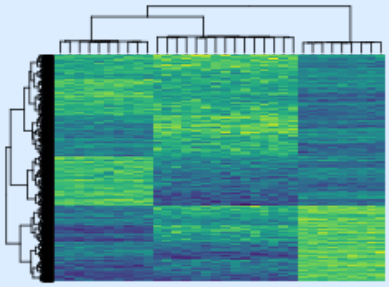
KASIA KEDZIERSKA

I am a 3rd year PhD student at the University of Oxford. I am a computational biologist, i.e., I use Data Science and Statistical Machine Learning to answer biological questions. Specifically, I study cancer of the uterus and chromatin organisation in disease progression. To efficiently preprocess terabytes of data, I take advantage of Bash/Awk oneliners and scripts. Then, I analyse and visualise preprocessed data in R and Python.

I like teaching and deeply believe in Open Science. With #NGSchool Society which I'm the president of I've been organising Summer Schools in Bioinformatics. During last year edition - #NGSchool2019: Machine Learning for Biomedicine we recorded and published some of the lectures. This year, because of the pandemic, we switched to organising virtual events - NGSeminars series. We made all the content publicly available.



Download a PDF of this CV

SELECTED 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*.

EDUCATION

2022 | 2018

DPhil. Candidate, Genomic Medicine and Statistics

Nuffield Department of Medicine, Brasenose College

University of Oxford, UK

- PhD fully funded by Wellcome Trust Four-year PhD Studentships in Science

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.

CONTACT

- kasia@well.ox.ac.uk
- kzkedzierska
- 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 2020-11-25.

SELECTED PUBLICATIONS

2020

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

H. Russell, **K. Kedzierska**, D. D. Buchanan, R. Thomas, E. Tham, M. Mints, A. Keränen, G. G. Giles, M. C. Southey, R. L. Milne, I. Tomlinson, D. Church, A. B. Spurdle, T. A. O'Mara and A. Lewis

Clinical Epigenetics

2019

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

M. Pawlak, **K. Z. Kedzierska**, M. Migdal, K. A. Nahia, J. A. Ramilowski, L. Bugajski, K. Hashimoto, A. Marconi, K. Piwocka, P. Carninci and C. L. Winata

Genome Research

2018

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

K. Jividen, **K. Z. Kedzierska**, C.-S. Yang, K. Szlachta, A. Ratan and B. M. Paschal

BMC Cancer

2018

SONiCS: PCR stutter noise correction in genome-scale microsatellites

K. Z. Kedzierska, L. Gerber, D. Cagnazzi, M. Krützen, A. Ratan, L. Kistler

Bioinformatics

SELECTED TALKS AND POSTERS

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

SELECTED 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* Master thesis defended at the Warsaw University of Technology

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

ATTENDED WORKSHOPS, SUMMER SCHOOLS

2019

Machine Learning Summer School

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

SELECTED 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.

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