Dr. Dominic Waithe

UKRI Innovation Fellow
MRC WIMM Centre for Computational Biology and Wolfson Imaging Centre, Weatherall Institute of Molecular Medicine, University of Oxford
OX3 9DS Oxford, UK

Tel: (+44) 01865 222517
Email: dominic.waithe@imm.ox.ac.uk
Github: https://github.com/dwaithe
Twitter: https://twitter.com/dwaithe
Age: 37

Positions

Current:

2018-	UKRI Innovation Fellow. Topic: Career Development fellowship to apply dynamic image analysis, computer vision and machine learning to microscopy acquisition and analysis. Weatherall Institute of Molecular Medicine. John Radcliffe Hospital.

Previous:

2003-2004	Industrial Trainee. Lead Discovery Technologies, Pfizer Ltd (Sandwich, Kent). Supervisors: Dr. Andreas Sewing Ph.D., Dr. Philip Gribbon Ph.D. Topic: adaptation of immunohistochemical assay kits into High Content Screening format
2009-2010	Post-doctoral Research Associate. Laboratory of Molecular Neuroscience. UCL. Molecular Research Council funded. Supervisor: Prof. Annette C. Dolphin Ph.D., FMedSci. Topic: to study the trafficking of the putative calcium channel subunit gamma-7.
2010-2012	Post-doctoral Research Associate. Institute of Pharmacology and Toxicology, University of Zurich. SNSF funded. Supervisor: Prof. Jean-Marc Fritschy, Ph.D. Topic: to investigate the clustering characteristics of synaptic protein gephyrin
2013-2018	Senior Post-doctoral Research Associate. Wolfson Imaging Centre, Weatherall Institute of Molecular Medicine. John Radcliffe Hospital.

Qualifications, Appointments & Awards

2001-2005	B.Sc., Biotechnology. Department of Biochemistry. UCL. Tutor. Prof. John Ward Ph.D.
2005-2009	PhD. Laboratory of Molecular Neuroscience. UCL. BHF studentship. Supervisor: Prof. Annette C. Dolphin Ph.D., FMedSci. Topic: to investigate the trafficking of calcium channels in sympathetic neurons.
2012-2013	MSc. Research Student. Dept. of Computer Science. University College London. Supervisor: Dr. Gabriel Brostow, Ph.D. Topic: Development of an active-learning object detection algorithm.
2014-2018	Oxford Nottingham Bioimage Imaging CDT IA Course – Oxford https://tinyurl.com/s32bdxl (co-organiser, lecturer, demonstrator)
2018-2020	Chair of Image Analysis Focused Interest Group of the Royal Microscopical Society.
2018-2020	UK management committee member of EU COST funded Neubias scheme.
2019	Python for Bioimage Analysis Course – Cambridge 2019 https://tinyurl.com/saeyqgf (main organiser, lecturer, demonstrator)
2019	Neubias TS12 workshop – Porto https://tinyurl.com/qllpkch (co-organiser, lecturer, demonstrator)

Major Grants and Awards

2017	Authored a successful grant as Named Co-Researcher (BBSRC Tools and Resources Development Fund). Fully Funded
2018	Fellowship application. UKRI MRC Innovation fellowship. 3-years. Fully Funded.

Publications

41 Publications in peer-reviewed journals (http://orcid.org/0000-0003-2685-4226)

10 most significant publication:

Waithe D., Brown J.M., Reglinski K., Diez-Sevilla I., Roberts D., Eggeling C. "Object Detection Networks and Augmented Reality for Cellular Detection in Fluorescence Microscopy Acquisition and Analysis" Bioxriv

Galiani S.[*1], Waithe D.[*1], Reglinski K, Cruz-Zaragoza LD., Garcia E., Clausen MP., Schliebs W., Erdmann R., Eggeling C.. "Super-resolution Microscopy Reveals Compartmentalization of Peroxisomal Membrane Proteins." *Journal of Biological Chemistry* 291, no. 33 (2016): 16948-16962.

Waithe D., Schneider F., Chojnacki J., Shreshta D., de la Serna JB.," Optimized processing and analysis of conventional confocal microscopy generated scanning FCS data". *Methods* (2017).

Waithe D., Clausen MP., Sezgin E., Eggeling C. "FoCuS-point: software for STED fluorescence correlation and time-gated single photon counting". *Bioinformatics*, Volume 32, Issue 6, 15, Pages 958–960 (2016).

Waithe D., Hailstone M., Lalwani MK., Parton R, Yang L., Patient R. Eggeling C. "3-D Density Kernel Estimation for Counting in Microscopy Image Volumes Using 3-D Image Filters and Random Decision Trees. *ECCV Workshop*: 244-255 2016

Waithe D., Ferron L., Dolphin AC. "Stargazin-related protein 7 is associated with signalling endosomes in superior cervical ganglion neurons and modulates neurite outgrowth." *Journal of Cell Science*;124(Pt 12):2049-57. 2011

Other publications:

Carravilla P, Chojnacki J, Rujas E, Insausti S, Largo E, Waithe D, Apellaniz B, Sicard T, Julien J, Eggeling C, Nieva JL. "Molecular recognition of the native HIV-1 MPER revealed by STED microscopy of single virions." *Nature Communications*. DOI:10.1038/s41467-018-07962-9 (2019)

Chen Y, Gutowska-Owsiak D, Hardman CS, Westmoreland M, MacKenzie T, Cifuentes L, Waithe D, Lloyd-Lavery A, Marquette A, Londei M, Ogg G. "Proof-of-concept clinical trial of etokimab shows a key role for {IL}-33 in atopic dermatitis pathogenesis." *Science Translational Medicine.* DOI:10.1126/scitranslmed.aax2945 (2019)

Sezgin E, Schneider F, Galiani S, Urbancic I, Waithe D, Lagerholm BC, Eggeling C. "Measuring nanoscale diffusion dynamics in cellular membranes with super-resolution STED-FCS." *Nature Protocols.* DOI:10.1038/s41596-019-0127-9 (2019)

Brown JM, Roberts NA, Graham B, Waithe D, Lagerholm C, Telenius JM, Ornellas SD, Oudelaar AM, Scott C, Szczerbal I, Babbs C, Kassouf MT, Hughes JR, Higgs DR, Buckle VJ. "A tissue-specific self-interacting chromatin domain forms independently of enhancer-promoter interactions." Nature Communications. DOI:10.1038/s41467-018-06248-4 (2018)

Chagraoui H, Kristiansen MS, Ruiz JP, Serra-Barros A, Richter J, Hall-Ponsele E, Gray N, Waithe D, Clark K, Hublitz P, Repapi E, Otto G, Sopp P, Taylor S, Thongjuea S, Vyas P, Porcher C. "{SCL}/{TAL}1 cooperates with Polycomb RYBP-PRC1 to suppress alternative lineages in blood-fated cells." *Nature Communications*. DOI:10.1038/s41467-018-07787-6 (2018)

[1] Authors contributed equally