

# KASIA KEDZIERSKA

I am a PhD student at the University of Oxford. As a computational biologist, I use Data Science and Machine Learning to answer biological questions. Specifically, I study cancer of the uterus and chromatin organisation in disease progression. Last summer, I joined Computational Biology Department at [Novo Nordisk Research Centre in Oxford](#) as an intern, where I was working with NLP methods and knowledge graphs. Currently, I am looking into adapting my experience from the internship to build models for investigating cancer evolution.



## SELECTED RESEARCH EXPERIENCE

- 2021
- Intern**  
[Novo Nordisk Research Centre Oxford](#) 📍 Oxford, United Kingdom
    - I used NLP based methods to screen biomedical articles and identify potential therapeutic targets. I built R Shiny App to allow colleagues within the company to investigate results from our pipeline.
- present  
|  
2018
- DPhil Candidate**  
[Wellcome Centre for Human Genetics, Big Data Institute](#) 📍 University of Oxford, UK
    - In my PhD project *Functional and evolutionary characterisation of chromatin organisation in endometrial cancer* I am looking at how chromatin organisation influences disease progression in cancer of the uterus.
    - Mentored by [D. Church](#) and [D. Woodcock](#)
    - Currently I'm working on building and refining ML models of cancer evolution.
- 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

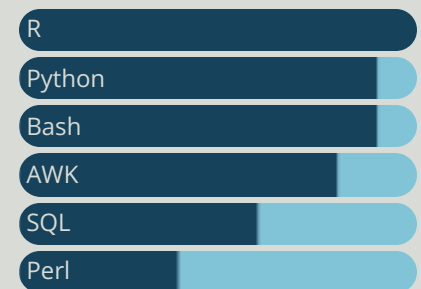
- present  
|  
2018
- DPhil. Candidate, Genomic Medicine and Statistics**  
[Nuffield Department of Medicine, Brasenose College](#) 📍 University of Oxford, UK
    - PhD fully funded by [Wellcome Trust Four-year PhD Studentships in Science](#)
- 2018  
|  
2015
- M. Sc. Eng., Biotechnology**  
[Warsaw University of Technology](#) 📍 Warsaw, Poland
    - Master thesis: - *Analysis of the mutational burden across gene sets in cancer* awarded the title of **The Best Master Thesis in Bioinformatics** defended in 2018.

View this Resume online  
[kasia.codes/resume/](https://kasia.codes/resume/)

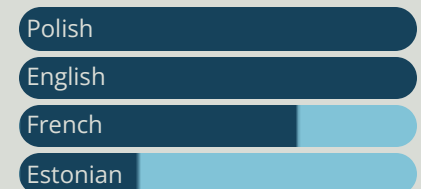
## CONTACT

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🐦 [kzkedzierska](#)  
🔗 [github.com/kzkedzierska](https://github.com/kzkedzierska)  
🌐 [kasia.codes](#)  
in [kzkedzierska](#)

## CODING SKILLS



## LANGUAGES



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 2022-09-30.



## SELECTED PUBLICATIONS

Full list of publication on my Google Scholar profile [scholar.google.com/citations?user=Yv6poTwAAAAJ](https://scholar.google.com/citations?user=Yv6poTwAAAAJ).

- 2021

**Multi-omics analyses of early liver injury reveals cell-type-specific transcriptional and epigenomic shift**  
M. Migdal, E. Tralle, K. A. Nahia, L. Bugajski, **K. Z. Kedzierska**, F. Garbicz, K. Piwocka, C. L. Winata, M. Pawlak

BMC Genomics
- 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

**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

- 2022

**Systematic characterisation of chromatin modifiers in endometrial cancer**  
[European Association for Cancer Research 2022 Congress](#)

Seville, Spain

- [Poster presentation](#)
- 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**  
[Biology of Genomes 2018](#)

Cold Spring Harbor, NY, USA

- Poster



## SELECTED AWARDS AND HONOURS

- present  
|  
2021

**Senior Hulme Scholarship**  
Brasenose College, University of Oxford

Oxford, UK

- Senior Hulme Scholarship is awarded by Brasenose College, University of Oxford to DPhil students whose academic performance is deemed to be exceptional.
- 2022  
|  
2021

**Graduate Prize in the 'Outstanding work outside degree' category**  
Nuffield Department of Medicine, University of Oxford

Oxford, UK

- Each year Nuffield Department of Medicine, based on nominations, awards selected PhD students based on their performance within and outside of their degree.



## ATTENDED WORKSHOPS, SUMMER SCHOOLS

- 2019 ● **Machine Learning Summer School**  
Imperial College London, University College London 📍 London, United Kingdom



## TEACHING EXPERIENCE

- 2022 ● **Unsupervised learning**  
NGSchool2022: Machine Learning in Computational Biology 📍 Jablonna, Poland
- I co-led, with [Kaspar Märtens](#), lecture and tutorial sessions on unsupervised learning and its use cases in computational biology. All materials are available at [github.com/kzkdziarska/ngs22\\_unsupervised](https://github.com/kzkdziarska/ngs22_unsupervised).
- 2021 ● **Data visualization in bioinformatics - hackathon mentor**  
Online hackathon [NGSprint](#) 📍 Discord
- I led the hackathon in data visualisation with emphasis on computational biology. Under my supervision, 3 teams of around 5 people each, created interactive and captivating visualisation. Teaching materials are available at [github.com/kzkdziarska/NGSprint\\_data\\_viz](https://github.com/kzkdziarska/NGSprint_data_viz).
- 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/](https://kasia.codes/talk/intro_to_python/) and **Python for Data Science** [kasia.codes/talk/py4ds/](https://kasia.codes/talk/py4ds/).
- 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.com/kzkdziarsa/r\\_intro](https://github.com/kzkdziarsa/r_intro)
- 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/](https://kasia.codes/talk/into_to_git/).



## SELECTED GRANTS

- 2022  
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2020 ● **Visegrad Grant to organize #NGSchool2020 postponed until 2022**  
[Visegrad Fund](#)
- 32,190 EUR awarded towards organising affordable training and conference focusing on ML application in Computational Biology. During this project I managed an international team of 9 people and led the organisation of [summer school](#), [conference](#), online [seminars](#) and [hackathon](#).



## NON-PROFIT WORK

- 2022  
|  
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, Founder