

Lyuba V. Bozhilova

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📄 <https://lbozhilova.github.io/>

Education

- 2015–20 **Doctor of Philosophy**, *University of Oxford*.
Systems Approaches to Biomedical Science CDT
Department of Statistics
- 2011–15 **MMath Mathematics and Statistics**, *University of Oxford*.
Worcester College
- 2006–11 **High School Diploma**, *Sofia High School of Mathematics*.

Research experience

- since 09/21 **Bioinformatician**, *University of Cambridge*, MRC Mitochondrial Biology Unit and Department of Clinical Neurosciences.
Method development for analysis of mtDNA heteroplasmy.
- 01/21–08/21 **Departmental lecturer**, *University of Oxford*, Department of Statistics.
Network analysis. TB modelling. MSc student teaching and supervision.
- 08/20–12/20 **Research associate**, *Relation Therapeutics*, Bioinformatics.
Data science. Robustness in knowledge graph analysis.
- 07/19–09/19 **Research intern**, *BenevolentAI*, Biomedical Informatics.
Generation and analysis of tissue-specific networks.
- 2016–20 **Doctoral student**, *University of Oxford*, Department of Statistics.
Confidence in protein interaction networks.
Supervised by Professor Gesine Reinert, Professor Charlotte Deane.
Collaboration with e-Therapeutics plc.
- 07/16–10/16 **Rotation student**, *University of Oxford*, Institute of Biomedical Engineering.
Machine learning for Parkinson's disease remote patient monitoring.
Supervised by Professor Maarten De Vos, Dr Thanasis Tsanas.
Collaboration with F. Hoffmann-La Roche AG.
- 04/16–06/16 **Rotation student**, *University of Oxford*, Department of Statistics.
Confidence in protein interaction networks.
Supervised by Professor Gesine Reinert, Professor Charlotte Deane.
Collaboration with e-Therapeutics plc.
- 2015 **Undergraduate dissertation**, *University of Oxford*, Department of Statistics.
Uniform spanning trees.
Supervised by Professor Louigi Addario-Berry.
- 03/14–04/14 **Research assistant**, *National Heart Hospital of Bulgaria*.
Analysing drug response in post-surgery Acenocoumarol therapy.
Supervised by Dr Evelina Doncheva.

Scholarly work

Peer-reviewed publications

- [1] Pardo–Díaz, J., **Bozhilova, L. V.**, Beguerisse–Díaz, M., Poole, P. S., Deane, C. M. & Reinert, G. (2021) Robust gene coexpression networks using signed distance correlation. *Bioinformatics*.
- [2] **Bozhilova, L. V.**, Pardo–Díaz, J., Reinert, G., & Deane, C. M. (2020). COGENT: evaluating the consistency of gene co-expression networks. *Bioinformatics*..
Software: <https://github.com/lbozhilova/COGENT>.
- [3] **Bozhilova, L. V.**, Whitmore, A. V., Wray, J., Reinert, G., & Deane, C. M. (2019). Measuring rank robustness in scored protein interaction networks. *BMC Bioinformatics*, 20(1), 1-14.

Doctoral thesis

title Confidence in protein interaction networks.
supervisors Professor Gesine Reinert, Professor Charlotte Deane.
examiners Professor Heather Harrington, Professor Nick Jones.

Research supervision

- 06/21–09/21 Mike Fan, *MSc in Statistical Science*, Similarities and differences in protein interaction networks based on yeast two-hybrid versus tandem affinity purification data.
Co-supervised with Professor Gesine Reinert.
- 06/21–09/21 Siqi Wu, *MSc in Statistical Science*, On network analysis to traverse pools of fragmented liquidity in the marketplace for minimum market impact cost.
Co-supervised with Professor Gesine Reinert. Collaboration with the Royal Bank of Scotland.
- 04/18–06/18 Francesca Romana Crucinio, *OxWaSP CDT rotation project*, Community detection in uncertain networks..
Co-supervised with Professor Charlotte Deane and Professor Gesine Reinert.

Teaching experience

Department of Statistics, University of Oxford

- 2021 **Class tutor, class host**, MSc in Statistical Science.
- 2016–19 **Tutor, TA**, Probability and Statistics for Network Analysis. Simulation and Statistical Programming.

Mansfield College, University of Oxford

- 2018–19 **Tutor**, Probability and Statistics for Network Analysis. Probability. Differential Equations.

Oxford Internet Institute, University of Oxford

- 2018–19 **Teaching assistant**, Statistical Analysis of Networks.

St Edmund's Hall, University of Oxford

- 2017 **Tutor**, Probability and Statistics for Network Analysis.

d'Overbroeck's College

2014 **Teaching assistant**, *Undergraduate Ambassador Scheme*.
Mathematics and statistics.

Conferences and talks

07/19 Poster and Ignite talk, ISMB/ECCB 2019, Basel
10/18 Seminar talk, Network seminar, Mathematical Institute, Oxford
09/18 Short talk, COSTNET18, Warsaw
10/17 Poster, COSTNET17, Palma
03/17 Poster, SEMSTAT: Statistical Network Science, Eindhoven
03/17 Poster, 2nd QBIOX Colloquium, Oxford

Administrative roles and voluntary work

since 09/21 **WIDE Committee**, *MRC Mitochondrial Biology Unit, University of Cambridge*.
Wellbeing, Inclusion, Diversity and Equality.
03/21–08/21 **Teaching Committee**, *Department of Statistics, University of Oxford*.
Organising undergraduate and postgraduate taught courses across the department.
02/21–08/21 **EquiStats**, *Department of Statistics, University of Oxford*.
Organising equity and diversity discussion events within the department.

Outreach

2018–19 Oxford Maths Festival
10/18 Graduate open day, Department of Statistics, University of Oxford
07/15 Undergraduate open day, Mathematical Institute, University of Oxford

Awards

2015–19 Full studentship for EU students, EPSRC
2013 Scholarship for academic excellence, Worcester College, Oxford

Languages

Bulgarian **Native**
English **Fluent**
German **Basic**