MIROSLAV GASPAREK

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EDUCATION

DPhil in Engineering Science, St Edmund Hall, University of Oxford Oct 2019 - present

- *Research topic:* A control theory approach to analyse and design synthetic gene circuits. Research focused on design and analysis of complex gene circuits and microbial communities.
- Supervisors: Professor Antonis Papachristodoulou and Professor Harrison Steel.

MEng in Biomedical Engineering, Imperial College London Oct 2015 - Jun 2019

- Overall grade: First Class Honours.
- *Thesis:* Design of the individualized eczema treatment using reinforcement learning. Supervisor: Dr Reiko Tanaka

RECENT AWARDS AND ACHIEVEMENTS

Stanford Existential Research Initiative: A fellowship to support research at Stanford University (2021)
Newton Venture Program: Scholarship for VC training by London Business School & LocalGlobe VC (2021)
St Edmund Hall, University of Oxford: Pontigny Scholarship (2020)
Central European Foundation (CEF): Talents of the New Generation Scholarship (2018 - 2021)
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 EXPERIENCE

Fellow at Stanford Existential Research Initiative, Stanford University Jun 2021 - present

- Research of biosafety & biosecurity of engineered microbial communities. Supervised by Dr Megan Palmer.

Visiting Researcher at Drew Endy's Lab, Stanford University Jul 2018 - Sep 2018

- Developing new plasmids for protein-protein interactions in minimal genome.

Visiting Researcher at Richard Murray's Lab, California Institute of Technology Jul 2017 - Oct 2017

- Development of the computational framework for input/output modelling of interconnected genetic circuits.

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

- Mathematical & computational modelling of the optimal treatment of eczema.

PROFESSIONAL EXPERIENCE

Co-founder & CEO at Stealth Biotech Startup Aug 2021 - present

- A biotech start-up working on a novel synthetic biology platform. Part of Y Combinator (YC) S21 batch.
- Responsible for the strategy, operations & fundraising. Pre-seed round from YC & value-added angels.

Research Fellow at Nodes Advisors AG April 2022 - present

- A Zurich-based corporate advisory & finance boutique focused on breakthrough and novel life sciences technologies.
- Responsible for deal sourcing, due diligence, multi-stage investing, strategic advising in life science sector.

Venture Fellow at Civilization Ventures Apr 2021 - present

- Civilization Ventures is a Silicon Valley VC firm focusing on genomics, diagnostics, AI, and synthetic biology.
- Identifying business opportunities, evaluating trends in biotech/synbio sectors, and supporting due diligence.

Founder & Managing Partner at MHG Consulting Mar 2021 - present

- Biotech and DeepTech consultancy firm focused on serving the private firms and public institutions in CEE region.

Co-founder at Genbiotics, Ltd. Feb 2020 - Aug 2021

· Pre-seed start-up engineering bacteria to treat respiratory diseases. I secured the pre-seed funding ($250k).

Graduate Teaching Assistant at University of Oxford Jan 2020 - Mar 2021

· Graduate Teaching Assistant for Control Labs courses. Mentored students during their computational lab tasks.

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.

Value Delivery Consultant Intern at Exponea Aug 2016 - Oct 2016

· Customer analytics consulting, implementation of the automated marketing solutions using HTML and JavaScript.

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*.

PUBLICATIONS

· "Deciphering mechanisms of production of valuable compounds in inducer-producer microbial consortia" Gasparek et al. 2022 *(in preparation)*

· "*De novo* synthesis of Synthetic Biology Ecosystem in Slovakia: Challenges and Opportunities" Gasparek et al. *Biotechnology Notes*. 2022 *(in preparation)*

· "The Morphological, Clinical and Radiological Outputs of the Preclinical Study after Treatment of the Osteochondral Lesions in the Porcine Knee Model" Vdoviakova et al. *Frontiers in Materials*. 2021

· "In Vivo Study of Osteochondral Defect Regeneration Using Innovative Composite Calcium Phosphate Biocement in a Sheep Model." Kresakova et al. *Materials*. 2021

· "A stochastic, individual-based model for the evaluation of the impact of non-pharmacological interventions on COVID-19 transmission in Slovakia." Gasparek et al. *MedRxiv*. 2020.

SOCIETIES, COMMITTEES, AND AFFILIATIONS

Co-Managing Director of Nucleate United Kingdom July 2021 - present

· Nucleate is a global student-run organization facilitating formation of pioneering life sciences companies.

President of the Oxford University Czech and Slovak Society Mar 2021 - present

Steering Committee Member at the European Union Synthetic Biology Society Jan 2020 - present

· Responsibility for the support of European synthetic biology entrepreneurial efforts and related policies.

President of the Oxford University Synthetic Biology Society Dec 2019 - Jan 2021

· Synthetic Biology Society increases the awareness of Synthetic Biology and its benefits across Oxford community.

Bioengineering Year & Departmental Rep at Imperial College London Oct 2015 - Aug 2019

· Representative of all undergraduate and taught postgraduate bioengineering students (approx. 700).

Co-Chair of Imperial College Synthetic Biology Society Aug 2017 - Aug 2018

Industrial Liaison Officer at Imperial College Bioengineering Society Aug 2016 - Aug 2018

· Responsible for the corporate relations, sponsorship acquisition, and organization of the entrepreneurial events.

RESEARCH INTERESTS, TECHNICAL SKILLS & EXTRACURRICULARS

Research Interests: Systems and Synthetic Biology, Control Theory, Reinforcement Learning, Biosecurity
Technical Skills: MATLAB, Python (e.g. Pandas, TensorFlow, Stan), Wet Lab Skills, Data Analysis & ML
Extracurriculars: Accordion, Weightlifting, Healthcare & Life Science Investing, Biotech & Deeptech VC