Declan Bennett

Curriculum vitae

Education

2023   **PhD Bioinformatics**, *University of Galway*

Analysis of putative somatic mutations in 200,000 human exomes. Awarded Irish Research Council postgraduate scholarship to investigate and analyse mutational processes inferred from low-depth sequencing UK Biobank exome data

2017   **MSc. Biomedical Genomics**, *University of Galway*, *1.1*

NGS data analysis, Bioinformatics, Cancer Biology, Immunology, Python, Statistical Computing in R, Medical Genomics and Machine learning

2016   **BSc. Biotechnology**, *University of Galway*, *2.1*

Modules: Biochemistry, Microbiology, Industrial Processes, French, Genetics, Pharmacology and Business

Work Experience

Jan 2024 – Present   **Postdoctoral Researcher Associate**, *St Jude Children's Research Hospital*, Paediatric cancer dependency mapping, Drug target discovery

Oct 2023 – Jan 2024   **Postdoctoral researcher**, *University of Galway*, Analyses of asymmetries within NGS data

Sept 2022 – Feb 2023   **Training Co-ordinator**, *University of Galway*, Training coordination of the residential training program centre for research training in genomics data science

Jan 2019 – Jan 2021   **HPC Systems Administrator**, *University of Galway*, Bioinformatics HPC

Jan 2018 – Sept 2018   **Bioinformatician**, *Keane Group*, EMBL-EBI, Cambridge

Development of statistical analysis pipelines relating to the Accelerating Medicines Project- Type 2 Diabetes. Loading of datasets to the AMP node and submission to the EGA archive

Oct 2017 – Dec 2017   **Bioinformatics Internship**, *Supervisor: Prof Cathal Seoighe*, University of Galway

Investigation of genes in cancer under selection for downregulation via NMD

Apr 2015 – Jul 2015   **Research Assistant**, *Laboratoire de Biotechnologie et Chimie Marines*, Vannes, France

Achievements

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2020	**Awarded €25,000 Small Research Equipment grant**
	To upgrade and storage capacity increase of bioinformatics high performance compute cluster
2018	**Government of Ireland postgraduate scholarship**
	Awarded a 4-year scholarship from the Irish research council to study the somatic mutation rate variation across large population-scale datasets
2017	**Winner of the inaugural Roche prize for best MSc Biomedical Genomics research project**

Skills

- Pipeline development for biobank scale datasets
- Proven publication and employment record developing GWAS methods & pipelines
- Hands on experience with large NGS datasets (UK biobank, GTEx, TCGA, ICGC) including modelling CRISPR KO screens
- Extensive experience in statistical programming languages (R,Julia) and genome association analysis toolsets (samtools,GATK,plink etc...)
- Experience in Python scripting language and workflow management systems (Snakemake, nextflow)
- Comfortable working with Unix based operating systems or with cloud based technologies (AWS,google cloud)
- Significant report writing and presentation experience
- Strong data analysis and visualisation skills developed through education and research
- Collaboration and team working skills demonstrated throughout my studies and at work
- Adaptable and flexible individual who is highly motivated and excited by new opportunities/challenges
- Active decision maker with strong attention to detail
- Excellent work ethic and commitment to quality

References

Prof Cathal Seoighe
Director, SFI Centre for Research Training in Genomics Data Science
School of Mathematical and Statistical Sciences
University of Galway, Ireland
✉ cathal.seoighe@universityofgalway.ie

Dr Thomas Keane
Team Leader - EGA & Archive Infrastructure
EMBL-EBI, Cambridge, UK
✉ tk2@ebi.ac.uk

Publications

[1] Declan Bennett, Donal O'Shea, John Ferguson, Derek Morris, and Cathal Seoighe. Controlling for background genetic effects using polygenic scores improves the power of genome-wide association

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studies. *Scientific reports*, 11(1):1–10, 2021.

[2] Anja Göder, Aisling Quinlan, Michael David Rainey, Declan Bennett, Jacqueline Corso, and Corrado Santocanale. Ptbp1 enforces atr-chk1 signalling determining the potency of cdc7 inhibitors. *Iscience*, 2023.

[3] Victoria Nembaware, Declan Bennett, Emile R Chimusa, Tinashe Chikowore, Richard Daodu, Valential Ngo Bitoungui, Scott M Williams, Segun Fatumo, Sandra Healy, Cathal Seoighe, et al. The african society of human genetics successfully launches global data science workshops. *Trends in Genetics*, 2023.

[4] Michael D Rainey, Declan Bennett, Rachel O'Dea, Melania E Zanchetta, Muriel Voisin, Cathal Seoighe, and Corrado Santocanale. Atr restrains dna synthesis and mitotic catastrophe in response to cdc7 inhibition. *Cell reports*, 32(9):108096, 2020.

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