

Jeffrey Y Lee

POSTDOCTORAL SCIENTIST

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Experimental & computational biologist interested in RNA regulation in development, disease and infection.

Employment

Postdoctoral Researcher

UNIVERSITY OF OXFORD

Oxford, UK

2022 - Present

- RNA localisation and post-transcriptional regulatory control in neural development
- Single-molecule level visualisation of viral RNA replication dynamics

Education

University of Oxford | PhD/DPhil Biochemistry

SUPERVISOR: PROF ILAN DAVIS

Oxford, UK

2017 - 2022

University of Cambridge | MPhil Biological Science

SUPERVISOR: PROF GUY BROWN

Cambridge, UK

2016 - 2017

Imperial College London | BSc Biochemistry

FIRST CLASS HONOURS

London, UK

2013 - 2016

Skills

Molecular Biology	RNA and Protein Biochemistry, Sequencing library preparations (iCLIP, 4sU-seq)
Bioinformatics	Programming (R, Python, Snakemake), Transcriptomics data analysis (bulk or scRNA-seq, iCLIP)
Microscopy	RNA-FISH (smFISH, HCR), Single-molecule image analysis, Colocalisation, Segmentation
Fly Genetics	Fly transformation, Tissue dissection

Publications

LEAD AUTHOR PUBLICATIONS

1. Titlow, J. S., Kiourlappou, M., Palanca, A., Lee, J. Y., Gala, D. S., Ennis, D., Yu, J. J. S., Young, F. L., Susano Pinto, D. M., Garforth, S., Francis, H. S., Strivens, F., Mulvey, H., Dallman-Porter, A., Thornton, S., Arman, D., Millard, M. J., Järvelin, A. I., Thompson, M. K., ... Davis, I. (2023). Systematic analysis of YFP traps reveals common mRNA/protein discordance in neural tissues. *Journal of Cell Biology*, 222(6), e202205129. <https://doi.org/10.1083/jcb.202205129>
2. Gala, D. S., Lee, J. Y., Kiourlappou, M., Titlow, J. S., Teodoro, R. O., & Davis, I. (2023). *Mammalian glial protrusion transcriptomes predict localization of Drosophila glial transcripts required for synaptic plasticity*. bioRxiv. <https://doi.org/10.1101/2022.11.30.518536>
3. Lee, J. Y., Wing, P. A., Gala, D. S., Noerenberg, M., Järvelin, A. I., Titlow, J., Zhuang, X., Palmalux, N., Iselin, L., Thompson, M. K., Parton, R. M., Prange-Barczynska, M., Wainman, A., Salguero, F. J., Bishop, T., Agranoff, D., James, W., Castello, A., McKeating, J. A., & Davis, I. (2022). Absolute quantitation of individual SARS-CoV-2 RNA molecules provides a new paradigm for infection dynamics and variant differences. *eLife*, 11, e74153. <https://doi.org/10.7554/eLife.74153>

CONTRIBUTING PUBLICATIONS

1. Puigdemívol, M., Milde, S., Vilalta, A., Cockram, T. O. J., Allendorf, D. H., Lee, J. Y., Dundee, J. M., Pampuščenko, K., Borutaite, V., Nuthall, H. N., Brelstaff, J. H., Spillantini, M. G., & Brown, G. C. (2021). The microglial P2Y6 receptor mediates neuronal loss and memory deficits in neurodegeneration. *Cell Reports*, 37(13). <https://doi.org/10.1016/j.celrep.2021.110148>
2. Wickenhagen, A., Sugrue, E., Lytras, S., Kuchi, S., Noerenberg, M., Turnbull, M. L., Loney, C., Herder, V., Allan, J., Jarmson, I., Cameron-Ruiz, N., Varjak, M., Pinto, R. M., Lee, J. Y., Iselin, L., Palmalux, N., Stewart, D. G., Swinger, S., Greenwood, E. J. D., ... Wilson, S. J. (2021). A prenylated dsRNA sensor protects against severe COVID-19. *Science*, 374(6567), eabj3624. <https://doi.org/10.1126/science.abj3624>

3. Kamel, W., Noerenberg, M., Cerikan, B., Chen, H., Järvelin, A. I., Kammoun, M., Lee, J. Y., Shuai, N., Garcia-Moreno, M., Andrejeva, A., Deery, M. J., Johnson, N., Neufeldt, C. J., Cortese, M., Knight, M. L., Lilley, K. S., Martinez, J., Davis, I., Bartenschlager, R., ... Castello, A. (2021). Global analysis of protein-RNA interactions in SARS-CoV-2-infected cells reveals key regulators of infection. *Molecular Cell*, 81(13), 2851–2867.e7. <https://doi.org/10.1016/j.molcel.2021.05.023>
4. Wing, P. A. C., Keeley, T. P., Zhuang, X., Lee, J. Y., Prange-Barczynska, M., Tsukuda, S., Morgan, S. B., Harding, A. C., Argles, I. L. A., Kurlekar, S., Noerenberg, M., Thompson, C. P., Huang, K.-Y. A., Balfe, P., Watashi, K., Castello, A., Hinks, T. S. C., James, W., Ratcliffe, P. J., ... McKeating, J. A. (2021). Hypoxic and pharmacological activation of HIF inhibits SARS-CoV-2 infection of lung epithelial cells. *Cell Reports*, 35(3). <https://doi.org/10.1016/j.celrep.2021.109020>
5. Samuels, T. J., Arava, Y., Järvelin, A. I., Robertson, F., Lee, J. Y., Yang, L., Yang, C.-P., Lee, T., Ish-Horowicz, D., & Davis, I. (2020). Neuronal upregulation of Prospero protein is driven by alternative mRNA polyadenylation and Syncrip-mediated mRNA stabilisation. *Biology Open*, 9(5), bio049684. <https://doi.org/10.1242/bio.049684>
6. Yi, J. H., Brown, C., Whitehead, G., Piers, T., Lee, Y. S., Perez, C. M., Regan, P., Whitcomb, D. J., & Cho, K. (2017). Glucocorticoids activate a synapse weakening pathway culminating in tau phosphorylation in the hippocampus. *Pharmacological Research*, 121, 42–51. <https://doi.org/10.1016/j.phrs.2017.04.015>

Professional service

Peer review

DEVELOPMENT, PLOS ONE

Symposium & Conferences

ORGANISATION

- 2015 UK-Korea Neuroscience Symposium, University of Cambridge
- 2015 London Health Forum 2015, KHIDI
- 2014 London Health Forum 2014, MRC KHIDI

Teaching

MBiochem Biochemistry project supervision

UNIVERSITY OF OXFORD

2020 - 2022

MSc Neuroscience project supervision

UNIVERSITY OF OXFORD

2017 - 2018

Certificates & Awards

2023	Silver Award - Micron Imaging Competition	University of Oxford
2017	Clarendon DPhil Scholarship	University of Oxford
2016	Dean's List for Life Sciences	Imperial College
2016	Conveners' Prize for Integrative Systems Biology	Imperial College
2016	Conveners' Prize for Biotechnology Application of Proteins	Imperial College

Pre-PhD employment

Korea Health Industry Development Institute (KHIDI)

PART-TIME INTERSHIP

2013 - 2017

British Embassy Intern

SCIENCE & INNOVATION NETWORK INTERSHIP

Apr 2013 - Jun 2013