryo transfer, basics of laser-assisted trophectoderm biopsy for PGT; Full semen investigation (according to WHO 2010 guidelines), MAR-test, GBA-test, semen preparation for ICSI and for intrauterine inseminations, semen freezing, freezing of single spermatozoa;

- **Pathology**

Performing a human autopsy (G.V. Shor method), working experience with the operational material, histological investigation;

- **Data analysis and interpretation**

NGS data analysis with Python and R, Illumina BaseSpace Sequence Hub & Variant Interpreter, datasets analysis, BLAST, UCSC Genome Browser, CRISPR target modeling, evaluation of a significance of a genetic variant in both custom and standard panels (oncology), biological networks;

- **Clinical epidemiology**

Strong understanding of evidence-based medicine principles, estimating null hypothesis and alternative hypotheses, evaluation of study design and finding research bias, using PICO for setting up clinical questions, basic biostatistics;

- **Digital skills**

Google Docs and Microsoft Office package, LaTeX, Mendeley, graphics editors (GIMP, Adobe products), basics in bash, Linux.

OTHER SKILLS

Other skills

- **Language skills according to CERF:**

Ukrainian, Russian - Native
English - working proficiency (C1)
German - basic understanding (A1)

POPULAR SCIENCE PUBLICATIONS

Popular Science Publications

- "Diagnostic odyssey of patients with mitochondrial diseases. Information about diagnosis, about those who diagnoses and some numbers". https://bit.ly/2QPpsLO
- "Zika Virus: infected cells and their transcriptome". https://bit.ly/2EQCTVv
- "CRISPR: make cancer cells to fight each other" (in Ukrainian) https://bit.ly/2Tb3vDR
- "Nobel Prize 2018 in Medicine: what is it for and why it may help us" (in Russian) https://bit.ly/2VarZyJ
- "The first genetic engineering children were born in China. And it causes questions" (in Russian) https://bit.ly/2GKyK7h
- "15 minutes about bioethics" (in Russian) https://bit.ly/2AictId

LEADERSHIP

Leadership

- During my education, I've been chosen to join Students' Scientific Society of Odesa National Medical University as a head of Department of Pathology Scientific Club;
- In 2014-2016 I've worked as a deputy head of the Students' Scientific Society;
- Founded “MED Hub Odesa” social platform (2015-2017) for nonformal education, medical English, case studies, and volunteering;
- In 2016-2017 I've been chosen as a head of the Council of Young Scientist;
- In 2016, as one the winners of the “Many Languages – One World” essay contest, I've been invited to join the United Nations General Assembly and to make a speech on Sustainable Development Goals implementation in Ukraine during the Global Youth Forum;
- Together with colleagues, we've organized "15x4 Odesa" popular science project in 2016 for a productive dialogue between scientists and citizens with the goal to educate non-scientists.

PROJECTS

12/2018 – CURRENT

NGO Genomics UA

Role: Co-Founder, Project Manager
fb.me/genomicsua | genomics.org.ua

Together with my colleagues, we founded a Non-Governmental, Non-Profit organization to promote biomedical research in Ukraine. We organize non-formal education events (seminars, webinars, workshops) for Ukrainian BioMed/BioTech students and specialists. We consult academic and industrial partners in the application of bioinformatics and omics.

08/2016 – 08/2019

15x4 Odesa

Role: Key lecturer, Key Keeper
fb.me/15x4odessa | 15x4.org

15x4 is an international popular science project. I was contributing *pro bono* as a lecturer, and was reviewing biomedical talk.

07/2015 – 02/2017

MED Hub Odessa

Role: Co-Founder, Project Manager
fb.me/medhubOdessa/

Together with colleagues, we founded a networking and lifelong education project for medical students. It was active for approximately 1.5 years, during which we organized Medical English & Medical German class, a series of networking events, and invited lectures from recognized Ukrainian physicians.