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 ◇ github.com/thomclarke

EDUCATION

BBSRC EASTBIO PhD Studentship, Duguid Lab, University of Edinburgh — 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, Univerisity of Oxford, Trinity College — 2013 - 2014

PUBLICATIONS

Visiomode: an open-source platform for building rodent touchscreen-based behavioral assays *Constantinos Eleftheriou; **Thomas Clarke**; V Poon; Marie Zechner; Ian Duguid.* ***J. Neurosci. Methods*** *2023. 10.1016/j.jneumeth.2022.109779*

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.* ***Neuron****. 2021 10.1016/j.neuron.2021.05.016*

Movement-specific signaling is differentially distributed across motor cortex layer 5 projection neuron classes *Stephen P Currie; Julian J Ammer; Brian Premchand; Joshua Dacre; Yufei Wu; Constantinos Eleftheriou; Matt Colligan; **Thomas Clarke**; Leah Mitchell; A Aldo Faisal; Matthias H Hennig; Ian Duguid.* ***Cell Reports*** *2021. doi.org/10.1016/j.celrep.2022.110801*

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 organisation, data collection, management and analysis of several clinical trials

SKILLS

Laboratory	*In Vivo* Patch Clamp Electrophysiology, Fibre Photometry, Optogenetics, Chemogenetics, Pharmocological Interventions, Head Fixed and Freely Moving Animal Behaviour, Immunohistochemical Tissue Staining, Vibratome and Cryostat Tissue Collection, Confocal, Brightfield and Fluorescence Microscopy
Surgical	Craniotomy, Durotomy, Optic Fibre Implant (chronic and acute), Headplate Implant, Sterotaxic Injection of Viral and Tracing Substances
Languages	Python, MatLab, C++, LaTeX, Git
Software	Image J/FUJI, Affinity Designer/Photo, Microsoft Suite, Adobe Suite, Autodesk Fusion 360 3D CAD, Bonsai
Soft Skills	Teamwork, Data Analysis, Presentation and Communication, Establishing New Data Acquisition Techniques and Analysis Pipelines, Project Management (individual and multi-team), Supervision and Teaching

AWARDS

EASTBIO *In Vivo* Skills Travel Bursary 2022
National Medical Student Paediatric Conference Best Poster 2012

TEACHING

First and Second Year Medical Sciences Tutor and Marker 2022 - Present

- Lectured first and second year undergraduates on effective essay writing, peer review, feedback and editing techniques
- Marking essays and exam scripts in microbiology, physiology and biomedicine

Neuroscience Honours Tutor 2021 - Present

- Facilitated journal club and paper discussions for final year Neuroscience honours students
- Prepared students for a final year paper discussion exam
- Tutored small groups of students in developing a plan for a research project and presenting the proposal

Practical Lab Demonstrator 2021 - Present

- 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

- 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

British Neuroscience Association 2017 - Present

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