MIROSLAV GASPAREK

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EDUCATION

DPhil in Engineering Science, St Cross College, University of Oxford 2019 - 2022

- *Research topic:* Design and engineering of synthetic biomolecular feedback systems using methods of Control Theory and Reinforcement Learning. Supervised by Prof. Antonis Papachristodoulou and Dr Harrison Steel.
- Founder of St Cross College Innovation Society, President of Oxford University Synthetic Biology Society.

MEng in Biomedical Engineering, Imperial College London 2015 - 2019

- Overall grade: First Class Honours.
- Bioengineering Departmental Representative, Member of the Imperial College Union Council, Co-Chair of Imperial College London Synthetic Biology Society, Industrial Liaison Officer of Imperial College Bioengineering Society.

EXPERIENCE

Advisor to the Institute of Health Policies, Slovak Ministry of Health Mar 2020 - May 2020

- Worked on modelling COVID-19 spread for Slovak governmental think-tank. Developed a stochastic, agent-based model of the disease spread, conducted literature research, background analysis, and public communications.

Co-founder at Genbiotics Feb 2020 - present

- Co-founder of start-up that engineers bacteria to treat human diseases. Responsible for product and marketing.

Undergraduate Research Student in Tanaka Group, Imperial College London Oct 2018 - Jun 2019

- (MEng Final Year Project) Design of the individualized eczema treatment policies using reinforcement learning. Supervised by Dr. Reiko J. Tanaka.

Visiting Research Intern at Endy Lab, Stanford University Jul 2018 - Sep 2018

- Changing compatibility of the plasmid vectors for the realization of protein-protein interaction assay in the minimal genome (JCVI-syn3.0). Supervised by Professor Drew Endy.

Visiting Research Intern at Murray Lab, California Institute of Technology Jul 2017 - Oct 2017

- Development of the computational framework *BioSIMI* for the input/output modelling of interconnected genetic circuits. Supervised by Professor Richard M. Murray.

Undergraduate Research Intern in Tanaka Group, Imperial College London Feb 2016 - Aug 2016

- Mathematical & computational modelling of the optimal treatment of eczema. Supervised by Dr Reiko J. Tanaka.

Co-Founder & Head of R&D: Wells Oct 2015 - Oct 2016

- Co-founded a smart PET bottle cap (WellsCap) tracking user's water intake and developed an algorithm for the user's optimal water intake calculation. The project won the UK national round of *CISCO Switch-Up Challenge*.

MAJOR AWARDS

St Edmund Hall, University of Oxford: Pontigny Scholarship (2020)
Central European Foundation (CEF): Talents of the New Generation Scholarship (2018, 2019, 2020)
Tatra Banka Slovakia: Students to the World Scholarship (2018 and 2019)
Imperial College Faculty of Engineering Alumni Association: Student Activity Award (2018)
Institution of Engineering & Technology: Undergraduate Award (2018)
Royal Academy of Engineering: Engineering Leaders Scholarship (2017-2019)

RESEARCH INTERESTS, TECHNICAL SKILLS & EXTRACURRICULARS

Research Interests: Synthetic Biology, Systems Biology, Control Theory, Reinforcement Learning
Technical Skills: MATLAB, Python (e. g. NumPy, Keras, Pandas), Wet Lab Skills, Data Analytics & ML
Extracurriculars: Accordion, Weightlifting, Medicine & Healthcare, Entrepreneurship, Economics, Politics