

WIESŁAW ABRAMOWICZ, M.S.

Oncological Molecular Biologist & Computational Scientist

using proteasomes inhibitor, nutrintranscriptomics

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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 pairing of indirect **transcriptome** form cDNA (mRNA, lncRNA, lincRNA, sno/snRNA, ncRNA, miscRNA, miRNA, pos/neg/spike-in QC) (none of Hoogsteen base pairing procedures), 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), 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** (Medical University of Warsaw). [manuscript in preparation]

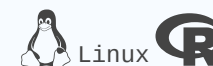
CONTACT INFO

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SKILLS



Markdown, *L^AT_EX*

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 – 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 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) + 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

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](https://www.coursera.org) – online course

📍 Johns Hopkins University

- lattice.
- ggplot2.

- Clustering.
- Dimension Reduction.

06/2016

"NGS in Regulatory Gene Research"

[ideas4biology](https://www.ideas4biology.com)

📍 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. • dplyr.
 • HDF5. • 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.
- 16/06/2014 • **“Using next-generation sequencing to analyse human transcriptome”**
Richard Dixon, Ph.D. – QIAGEN 📍 Medical University of Białystok, PL
- 08/11/2014 • **“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 • **Tylirozyd, 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.
- 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