

WIESŁAW ABRAMOWICZ, M.S.

Oncological Molecular Biologist & Computational Scientist

using proteasomes inhibitor, nutritranscriptomics

Download this resume or
cover letter

Example of microarray analysis

RESEARCH EXPERIENCE

8/2017
|
10/2013

- **Transcriptomic profiling of a human kidney cancer cell line, Caki-2, after treatment of Ixazomib (on-label), Ursolic acid and jointly using microarray technology. (pre-clinical)**

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

Department of Pharmaceutical Biochemistry, Medical University of Białystok.

- Budget management (successful negotiations with vendors within budget);
- Design of Experiments (DoE);
- Project manager and executive (wet lab, in silico analyses);
- Performed **wet laboratory** experiments (Agilent's gene expression and miRNA microarrays of indirect *transcriptome* form total RNA (mRNA, lncRNA, lincRNA, sno/snRNA, ncRNA, miscRNA, miRNA), 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** analyses using open-source programming/biostatistical *R/RStudio* with packages from cran, bioconductor, github repos (pre-processing, numerical validation awareness, glm, Bayesian, multivariate, pathway enrichment analysis). On time delivering wet lab experiments (I take care of the details and I am very precise, successful 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. (clinical case)**

"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, MD, PhD** (Medical University of Warsaw). [manuscript in preparation]

DRIVING LICENCE

Currently
|
30/08/2006

- **AM/B1/B**
Smooth driving, dynamic driving, no collisions.

CONTACT INFO

immuno122@gmail.com

+48 798 298 280

About Me

WARZEM Wood & Stone –
– UI/UX/ Graphic Designer

SKILLS

Linux R R Studio

Git GitHub

Markdown, L^AT_EX

HPC (openMPI, Rmpi).
HTML5, CSS, JS, YAML,
Inkscape, GIMP, Blender.

GAMP5, GxP, CAPA, DoE,
Agile oriented.

EXPERIENCE

Biostatistics (glm + Bayes)

Immunology, Oncology
(4 years)

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**, glm, gee, **mixed models**

- exploratory and confirmatory analyses;
- GLMs & Bayesian, mixed (lme4, mcmc, lmer);
- R, RStudio;
- R packages (GO.db, pathview, RSubread, Gviz, biomaRt, plotly, ggplot, D3.js, etc.);
- R programming (visualizations, office documentation, pdf, rtf);
- data mining, regular expression, rest api;
- 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);
- Functional Annotation;
- GATK, STAR, DESeq2;
- 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 – mitochondrial toxicity, MAQC/SEQC);
- numerical validation awareness;
- 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 personal computers with **openMPI** and **Rmpi** (an interface for **R** & **RStudio**) on **Ubuntu** (**SSH** connected).

WET LAB

● Laboratory Experience

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

📍 Medical University of Białystok, PL

- BIO-RAD CFX Connect Real-Time PCR (qPCR);
- Agilent's microarray (two-color gene expression, miRNA) + 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**.

2017
|
2011

EDUCATION

Currently
|
01/2016

● **Data Science Specialization**

coursera.org – online

📍 Johns Hopkins University, USA

“Exploratory Data Analysis” (11/2018)

- lattice.
- ggplot2.
- Clustering.
- Dimension Reduction.

“Getting and Cleaning Data” (02/2016)

- dplyr, httr, rhdf5, xml, RMySQL, foreign, rmongodb, RMongo, RPostresQL;
- Regular Expressions (REGEX), R programming Data Cleaning, Data Manipulation.

“R programming” (01/2016)

- Data Analysis, R programming, Debugging, RStudio.

“The Data Scientist’s Toolbox” (01/2016)

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

08/2017
|
10/2013

● **Ph.D. Studies in Pharmaceutical Sciences**

The Center 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

• fundraising; • process optimization (Agile); • management, accountancy; • website design and build with html5, css, js, yaml, github; • photography and video making; • graphic design and creation (Inkscape – vector graphics); • video design and creation (Blender); • creating solid wood furnitures (using the golden ratio); • carpentry tools design and create; • using natural oils (no siccativ, no PFAS) – toxicological issues; • chopping down trees;

09/2009
|
09/2008

Pharmaceutical Assistant

Pharmacy “Lobelia” Barbara Winko.

📍 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

29/
|
31/03/2023

Duke Industry Statistics Symposium 2023

“Empower Clinical Development by Harnessing Data from Diverse Sources”

📍 Duke University, USA

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).

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.

16/
|
18/06/2014

“Using next-generation sequencing to analyse human transcriptome”

Richard Dixon, Ph.D. – QIAGEN

📍 Medical University of Białystok, PL

08/
11/04/2014

- **"Using next generation sequencing to analyse human genome"**

Richard Dixon, Ph.D. – QIAGEN

📍 Medical University of Białystok, PL

07/04/2014

- **"Early diagnosis and treatment of neurodegenerative diseases"**

Department of Biochemical Diagnostics, Department of Neurology, Department of Neurodegeneration Diagnostics, Department of Pediatrics, Gastroenterology and Pediatric Allergology of Medical University of Białystok

📍 Białystok, 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

- **Tylozyd, a flavonoid with cytotoxic properties. Poster presentation.**

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

📍 Medical University of Białystok, 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.

- **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.