Lyuba V. Bozhilova

MRC Mitochondrial Biology Unit
University of Cambridge
✉ lb925@cam.ac.uk
🖱 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*.

Employment

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.

Scholarly work

Peer-reviewed publications

[1] Pardo–Diaz, J., **Bozhilova, L. V.**, Beguerisse–Diaz, M., Poole, P. S., Deane, C. M. & Reinert, G. (2021) Robust gene coexpression networks using signed distance correlation. *Bioinformatics*.

[2] **Bozhilova, L. V.**, Pardo–Diaz, 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.

Preprints

[1] Kremer, L. S.*, **Bozhilova, L. V.***, Rubalcava-Gracia, D., Filograna, R., Upadhyay, M., Koolmeister, C., Chinnery, P.F. & Larsson, N.G. (2022). A role for BCL2L13 and autophagy in germline purifying selection of mtDNA. *bioRxiv*.
* These authors contributed equally.

[2] **Bozhilova, L. V.**, Grindrod, P., Reinert, G., & Temcinas, T. (2022). Principles and Consequences of Evolutionary 'Omic Development: a Topological Perspective. *researchgate.net*.
Authors in alphabetical order.

Doctoral thesis

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

Undergraduate (MMath) dissertation

title	Uniform spanning trees.
supervisors	Louigi Addario–Berry.

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*, Investigating Lit, Gray and Dark trading venues using stock volume correlation networks. Co-supervised with Professor Gesine Reinert. Collaboration with the Royal Bank of Canada.
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

05/22	Short talk, Data Champions Forum, Cambridge
05/22	ggplot2 data visualisation workshop, MRC MBU, Cambridge
02/22	Seminar talk, MRC MBU Postdoctoral Society, Cambridge
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 03/22 **Data Champion**, *University of Cambridge*.
Providing research data management (RDM) support and guidance. Promoting good RDM practice.

since 10/21 **Public Engagement Committee**, *MRC Mitochnodrial Biology Unit, University of Cambridge*.

since 10/21 **PostDoc Society Committee**, *MRC Mitochnodrial Biology Unit, University of Cambridge*.
Communications officer. Social media content and webpage management.

since 09/21 **WIDE Committee**, *MRC Mitochnodrial 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

since 10/22	Postdoctoral affiliate, Newnham College, Cambridge
2015–19	Full studentship for EU students, EPSRC
2013	Scholarship for academic excellence, Worcester College, Oxford

Languages

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