

# MIROSLAV GASPAREK

St Cross College, 61 St Giles', Oxford, OX1 3LZ, United Kingdom

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## EDUCATION

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

- *Research topic:* A control theory approach to analyse and design synthetic gene circuits. Supervised by Professor Antonis Papachristodoulou and Professor 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

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**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

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**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

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**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