KASIA KEDZIERSKA

I am a 3rd year PhD student at the University of Oxford. I am a comuptational biologist, i.e. I use Data Science and Statistical Machine Learning while answering biological questions related to cancer of the uterus. Specifically, I study chromatin organisation in endometrial cancer. I spend most of my time either in command line writing Bash/Awk scripts or analysing and visualising data n R/Python.

I like teaching and deeply believe in Open Science. I am the President of #NGSchool Society with which I've been organising Summer Schoools in Bioinformatics. During last year edition - #NGSchool2019: Machine Learning for Biomedicine we recorded and published some of the lectures. This year, becasue of the pandemic we switched to organising virtual events, like NGSseminars series.

RESEARCH EXPERIENCE

2022 | 2018

DPhil Candidate

Church group @ Wellcome Centre for Human Genetics, Wedge group @ Big Data Institute

University of Oxford, UK

- PhD project: *Functional and evolutionary characterisation of chromatin organisation in endometrial cancer*

2018 | 2017

Visiting Graduate Student

Ratan group

University of Virginia, USA

- Developed SONiCS - a tool for genotyping short tandem repeats (STRs) profiled using capture assays.
- Worked on the Master thesis - *Analysis of the mutational burden across gene sets in cancer*.

2017 | 2016

Visiting Graduate Student

Pemberton group

University of Virginia, USA

- Worked on Epigenetic regulation in prostate cancer.
- Performed experiments and analyzed data from RNA-seq, ATAC-seq, and ChIP-seq assays.

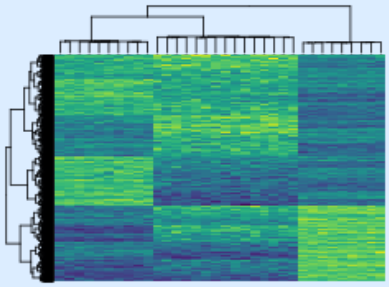
2016 | 2015

Research Assistant

Zebrafish Developmental Genomics

IIMCB, Warsaw, Poland

- I worked on the project: *Elucidating gene regulatory network of zebrafish heart development using genomics.*
- I was responsible for both computational and experimental aspects of the project.



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CONTACT

- kasia@well.ox.ac.uk
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- github.com/kzkedzierska
- kasia.codes
- kzkedzierska

LANGUAGE SKILLS

- R
- Bash
- Python
- AWK
- SQL
- Perl

*Made with the R package **pagedown**.*

Based on the Nick Strayer's CV package; modified source code for this CV is available here.

Last updated on 2020-11-17.

EDUCATION

2022 | 2018

DPhil. Candidate, Genomic Medicine and Statistics

Nuffield Department of Medicine, Brasenose College

University of Oxford, UK

- Project: *Functional and evolutionary characterisation of chromatin organisation in endometrial cancer.*
- Wellcome Trust Studentship

2018 | 2015

M. Sc. Eng., Biotechnology

Warsaw University of Technology

Warsaw, Poland

- Thesis: *Analysis of the mutational burden across gene sets in cancer.*
- Thesis awarded the best Master thesis in Bioinformatics defended in 2018 title.

2015 | 2011

B. Sc. Eng., Biotechnology

Warsaw University of Technology

Warsaw, Poland

PUBLICATIONS

2020

The *MLH1* polymorphism rs1800734 and risk of endometrial cancer with microsatellite instability

- MLH1 promoter polymorphism, rs1800734, association with MSI EC risk.

2020

Prognostic integrated image-based immune and molecular profiling in early-stage Endometrial Cancer

- Quantification of intraepithelial CD8+ cells improved upon the prognostic utility of the molecular EC classification in early-stage EC

2019

Dynamics of cardiomyocyte transcriptome and chromatin landscape demarcates key events of heart development

Genome Research

- Regulation networks in heart developmnent in zebrafish.

2018

Genomic analysis of DNA repair genes and androgen signaling in prostate cancer

BMC Cancer

- DNA repair genes and androgen signalling in prostate cancer cell lines.

2018

SONiCS: PCR stutter noise correction in genome-scale microsatellites

Bioinformatics

- Tool for genotyping short tandem repeats (STRs) profiled using capture assays, github.com/kzkedzierska/sonics

POSTERS, AND TALKS

2019 **Analysis of the mutational burden across gene sets in cancer**
Polish Bioinformatics Society Symposium — Cracow, Poland
- Invited talk

2018 **Differential mutation analysis across gene sets in cancers**
The Biology of Genomes 2018 — Cold Spring Harbor, NY, USA
- Poster

2017 **Epigenetic regulation of prostate cancer**
Visiting Graduate Traineeship Program Grantees Symposium — Charlottesville, VA, USA
- Talk

AWARDS AND HONOURS

2019 | 2018 **Best Master Thesis in Bioinformatics**
- The Best Master Thesis defended in the field of Bioinformatics in 2018 in Poland.
- *Analysis of the mutational burden across gene sets in cancer* Masther thesis defended at the Warsaw University of Technology; code for the analyses can be accessed github.com/kzkedzierska/cancers

2017 | 2016 **Visiting Graduate Traineeship Program**
- The Visiting Research Graduate Traineeship Program offered 12-month research traineeships for outstanding, qualified students from the life sciences at selected institutions in the United States.

2015 **Grasz o Staz**
- "Grasz o Staz" competition was a national, prestigious and highly competitive (1:25 success rate) scholarship program in Poland organized by PwC.

TEACHING EXPERIENCE

2020 **Online tutorials: Python for Data Science and Introduction to Python**
NGSeminars — YouTube
- I led two Python tutorials: **Introduction to Python** kasia.codes/talk/intro_to_python/ and **Python for Data Science** kasia.codes/talk/py4ds/.

2020 | 2019

Introduction to Managing Code with Git

Wellcome Centre for Human Genetics — Oxford, United Kingdom

- I led a 2-hour introduction to working with Git. Materials, including slides and exercises are available at kasia.codes/talk/into_to_git/.

2019

Unsupervised learning, Introduction to Python

#NGSchool2019: Machine Learning for Biomedicine — Ostróda, Poland

- Tutor for the Introduction to Python (3 h workshop) and for the Unsupervised learning (1,5 h lecture).
- Materials for the Introduction to Python are available on github

2019

Introduction to R

Wellcome Centre for Human Genetics — Oxford, United Kingdom

- 8 week course in Introduction to R, Data Manipulation, Data Visualisation and RNA-seq data analysis.
- Materials available on github/kzkedziersa/r_intro

2017

ATAC-seq workshop

#NGSchool2017: Single-cell Sequencing — Jachranka, Poland

- Invited speaker
- Materials for the course can be available on gitub.com/kzkedzierska/ATACseq_workshop

ATTENDED WORKSHOPS, SUMMER SCHOOLS

2019

Machine Learning Summer School

Imperial College London, University College Londn — London, United Kingdom

- 12-day intensive course on a variety of topics in machine learning.

GRANTS

2021 | 2020

Visegrad Grant to organize #NGSchool2020 - postponed until 2021

Visegrad Fund

- 32,190 EUR awarded towards organising #NGSchool2020 and #NGSymposium. Both events are postponed until 2021.

2019

Visegrad Grant to organize #NGSchool2019

Visegrad Fund

- 23,500 EUR awarded towards organising #NGSchool2019 allowed to keep the cost of attenting the school to the minimum and record the lectures for broader access.

NON PROFIT WORK

2021 | 2018

President

NGSchool Society

- The goal of the Society is to promote and support science, with emphasis on computational biology.
- President since 2019; Vice President 2018 - 2019