Jeffrey Y Lee

Postdoctoral scientist

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

Employment

Postdoctoral Researcher — *Glasgow, UK*

University of Glasgow — *2023 - 2024*

- TDP-43 mediated RNA mislocalisation in Amyotrophic Lateral Sclerosis (ALS)

Postdoctoral Researcher — *Oxford, UK*

University of Oxford — *2022 - 2023*

- 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 — *Oxford, UK*

Supervisor: Prof Ilan Davis — *2017 - 2022*

University of Cambridge | MPhil Biological Science — *Cambridge, UK*

Supervisor: Prof Guy Brown — *2016 - 2017*

Imperial College London | BSc Biochemistry — *London, UK*

First Class Honours — *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. Titlow, J. S., Kiourlappou, M., Palanca, A., Lee, J. Y., Gala, D. S., Ennis, D., … Davis, I. (2023). Systematic analysis of YFP traps reveals common mRNA/protein discordance in neural tissues. *Journal of Cell Biology*. https://doi.org/10.1083/jcb.202205129

Lee, JY., Huang, N., Samuels, TJ., & **Davis, I.** (2024). Imp and Syp in vivo temporal RNA interactomes uncover networks of temporal regulators of Drosophila brain development.. *bioRxiv*. 2024.06. 30.600407

Titlow, JS., Kiourlappou, M., Palanca, A., **Lee, JY.**, Gala, DS., Ennis, D., Yu, JJS., & … (2023). Systematic analysis of YFP traps reveals common mRNA/protein discordance in neural tissues. *Journal of Cell Biology*. 222 (6), e202205129

Lee, JY., Wing, PAC., Gala, DS., Noerenberg, M., Järvelin, AI., Titlow, J., & … (2022). Absolute quantitation of individual SARS-CoV-2 RNA molecules provides a new paradigm for infection dynamics and variant differences. *Elife*. 11, e74153

Wickenhagen, A., Sugrue, E., Lytras, S., Kuchi, S., Noerenberg, M., Turnbull, ML., & … (2021). A prenylated dsRNA sensor protects against severe COVID-19. *Science*. 374 (6567), eabj3624

Kamel, W., Noerenberg, M., Cerikan, B., Chen, H., Järvelin, AI., Kammoun, M., & … (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

Wing, PAC., Keeley, TP., Zhuang, X., **Lee, JY.**, Prange-Barczynska, M., & … (2021). Hypoxic and pharmacological activation of HIF inhibits SARS-CoV-2 infection of lung epithelial cells. *Cell reports*. 35 (3)

Puigdellívol, M., Milde, S., Vilalta, A., Cockram, TOJ., Allendorf, DH., **Lee, JY.**, & … (2021). The microglial P2Y6 receptor mediates neuronal loss and memory deficits in neurodegeneration. *Cell Reports*. 37 (13)

Samuels, TJ., Arava, Y., Järvelin, AI., Robertson, F., **Lee, JY.**, Yang, L., Yang, CP., & … (2020). Neuronal upregulation of Prospero protein is driven by alternative mRNA polyadenylation and Syncrip-mediated mRNA stabilisation. *Biology open*. 9 (5), bio049684

Yi, JH., Brown, C., Whitehead, G., Piers, T., Lee, YS., Perez, CM., Regan, P., & … (2017). Glucocorticoids activate a synapse weakening pathway culminating in tau phosphorylation in the hippocampus. *Pharmacological research*. 121, 42-51

Professional service

Peer review

Development, EMBO Reports, 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

MSc Infection & Immunity project supervision

University of Glasgow *2024 - 2024*

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*