WIESŁAW ABRAMOWICZ, M.S.

Oncological Molecular Biologist & Computational Scientist

using proteasomes inhibitor, nutritranscriptomics

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RESEARCH EXPERIENCE

8/2017 | 10/2013

Transcriptomic profiling of a human kidney cancer cell line, Caki-2, after treatment of Ixazomib, Ursolic acid and jointly using microarray technology.

Advisor: Prof. Marzanna Cechowska-Pasko, Ph.D.
Department of Pharmaceutical Biochemistry, Medical University of Białystok.

- Project manager and executive (wet lab, in silico analyses);
- Budget management;
- Performed wet laboratory (experiments with Agilent's gene expression and miRNA microarrays as Watson-Crick base paring of indirect transcriptome form cDNA (mRNA, lncRNA, lincRNA, sno/snRNA, ncRNA, miscRNA, miRNA)(none of Hoogsteen base paring procedures), quality controls (pos/neg/spike-in), MTT drug testing (proteasome inhibitor, terpen), total RNA/DNA isolation, purification, quality, quantity (Bioanalyzer, NanoDrop), gene validation (qPCR, primer design, analysis)) and in silico using open-source programming/biostatistical R/RStudio with packages from cran, bioconductor, github repos (pre-processing, numerical validation awarness, glmm, Bayesian, multivariate, pathway enrichment analysis). On time delivering wet lab experiments (I take care of the details and I am very precise, troubleshooting), performing and precaution of misleading computational analysis. [manuscript in preparation]

12/2015 | 10/2014

DNA sequencing of clear cell renal cell carcinoma and healthy kidney area.

"Genome-wide methods in cancer genetics". BASTION. Advisor: Prof. Marzanna Cechowska-Pasko, Ph.D.
Department of Pharmaceutical Biochemistry, Medical University of Białystok.

- project co-executive (wet lab, in silico analyses);
- DNA sequencing (1000 genes) of human cancer and normal kidney using KAPA library. [with co-operation of Prof. Rafał Płoski, PhD, MD (Medical University of Warsaw). [manuscript in preparation]

CONTACT INFO

immunol22@gmail.com
+48 798 298 280

SKILLS

Linux

Studio

Git GitHub

Markdown, LaTeX

HPC (openMPI, Rmpi), HTML5, CSS, YAML

EXPERIENCE

Biostatistics (glmm + Bayes).

QC (pos, neg, spike).

NGS, Agilent's Microarray, qPCR [**wet lab, in silico**] {kidney oncology}.

Laboratory Diagnostics (urology inflammations).

LANGUAGES

Polish: Native

English: Proficient (C1)

IN SILICO

Biostatistic experience

Interests: pre-processing (raw signal, transformations), manifolds/topology, glmm, gee, mixed models

- GLMMs & Bayesian;
- R, RStudio;
- R packages (limma, RSubread, Gviz, biomaRt, etc.);
- R programming (visualizations, office documentation & more);
- pre-processing (log, lowess, loess, quantile) of transcriptomics data;
- Reproducible tools (git, github, gitlab) and reporting (rmarkdown, bookdown, etc.);
- Pathway Enrichment Analysis (GO, KEGG, Reactome, WikiPathways, HumanCyc, clusterProfiler, rSEA);
- Multivariate Analysis (PCA, tSNE, UMAP, SONG, NMF, Ricci flow);
- Comparative Analysis (Venn diagram);
- Isobolograms;
- use of data sets (ncbi, google patents, etc.);
- use of FDA resources (CDER, CDRH, NCTR – mitochondial toxicity, MAQC/SEQC);
- numerical validation awarness;
- Linux command line;
- basics of MySQL;
- basics of Python (PyScripter, PyMol, PyLasso, Autodock/Vina);
- basics of machine Learning (Random forest, CatBoost, LightGBM, XGBoost, H2O);
- basics of neural Networks (TensorFlow, Keras, etc.);
- Agilent's GeneSpring GX;
- CLC Main Workbench;
- more information in each description of course;

HPC experience

High-Performance and Parallel Computing

- I built cluster of two computers with openMPI and Rmpi (an interface for R & RStudio) on Ubuntu (SSH connected).

WET LAB

2017 | 2011

Laboratory Experience

Research interests: Oncology, Immunology, EpiOmics, Transcriptomic, Proteasomes, Nutritranscriptomics, Watson-Crick/Hoogsteen base paring.

Medical University of Białystok, PL

- BIO-RAD CFX Connect Real-Time PCR (qPCR);
- Agilent's microarray (two-color gene expression) + QC (positive, negative, spike-in controls);
- NanoDrop 2000 (spectrophotometry);
- MTT tests (using proteasome inhibitor {Ixazomib} – on-label FDA approved in multiple myeloma, terpen {Ursolic acid} – derivative, from e.g. apples, with anti-inflammation, anti-cancer properties);
- DNA, RNA extraction from cultured cells (Qiagen, Promega, A&A Biotechnology); RNase, DNase free environment;
- Agilent 2100 Bioanalyzer (DNA/RNA microcapillary electrophoresis, flow cytometry) – lab-on-chip;
- DNA, RNA gel electrophoresis;
- Western blot with SNAP i.d.;
- PMN, PBMC cells isolation, neutrophils isolation with anti-CD16 mAb MicroBeads and magnetic separator Midi MACS;
- cells counting chambers;
- setting up cell cultures;
- optical microscope;
- flow cytometry.

EDUCATION

08/2017 | 10/2013

Ph.D. Studies in Pharmaceutical Sciences (resign)

The Centre for Innovative Research 2012-2017, Faculty of Medicine with the Division of Dentistry and Division of Medical Education in English, Faculty of Pharmacy and Division of Laboratory Medicine, Medical University of Białystok

PL

Research area: **Transcriptomic profiling of cancer cell line after drugs treatment using Agilent microarrays and biostatistic open-source tools.**

Advisor: Prof. dr hab. Marzanna Cechowska-Pasko, Ph.D.

All subjects passed (GPA 3,85):

- Principles of genetic analysis (6h);
- Learning techniques of molecular biology (10h);
- Introduction to genomics (6h);
- Epigenomics and transcriptomics (50h);
- Learning methods in structural and functional genomics (10h);
- **Basic Statistical refreshment** (30h; **prof. Tomasz Burzykowski**, UHasselt);
- **Statistical modeling** (30h; **prof. Tomasz Burzykowski**, UHasselt);
- **Design of experiments** (18h; **prof. Tomasz Burzykowski**, UHasselt);
- **Statistics for omics** (36h; **prof. Ziv Shkedy**, UHasselt);
- Metabolomics (16h);
- Facultative advanced courses in protein analysis/ proteomics/ metabolomics (50h);
- Protein analysis and proteomics (32h);
- Immunology (16h);
- Facultative advanced courses in immunology (15h);
- Teaching the presentation and evaluation of research at the academic level (30h);
- Professional practice (30h);
- OHS (4h).

09/2013 | 10/2007

M.Sc. in Medical Analitics, PQF 7

Faculty of Pharmacy and Division of Laboratory Medicine, Medical University of Białystok

PL

Master's thesis: Expression of the APRIL particle in neutrophils of patients with potentially malignant lesions of the oral mucosa.

- GPA: 4,30 (transcript of master degree);
- isolation and work with human blood cells;
- Advisor: **Prof. dr hab. Ewa Jabłońska, Ph.D.**
- Co-Advisor: **dr Kamil Grubczak, Ph.D.**
- experience in **biochemistry** and **immunology** research (see Wet lab, Student membership & Publications sections in this resume);
- Dean's leave (10/2008 - 09/2009)

08/2007 | 09/2005

Pharmaceutical Assistant, PQF 4

Vocational School No. 1 of Health Care

Białystok, PL

EMPLOYMENT

12/2022 | 4/2021

Owner, Co-founder & CEO

WARZEM Wood & Stone, Solid Wood Artistic Carpentry Workshop.

Dąbrowa Białostocka, PL

● management, accountancy; ● website design with html5, css, yml; ● natural oils (no siccative, no PFAS); ● furniture design (using the golden ratio); ● cutting, planing, milling, sculpturing; ● tools design; ● chopping down trees;

09/2009 | 09/2008

Pharmaceutical Assistant

Pharmacy “Lobelia” Barbara Winsko. Białystok, PL

● advising for patients in OTC medication; ● issuing medicines prescribed by a physician; ● accepting and placing orders; ● delivering medicines to other points of sale.

PROFESSIONAL MEMBERSHIP

12/2018 | 01/2014

The Right to Practice the Profession in Laboratory Diagnostic. No 13786

KIDL Warsaw

DATA SCIENCE, LABORATORY COURSES

25/01/2023

“Good Things Come in Small Packages: Purifying miRNA from Plasma, Serum and Exosomes”

Michelle Mandrekar – **Promega** Online, PL

• Maxwell RSC miRNA

22/ | 25/09/2014

Courses:

A&A Biotechnology Gdańsk, PL

• “Real-Time PCR”

• “Real-Time PCR - quantitative markings”

10/2014

Prof. Tomasz Motyl Laboratory Experience:

Department of Physiological Sciences, WULS (SGGW) Warsaw, PL

• Agilent’s expression microarray experiments (wet lab only).

11/2018

“Exploratory Data Analysis”

coursera.org – online course Johns Hopkins University

• lattice.
• ggplot2.
• Clustering.
• Dimension Reduction.

06/2016

“NGS in Regulatory Gene Research”

ideas4biology Poznań, PL

Coordinator: **dr Michał Szcześniak, Ph.D.**

Techniques: ChIP-chip, ChIP-Seq, ChIP-exo, CLIP-Seq, DNase-Seq, FAIRE-Seq, GRO-Seq, HiC, MeDIP-Seq, MBD-Seq, MNase-Seq, oxBS-Seq, RIP-Seq, RRBS-Seq, TAB-Seq, TSS-Seq, WGBS-Seq.

Linux. WinSCP, PuTTY.

Softwares: POLYPHEMUS, ChromHMM, Segway, MACE, DANPOS2, MeDUSA, diffReps, BSMAP, methylKit, Trimmomatic, Subread, BamTools.

Databases: OMICtools, AllSeq, ChIPBase, hmChIP, mirPath, miRTarBase.

02/2016 **"Getting and Cleaning Data"**
coursera.org – online
Johns Hopkins University

- MySQL.
- HDF5.
- dplyr.
- Regular Expressions.

01/2016 **"R programming"**
coursera.org – online
Johns Hopkins University

- R, RStudio.

01/2016 **"The Data Scientist's Toolbox"**
coursera.org – online
Johns Hopkins University

- Version Control (Git, GitHub).
- R Markdown.

16/ | 18/06/2014 **"Using next-generation sequencing to analyse human transcriptome"**
Richard Dixon, Ph.D. – **QIAGEN**
Medical University of Bialystok, PL

08/ | 11/04/2014 **"Using next generation sequencing to analyse human genome"**
Richard Dixon, Ph.D. – **QIAGEN**
Medical University of Bialystok, PL

07/04/2014 **"Early diagnosis and treatment of neurodegenerative diseases"**
Department of Biochemical Diagnostics, Department of Neurology, Department od Neurodegeneration Diagnostics, Department of Pediatrics, Gastroenterology and Pediatric Allergology of Medical University of Bialystok
Bialystok, PL

STUDENT MEMBERSHIP

2013 | 2012 **Member of the board of the Students' Scientific Society**
Co-organizer of the **8th** & **7th** Białystok International Medical Congress for Young Scientists. Coordinator of Belarusian participants.
Medical University of Białystok, PL

06/2013 | 10/2009 **Department of Immunology**
Active participant of Student's Scientific Society.
Medical University of Białystok, PL

Advisor: **Prof. Ewa Jabłońska, Ph.D.**

2011 | 2010 **Department of Pharmaceutical Biochemistry**
Active participant of Student's Scientific Society.
Medical University of Białystok, PL

Advisor: **dr hab. Małgorzata Borzym-Kluczyk, Ph.D.**

PUBLICATIONS AND POSTERS

2013 **Tylirozyd, a flavonoid with cytotoxic properties. Poster presentation.**

Nationwide Scientific Symposium “Supplements a deity under the microscope of a pharmacist”.

Medical University of Bialystok, PL

Abramowicz W.

2012 **APRIL molecule in patients with potentially malignant lesions of the oral mucosa (lichen planus).**

7th International Medical Congress for Young Scientists, Białystok, p.185

Abramowicz W., Wawrusiewicz-Kurylonek N., Garley M.

2010 **Alpha-mannosidase and beta-galactosidase activity in the serum of patients with colorectal adenocarcinoma.**

5th International Scientific Conference of Medical Students and Young Doctors, Białystok, p.132-133

Luto M., Choromańska B., Chwiła A., Wasiluk A., **Abramowicz W.**

2010 **Assessment of the activity of N-acetyl-beta-D-hexosaminidase, it’s B enzyme and betaglucuronidase in the urine of patients with Lyme disease.**

5th International Scientific Conference of Medical Students and Young Doctors, Białystok, p.127

Choromańska B., Luto M., **Abramowicz W.**, Chwiła A., Wasiluk A.

2010 **The activity of N-acetyl-beta-hexosaminidase, it’s N-isoenzyme and beta-glucuronidase in the blood serum of patients suffering from Lyme disease.**

5th International Scientific Conference of Medical Students and Young Doctors, Białystok, p.128

Chwiła A., Luto M., Choromańska B., Wasiluk A., **Abramowicz W.**

2010 **Alanine and aspartic aminotransferase activity in blood serum of men after acute and chronic ethyl alcohol poisoning.**

5th International Scientific Conference of Medical Students and Young Doctors, Białystok, p.137-138

Wasiluk A., **Abramowicz W.**, Luto M., Choromańska B., Chwiła A.

HOBBY

Free time | 11/1986;) **Biking, baking, cooking, books (QCD, manifolds, new technologies, marine art), pencil drawing, swimming, ski, interior design, DIY (wood & stone), photography.**

Everywhere it is possible

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