WIESŁAW ABRAMOWICZ, M.S.

Laboratory Diagnostician, Oncological Molecular Biologist & Computational Scientist (genomics, epigenomics, transcriptomics, epitranscriptomics, proteomics, metabolomics)

Achivements: cost effective sellecting personalized transcriptomics targets by microarray for on- and off-label treatment of tumors

RESEARCH EXPERIENCE

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)

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 awarness, 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]

8/2017 - 10/2013

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.
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).

DRIVING LICENCE

Currently | 30/08/2006

AM/B1/B

Smooth driving, dynamic driving, no collisions.

PROFESSIONAL MEMBERSHIP

Currently | 01/2014

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

KIDL — Warsaw

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Example of microarray analysis

CONTACT INFO

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About Me
WARZEM Wood & Stone – – UI/UX/ Graphic Designer, Carpenter.

SKILLS

Linux, RStudio, Git, GitHub, Markdown, LaTeX,

HPC (openMPI, Rmpi). HTML5, CSS, JS, YAML, Google Analytics, 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

English: Proficient (C1)

Polish: Native

IN SILICO

Biostatistic experience

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

- exploratory and confirmatory analyses;
- GLMs & Bayesian, mixed (limma, mmrm, lme4);
- R, RStudio;
- R packages (GO.db, pathview, RSubread, Gviz, biomaRt, plotly, ggplot, D3.js, igvR, 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 – mitochondial toxicity, MAQC/SEQC);
- Gene Expression Omnibus;
- 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 personal 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, 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.

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, RPostresSQL;
- 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, RStudio; ● Google Analytics; ● 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 siccative, no PFAS) – toxicological issues; ● 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.

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 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.

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