Dylan Lawless

Contact

School of Life Sciences, Global Health Institute,
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Background

Scientist in Fellay Lab, Human Genomics of Infection and Immunity, EPFL, with PhD in Immunology Genetics from Leeds Institute of Medical Research, School of Medicine, University of Leeds, UK. Highly motivated & committed research scientist. Speciality: Human genomics & immunology. Style: Working with a wide range of specialists from international teams. Aim: To organise large, collaborative research projects in human health with a lasting impact based on open, reproducible science. Key skills: Collaborative, Big data analysis, Project management, Extract & visualise key data, Making complex systems simple. Academic age (time since PhD award March 2020): 1yr 4mth.

Education

2018-current	Postdoctoral study EPFL. "Human immunology and translational genomics."
2015–2019	PhD University of Leeds. "Novel genetic discoveries in rare primary immunodeficiencies."
2013–2014	MSc Trinity College Dublin (Distinction). "Exploring the therapeutic potential of a peptide derived from a poxviral immune evasion protein."
2009–2013	BSc University College Cork (Honours).

Research

2018-current	École polytechnique fédérale de Lausanne, Switzerland, Translational genomics, Fellay Lab.
2015–2018	University of Leeds, UK, Genetic discovery in rare PID.
2014	École polytechnique fédérale de Lausanne, Switzerland, Intracellular Innate Immunity, Ablasser Lab.
2014	ACM global, Analytical Scientist.

2013 Trinity College Dublin, Ireland, Viral Immunology, Bowie Lab.

2012 University College Cork, Ireland, Innate immunity in microbiology.

Publications

First-author:

1. *Blood*. Jun 2020; Germline *TET2* loss-of-function causes childhood immunodeficiency and lymphoma. doi: 10.1182/blood.2020005844.

   Jarmila Stremenova Spegarova and **Dylan Lawless (shared)**, *et al.* - pdf

2. *Journal of Clinical Immunology*. 2019 Aug; Predicting the occurrence of variants in *RAG1* and *RAG2*. doi: 10.1007%2Fs10875-019-00670-z

   Dylan Lawless, Hana Lango Allen, James Thaventhiran, NIHR BioResource–Rare Diseases Consortium, Flavia Hodel, Rashida Anwar, Jacques Fellay, Jolan E. Walter, Sinisa Savic. - pdf

3. *Frontiers in Immunology*. Jul 2018; doi: 10.3389/fimmu.2018.01527; A case of AOSD caused by a novel splicing mutation in *TNFAIP3* successfully treated with tocilizumab.

   D. Lawless, S. Pathak, T. Scambler, L. Ouboussand, R. Anwar, and S. Savic. - pdf

4. *Journal of Allergy and Clinical Immunology*. Feb 2018; doi: 10.1016/j.jaci.2018.02.007; Prevalence and clinical challenges among adult PID patients with recombination-activating gene deficiency.

   Dylan Lawless, Christoph B Geier, Jocelyn R Farmer, Hana Allen Lango, Daniel Thwaites, Faranaz Atschekzei, Matthew Brown, David Buchbinder, Siobhan O Burns, Manish J Butte, *et al.* - pdf

5. *Journal of Clinical Immunology*. Oct 2017; doi: 10.1007/s10875-017-0427-1; Bialellic Mutations in Tetratricopeptide Repeat Domain 7A (TTC7A) Cause Common Variable Immunodeficiency-Like Phenotype with Enteropathy.

   Dylan Lawless, Anoop Mistry, Philip M. Wood, Jens Stahlschmidt, Gururaj Arumugakani, Mark Hull, David Parry, Rashida Anwar, *et al* - pdf

Co-authored:

6. *Scientific reports*. Feb 2021; The influence of human genetic variation on Epstein–Barr virus sequence diversity. doi: 10.1038/s41598-021-84070-7

   Sina Rüeger, Christian Hammer, Alexis Loetscher, Paul J. McLaren, **Dylan Lawless**, Olivier Naret, Daniel P. Depledge, Sofia Morfopoulou, Judith Breuer, Evgeny Zdobnov, Jacques Fellay & the Swiss HIV Cohort Study - pdf

7. *Arthritis & Rheumatology*. Sep 2020; A novel RELA truncating mutation in familial Behçet's Disease-like mucocutaneous ulcerative condition. doi: 10.1002/art.41531

   Fahd Adeeb Emma R. Dorris Niamh E. Morgan, **Dylan Lawless**, *et. al.* - pdf

8. *Journal of clinical immunology*. Dec 2019; doi: 10.1007/s10875-019-00735-z Expanding Clinical Phenotype and Novel Insights into the Pathogenesis of ICOS Deficiency.

   Hassan Abolhassani, Yasser M. El-Sherbiny, Gururaj Arumugakani, Clive Carter, Stephen Richards, **Dylan Lawless**, *et al.* - pdf

9. *Blood*. Dec 2018; A novel *RAG1* mutation reveals a critical in vivo role for HMGB1/2 during V(D)J recombination.

   Daniel Thwaites, Clive Carter, **Dylan Lawless**, Sinisa Savic, and Joan Boyes. - pdf

10. *Science Translational Medicine*. 2016 Mar 30;8(332):332ra45. doi: 10.1126/scitranslmed.aaf1471; Familial autoinflammation with neutrophilic dermatosis reveals a regulatory mechanism of pyrin activation.

    Seth L. Masters, Vasiliki Lagou, Isabelle Jéru, Paul J. Baker, Lien Van Eyck, David A. Parry, **Dylan Lawless**, *et al.* - pdf

Pre-prints

- *Journal*. Month; SPSS GWAS - First author.
- *Journal*. Month; Pathway burden viral - First author.
- *Journal*. Month; RSV GWAS - co-author for Tina.
- *Journal*. Month; RSV viral sequence - First author.

Public outreach

LawlessGenomics.com - A home for topics that are relevant to human precision medicine and genomics. Invitation custom genomic analysis for rare disease. SARSCoV2variants.com - Open-source tracking for emerging SARS-CoV-2 variants that pose a risk based on COVID-19 vaccine genetics.

Conferences (*Invited speaker)

2021 Geneva	Health 2030 Genome Center.
2021 Geneva	Health 2030 Genome Center.
2021 Nashville	*Vanderbilt University Medical Center, Asthma Research Center.
2020 Berlin	The European Society of Human Genetics (ESHG).
2019 Sweden	The European Society of Human Genetics (ESHG).
2018 Geneva	Global Alliance for Genomics and Health (GA4GH).
2018 Basel	Int Workshop on Genome Privacy and Security (GenoPri).
2018 Basel	i2b2 tranSMART Academic Users Group Conference.
2018 Cambridge	*NIHR BioResource Rare Diseases.
2017 Edinburgh	European Society for Immunodeficiencies.
2017 York	*Annual Northern & Yorkshire Rheumatology.
2017 Cambridge	Immunogenomics of Disease, Wellcome Genome Campus.
2017 Leeds	Cloud Computing for Research.
2016 Cambridge	*NIHR BioResource Rare Diseases.
2016 Barcelona	European Society for Immunodeficiencies.
2014 Bonn	German Society for Immunology.

Selection of posters: 2014, 2016a, 2016b, 2017, 2019, 2020.

Awards

- Microsoft Azure Research Award. Project title: Data Science and Machine Learning in Predictive Genomics.
- University of Leeds 110 Anniversary Postgraduate Research Scholarship.

- TCD 1st place Postgraduate Poster prize.
- Wellcome Genome Campus, Cambridge Travel Grant.
- The European Society of Human Genetics best poster candidate.

Membership

- European Society of Human Genetics
- Swiss Institute of Bioinformatics

Supervision and Teaching Activities

Supervised 4 MSc and several BSc student projects, MSc and BSc coursework supervision.

2021 MSc. Host genomic analysis of respiratory syncytial virus infection.

2019 MSc. Rare genetic variants associated with sepsis in intensive care.

2019 MSc. Protein network analysis of susceptibility to viral infection.

2017 MSc. Ultra-deep sequencing for somatic variant discovery.

BIO491	MSc New tools & research strategies in personalized health
EPFL	Summer Research Program
BIOC1302	Undergrad Biochemistry Practical Skills
MEDI1216	Introduction to Medical Sciences
BLGY1234	Practical Genetics
BMSC2224	Principles of Drug Discovery
BMSC2224	Principles of Drug Discovery
BLGY2201	Introduction to Bioinformatics
BLGY1125	Undergrad Biology Practicals and Data Analysis
BLGY1232	Introduction to Genetics

Social profiles

ORCID, Google scholar, Github, Personal website, LinkedIn, Twitter.

EPFL, Switzerland, July 2021