Marius Mickunas

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Education

King's College London   Apr. 2017 – Nov. 2021
PhD Immunology   *London, England*

University of the West of England   Sep. 2011 – Jun. 2014
BSc Biomedical Sciences   *Bristol, England*

Relevant Skills

- Curriculum Development
- Lecture Delivery
- Executive & Adult Education
- Public Speaking
- Data Science (Python & R)
- Predictive Modeling
- Statistical Inference
- Data Visualisation
- Machine Learning
- Data Storytelling
- Business Analytics
- Workshop Facilitation

Courses Taught

- Data Analytics for Management
- Data Science for Business
- Machine Learning for Big Data
- Data Science with R
- Data Wrangling & Visualisation
- Python for Data Science
- Decision Analytics & Modelling
- Data Management
- Decision & Risk Analysis
- Python for Finance
- No Code Data Science
- Project Management

Experience

London Business School   Aug. 2024 – Present
Guest Lecturer - Management Science & Operations   *London, England*
- Developed and implemented updated lecture material for a data analytics course, transitioning from Excel to R to provide students with more advanced tools for data analysis.
- Delivered engaging lectures covering key statistical concepts such as the normal distribution, hypothesis testing, and regression, ensuring students grasped foundational topics in statistics.
- Designed and facilitated interactive workshops to reinforce statistical concepts, enabling students to apply their knowledge through hands-on exercises using R.
- Created and structured group projects that reflected the transition from Excel to R, allowing students to collaboratively apply the concepts taught to real-world business scenarios using real world datasets.

Imperial College London   Mar. 2024 – Present
Post-Graduate Tutor   *London, England*
- Assisted in delivering a course on machine learning, AI, and big data using Python to Executive MBA students, focusing on practical applications in the business context.
- Independently led hands-on workshops covering machine learning techniques such as decision trees, clustering, linear models, model evaluation, nearest neighbors, and neural networks.
- Guided students through group projects where they selected real-world datasets, applying machine learning techniques to solve business challenges and enhance business performance.
- Provided mentorship and support throughout the project life-cycle, helping students apply machine learning models effectively to answer business questions and deliver actionable insights.

London Business School   Dec. 2022 – Present
Post-Graduate Tutor - Management Science & Operations, and Executive Education   *London, England*
- Assisted in delivering courses in applied statistics, data analytics & visualisation, machine learning & python for finance to a diverse cohort of students.
- Enhance the learning experience by improving course material using insights observed from student engagement and learning challenges.
- Independently delivered workshops and revision sessions, providing in-depth instruction on the normal distribution, hypothesis testing, regression, exploratory data analysis and visualisation and ML techniques.
- Supported students in applying data science techniques to solve real-world business problems, enhancing their analytical skills and practical knowledge.

Quell Therapeutics LTD   Jul. 2021 – Mar. 2023
Discovery Scientist   *London, England*
- Developed and implemented data analysis pipelines using R to streamline processes for data manipulation, statistical testing, and unsupervised hierarchical clustering, resulting in more efficient and accurate insights into drug product behavior.
- Utilized advanced data visualization and analytics techniques to predict market behavior of drug products, enabling better decision-making and improving the company's understanding of product performance post-launch.

King's College London   Apr. 2017 – Nov. 2021
PhD Candidate   *London, England*
- Conducted in-depth data visualization and statistical analyses of clinical trial patient data to uncover key insights into the role of immunotherapy in neurodegeneration, supporting more informed research and treatment strategies.
- Developed and applied data-driven predictive models to enhance the understanding of immune responses in both health and disease, generating powerful insights that informed future clinical trials and allowed for more accurate prediction of patient responses to drug dosing.

King's College London   May. 2016 – Mar. 2017
Research Assistant   *London, England*
- Collaborated with a large consortium to monitor immune responses in individuals with autoimmune and neurodegenerative diseases, conducting data handling, statistical hypothesis testing, and analysis, while ensuring compliance with good clinical practice and presenting findings with detailed, data-driven insights.

Queen Mary University of London   May. 2015 – Apr. 2016
Research Assistant   *London, England*
- Collaborated with the neuroimmunology research team to assess immune responses in neurological disorders, coordinating the transfer of ultra-high-risk schizophrenia patient samples from Jena, Germany to Queen Mary University of London, while performing data analysis, statistical hypothesis testing, and presenting results with detailed insights.

Projects

Sentiment Analysis on Student Feedback System | *Python, R*   **February-March 2024**
- Cleaned and processed a large, unstructured dataset to perform Exploratory Data Analysis (EDA) and sentiment analysis, providing actionable insights into the feedback system's performance and identifying areas for improvement to enhance user experience.

Talks & Seminars – Invited Speaker

- **British Society of Immunology Congress**, Liverpool, December 2019
  "Low-dose IL-2 immunotherapy increases regulatory T cell number and function in Amyotrophic Lateral Sclerosis."

- **School of Immunology and Microbial Sciences Symposium**, King's College London, September 2019
  "Studying the effects of Low-dose IL-2 on immune cell subsets in Amyotrophic Lateral Sclerosis."

- **International Research Training Group**, London, February 2019
  "Low-dose IL-2 and regulatory T cells in Amyotrophic Lateral Sclerosis – a pathway to clinical efficacy?"

- **International Research Training Group**, Dresden, February 2018
  "The effects of Low-dose IL-2 immunotherapy on Treg phenotype, frequency and function in neurodegenerative diseases."

- **Beckton & Dickinson Symposium**, London, November 2017
  "Multidimensional Flow Cytometric Analysis of a 'single' T cell population: Opportunities and Challenges."

Technical Skills

Languages: Python, R
Software: Microsoft Excel, Alteryx, Tableu, Palisade Decision Tools Suite
Developer Tools: VS Code
Technologies/Frameworks:GitHub

Publications

- Jia-Yuan Zhang, Fiona Hamey, Dominik Trzupek, **Marius Mickunas**, Mercede Lee, Leila Godfrey, Jennie H.M. Yang, Marcin L. Pekalski, Jane Kennet, Frank Waldron-Lynch, Mark Evans, Timothy I.M. Tree, Linda S. Wicker, John A. Todd, Ricardo C. Ferreira (2022). Low-dose IL-2 reduces IL-21+ T cells and induces a long-lived anti-inflammatory gene expression signature inversely modulated in COVID-19 patients. Published 2022 – *Nature Communications*.

- Jia-Yuan Zhang, Fiona Hamey, Dominik Trzupek, **Marius Mickunas**, Mercede Lee, Leila Godfrey, Jennie H.M. Yang, Marcin L. Pekalski, Jane Kennet, Frank Waldron-Lynch, Mark Evans, Timothy I.M. Tree, Linda S. Wicker, John A. Todd, Ricardo C. Ferreira (2022). Low-dose IL-2 reduces IL-21+ T cells and induces a long-lived anti-inflammatory gene expression signature inversely modulated in COVID-19 patients. Pre-print in *medRxiv* 2022.

- Ilaria Giovannelli, Nadhim Bayatti, Abigail Brown, Dennis Wang, **Marius Mickunas**, William Camu, Jean-Luc Veryune, Christine Payan, Cecilia Garlanda, Massimo Locati, Raul Juntas-Morales, Nicolas Pageot, Andrea Malaspina, Ulf Andreasson, Carey Suehs, Safa Saker, Christophe Massegiun, John de Vos, Henrik Zetterberg, Ammar Al-Chalabi, P. Nigel Leigh, Timothy Tree, Gilbert Bensimon, Paul R. Heath, Pamela J. Shaw, and Janine Kirby (2020). Amyotrophic Lateral Sclerosis Transcriptomics Reveals Immunological Effects of Low-Dose Interleukin-2. Published 2021 – *Brain Communications*.

- William Camu, **Marius Mickunas**, Jean-Luc Veyrune, Cristine Payan, Cecilia Garlanda, Massimo Locati, Raul Juntas-Morales, Nicolas Pageot, Andrea Malaspina, Ulf Andreasson, Janine Kirby, Carey Suehs, Safa Saker, Christophe Masseguin, John De Vos, Henrik Zetterber, Pamela J. Shaw, Ammar Al-Chalabi, P. Nigel Leigh, Timothy Tree, Gilbert Bensimon (2020). Repeated 5-day cycles of low dose aldesleukin in amyotrophic lateral sclerosis (IMODALS): A phase 2a randomized, double-blind, placebo-controlled trial. Published in 2020 – *EBioMedicine*.

- Jennie H. M. Yang, Leena Khatri, **Marius Mickunas**, Evangelia Williams, Danijela Tatovic, Mohammad Alhadj Ali, Philippa Young, Penelope Moyle, Vishal Sahni, Ryan Wang, Rejbinder Kaur, Gillian M. Tannahill, Andrew R. Beaton, Daniella M. Gerlag, Caroline O. S. Savage, Antonella Napolitano Rosen, Frank Waldron-Lynch, Colin M. Dayan, Timothy I. M. Tree (2019). Phenotypic analysis of human lymph nodes in subjects with new-onset type 1 diabetes and healthy individuals by flow cytometry. Published in 2019 – *Frontiers in Immunology*.

- Sofia Sisay, Lorena Lorenza-Lopez, **Marius Mickunas**, Gary Warnes, Antonio Quiroga-Fernández, Jacqueline Palace, Roberto Alvarez-Lafuente, Priyamvada Dua, Ute-Christiane Meier (2017). Untreated relapsing remitting multiple sclerosis patients show antibody production against Latent Epstein Barr Virus (EBV) antigens mainly in the periphery and innate immune IL-8 responses preferentially in the CNS. Published in 2017 – *Journal of Neuroimmunology*.