

THOMAS RHYS CLARKE

Centre for Discovery Brain Sciences, Hugh Robson Building, Edinburgh, EH8 9XD
Thomas.Clarke@ed.ac.uk ♦ [linkedin.com/in/Thomas-Rhys-Clarke](https://www.linkedin.com/in/Thomas-Rhys-Clarke) ♦ github.com/thomclarke

EDUCATION

BBSRC EASTBIO PhD Studentship, Duguid Lab, University of Edinburgh October 2020 - Present
Project: Cerebellar and Basal Ganglia Contributions to Motor Learning

MScR Integrative Neuroscience with Merit, Duguid Lab, University of Edinburgh 2018 - 2019
Project: DREADDs as a tool for investigating thalamocortical initiation of movement

BSc Neuroscience 2:1, University College London 2015 -2018
Project: Effects of fatigue on EMG amplitude in BFR training. Paton Lab

MBBS Medicine, University of Oxford, Trinity College 2013 - 2014

PUBLICATIONS

A cerebellar-thalamocortical pathway drives behavioural context-dependant movement initiation Joshua Dacre, Matt Colligan*, **Thomas Clarke*** Julian Ammer*, Julia Schiemann, Victor Chamosa-Pino, Federico Claudi, J. Alex Harston, Constantinos Eleftheriou, Janelle M.P.Pakan, Chen-Chiu Huang, Adam Hantman, Nathalie L. Rochefort, Ian Duguid. 2021. *Neuron*. [10.1016/j.neuron.2021.05.016](https://doi.org/10.1016/j.neuron.2021.05.016)

Spatiotemporal organization of movement-invariant and movement-specific signaling in the output layer of motor cortex Stephen P. Currie, Julian J. Ammer, Brian Premchand, Joshua Dacre, Yufei Wu, Constantinos Eleftheriou, Matt Colligan, **Thomas Clarke**, Leah Mitchell, Aldo Faisal, Matthias H. Hennig, Ian Duguid. 2021. doi.org/10.1101/2020.10.27.357087

Comparing the Effectiveness of Blood Flow Restriction and Traditional Heavy Load Resistance Training in the Post-Surgery Rehabilitation of Anterior Cruciate Ligament Reconstruction Patients: A UK National Health Service Randomised Controlled Trial. Luke Hughes, Fares Haddad, Connor Gissane, Daniel McCarthy, **Thomas Clarke**, Graham Ferris, Joanna Dawes, Bruce Paton. *Sports Med* 49, 1787-1805 (2019). doi.org/10.1007/s40279-019-01137-2

Examination of the comfort and pain experienced with blood flow restriction training during post-surgery rehabilitation of anterior cruciate ligament reconstruction patients: A UK National Health Service trial. Luke Hughes, Stephen David Patterson, Fares Haddad, Connor Gissane, Daniel McCarthy, **Thomas Clarke**, Graham Ferris, Joanna Dawes, Bruce Paton. *Physical Therapy in Sport* 39 90-98 (2019). doi.org/10.1016/j.ptsp.2019.06.014

RESEARCH EXPERIENCE

2019 - 20 SIDB Funded Research Assistant

Duguid Lab, University of Edinburgh

Assisting in development of novel, touchscreen based, two-alternative forced choice task for screening of symptoms in a mouse model of Rett Syndrome.

2017-2018 Summer Research Placement

Paton Lab, Institute for Sports, Exercise and Health

Assisted in running, data collection and analysis of several clinical trials

SKILLS

Laboratory	Fibre Photometry, Optogenetics, Chemogenetics, Pharmacological Interventions, <i>in vivo</i> Patch Clamp Electrophysiology, Head Fixed and Freely Moving Animal Behaviour, Immunohistochemical Tissue Staining, Vibratome and Cryostat Tissue Collection, Microscopy
Rodent Surgery	Craniotomy, Durotomy, Optic Fibre Implant (chronic and acute), Headplate Implant, Stereotaxic Injection of Viral and Tracing Substances
Languages	Python, MatLab, LaTeX, Git, BASH
Software	Image J/FUJI, Affinity Designer/Photo, Microsoft Suite, Autodesk Fusion 360 3D CAD

AWARDS

Sussex County A-Level Student of the year	2013
National Medical Student Paediatric Conference Best Poster	2012

TEACHING

Neuroscience Honours Tutor	2021 - Present
<ul style="list-style-type: none">– Facilitated journal club / paper discussion for final year Neuroscience honours students– Prepared students for a final year paper discussion exam	
Practical Lab Demonstrator	2021 - Present
<ul style="list-style-type: none">– Supervised students in practical laboratories ranging from microbiology to electrophysiology– Supported students in completing practical quizzes and gaining confidence in 'wet lab' skills	
Supervising Undergraduate Research Projects	2019 - Present
<ul style="list-style-type: none">– Supervised and trained final year neuroscience undergraduates and intercalating medical students during 12 week research projects. This included training them in practical wet lab skills, project management, data analysis and presentation and dissertation writing	

QUALIFICATIONS

Stanford University (Online Courses) - Machine Learning	2021
Nature - Masterclass in Scientific Writing and Publishing	2018

MEMBERSHIPS

Physiological Society	2022 - Present
British Neuroscience Association	2017 - Present
BRIGHTMED	2010-2013
Gifted and talented program run by Brighton Medical School supporting state school students from Year 9 to 13 with preparation for medical school applications	

WORK HISTORY

Research Assistant SIDB, University of Edinburgh, Duguid Lab	August 2019 - July 2020
Bike Builder and Sales Assistant Cycle Republic, Margaret Street, London	June 2016 - January 2018

REFERENCES

Professor Ian Duguid Centre for Discovery Brain Sciences, Edinburgh Ian.Duguid@ed.ac.uk	Dr Joshua Dacre Centre for Discovery Brain Sciences, Edinburgh joshua.dacre@gmail.com
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