

# Nathan Constantine-Cooke

## Curriculum Vitae

### Education

- 2019–present **PhD, Precision Medicine**, *University of Edinburgh*, Edinburgh, Scotland.  
Survival analysis, inflammatory bowel disease, longitudinal modelling, Bayesian modelling, high-dimensional data, and machine learning.
- 2018–2019 : **Master of Science, Statistics for Computational Biology (Distinction)**, *Aberystwyth University*, Aberystwyth, Wales.
- 2014–2018 : **Bachelor of Science (Hons), Mathematics (2:1)**, *Aberystwyth University*, Aberystwyth, Wales.

### Publications

#### Journal Articles

- 2022 Mathew Lyons, Lorraine A. A. P. Derikx, James Fulforth, Sophie McCall, Nikolas Plevris, Philip W. Jenkinson, Kathryn Kirkwood, Spyros Siakavellas, Laura Lucaciu, **Nathan Constantine-Cooke**, Ian D. Arnott, Paul Henderson, Richard K. Russell, David C. Wilson, Charlie W. Lees, and Gareth-Rhys Jones. Patterns of emergency admission for IBD patients over the last 10 years in lothian, scotland: A retrospective prevalent cohort analysis. *Alimentary Pharmacology & Therapeutics*. Wiley, March 2022.
- 2022 Lorraine A.A.P. Derikx, Nikolas Plevris, Shanna Su, Beatriz Gros, Mathew Lyons, Spyros I. Siakavellas, **Nathan Constantine-Cooke**, Philip Jenkinson, Claire O'Hare, Colin Noble, Ian D. Arnott, Gareth-Rhys Jones, and Charlie W Lees. Rates, predictive factors and effectiveness of ustekinumab intensification to 4- or 6-weekly intervals in crohn's disease. *Digestive and Liver Disease*, October 2022.
- 2021 **Nathan Constantine-Cooke**, Laura A. Lucaciu, Nikolas Plevris, Spyros Siakavellas, Lorraine A.A.P. Derikx, Gareth-Rhys Jones, and Charles W. Lees. Real-world experience with tofacitinib in ulcerative colitis: a systematic review and meta-analysis. *Therapeutic Advances in Gastroenterology*, volume 14, page 17562848211064004, December 2021. PMID: 34987608.
- 2021 Lorraine A A P Derikx, Heather W Dolby, Nikolas Plevris, Laura Lucaciu, Caitlin S Rees, Mathew Lyons, Spyros I Siakavellas, **Nathan Constantine-Cooke**, Philip Jenkinson, Shanna Su, Claire O'Hare, Laura Kirckpatrick, Lynne M Merchant, Colin Noble, Ian D Arnott, Gareth-Rhys Jones, and Charlie W Lees. Effectiveness and safety of adalimumab biosimilar SB5 in IBD: Outcomes in originator to SB5 switch, double biosimilar switch and bio-naïve sb5 observational cohorts. *Journal of Crohn's and Colitis*. Elsevier, June 2021.

#### Conference Proceedings

- 2022 **N. Constantine-Cooke**, K. Monterrubio-Gomez, N. Plevris, L. Derikx, B. Gros, G.-R. Jones, R. Marioni, C. Lees, and C. Vallejos. P0351 Latent Crohn's disease subgroups are identified by faecal calprotectin profiles: A retrospective analysis of the Lothian Crohn's disease inception cohort. *United European Gastroenterology Journal*, volume 10, pages S687–S688, 05 2022.

- 2021 S Siakavellas, L Derikx, L Derr, L Williams, N Plevris, P Jenkinson, L Lucaciu, **Constantine-Cooke, N**, K Covil, L Murdoch, G R Jones, and PREDiCCt Study Writing Group Lees, C. P154 Faecal calprotectin and patient reported disease control of IBD: results from the baseline dataset of the PREDiCCt study. *Journal of Crohn's and Colitis*, volume 15, pages S233–S234, 05 2021.
- 2021 S Siakavellas, L Derikx, L Derr, L Williams, N Plevris, P Jenkinson, L Laura, **Constantine-Cooke, N**, K Covil, L Murdoch, G R Jones, and PREDiCCt Study Writing Group Lees, C. P117 Patient perceptions about causes of flare in IBD: results from the baseline dataset of the PREDiCCt study. *Journal of Crohn's and Colitis*, volume 15, pages S209–S209, 05 2021.
- 2021 Laura Lucaciu, **Nathan Constantine-Cooke**, Nikolas Plevris, Spyros I. Siakavellas, Gareth R. Jones, and Charlie W. Lees. Su476 real-world experience with tofacitinib in ulcerative colitis - a meta-analysis of observational studies. *Gastroenterology*, volume 160, pages S–709, 2021.
- 2021 L Derikx, S Siakavellas, L Derr, L Williams, P Nikolas, P Jenkinson, L Lucaciu, **Constantine-Cooke, N**, K Covil, L Murdoch, G R Jones, and PREDiCCt Study Writing Group Lees, C. OP22 Factors independently associated with fatigue in IBD: Results from the baseline dataset of the PREDiCCt study. *Journal of Crohn's and Colitis*, volume 15, pages S021–S021, 05 2021.
- 2021 L Derikx, H Dolby, N Plevris, L Lucaciu, C Rees, M Lyons, S Siakavellas, **Constantine-Cooke, N**, C Noble, C O'Hare, L Merchant, I Arnott, G R Jones, and C Lees. P330 Long-term outcomes following a switch from originator adalimumab to the biosimilar SB5 (Imraldi) in IBD. *Journal of Crohn's and Colitis*, volume 15, pages S353–S354, 05 2021.

## Research Experience

University of Edinburgh, Edinburgh, UK

2019 – **Longitudinal Modelling of a Disease Activity Biomarker in Inflammatory Bowel Disease.**

Present Using latent class mixed models to identify latent homogenous subgroups in the highly heterogenous inflammatory bowel disease patient population from faecal calprotectin profiles.

Advisor : **Dr Catalina Vallejos**, Chancellor's Fellow, MRC Human Genetics Unit ([Personal Web-page](#))

Advisor : **Professor Charlie Lees**, Professor of Gastroenterology, Centre for Genomic and Experimental Medicine ([Personal Web-page](#))

2020 – 2021 **Meta-Analysis of the Real-World Effectiveness and Safety of Tofacitinib.**

Advisor : **Professor Charlie Lees**, Professor of Gastroenterology, Centre for Genomic and Experimental Medicine

2020 – 2021 **Using Data Science to Answer Pressing Emergency Care Questions Surrounding COVID-19 (DECOVID).**

Advisor : **Dr Catalina Vallejos**, Chancellor's Fellow, MRC Human Genetics Unit

Aberystwyth University, Aberystwyth, UK

2018 – 2019 **Analysis Techniques Applicable to Time-Limited Gene Expression Data.**

Investigated approaches applicable to detecting rhythmic gene expression patterns when followup is limited and proposed a novel approach. Circadian, circatidal, and circalunar gene expression in *Talitrus saltator* was explored.

Advisor : **Dr Kim Kenobi**, Lecturer, Department of Mathematics ([Personal Web-page](#))

## Programming Languages

Scripting R, C++, Python, Bash, Swift, Rust

Markup L<sup>A</sup>T<sub>E</sub>X, HTML 5 & CSS, Markdown

Other Tools GNU Make, Git (including CI workflows), Docker & Singularity, Unix, Hugo & Jekyll

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## Teaching

### Ed-DaSH Workshops

- Sep 2022 **Introduction to Statistics with R.**
- Jun 2022 **Introduction to Statistics with R.**
- May 2022 **High-Dimensional Statistics with R.**
- Jan 2022 **Introduction to Statistics with R.**

### Aberystwyth University

- 2018-2019 **Undergraduate Demonstrator (Mathematics).**

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## Referees

### **Dr Catalina Vallejos**

*Chancellor's Fellow*  
*MRC Human Genetics Unit*  
University of Edinburgh  
✉ cvallejo@ed.ac.uk

### **Prof Charlie Lees**

*Professor of Gastroenterology*  
*Centre for Genomic and Experimental Medicine*  
University of Edinburgh  
✉ charlie.lees@ed.ac.uk