

**BIOGRAPHICAL SKETCH**

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NAME: Bates, Alexander

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Research Fellow in Neurobiology

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
University College London, London	BS	07/2015	Neuroscience
University of Cambridge, Cambridge	PHD	02/2021	Neuroscience

**A. Personal Statement**

I am a neuroscientist and computational biologist specialising in neuroanatomy, neurophysiology and connectomics of the insect brain. My research focuses on understanding how neural circuits wire to generate complex behaviours, including olfactory processing and animal navigation. I develop open-source tools for neuroanatomical analysis and collaborate internationally on connectomics projects. In the wetlab, I use virtual reality and calcium imaging experiments to interrogate neurobiological circuits in living, behaving flies.

1. Bates AS, Phelps JS, Kim M, Yang HH, Matsliah A, Ajabi Z, Perlman E, Delgado KM, Osman MAM, Salmon CK, Gager J, Silverman B, Renauld S, Collie MF, Fan J, Pacheco DA, Zhao Y, Patel J, Zhang W, Serratos Capdevilla L, Roberts RJV, Munnely EJ, Griggs N, Langley H, Moya-Llamas B, Maloney RT, Yu SC, Sterling AR, Sorek M, Kruk K, Serafetinidis N, Dhawan S, Stürner T, Klemm F, Brooks P, Lesser E, Jones JM, Pierce-Lundgren SE, Lee SY, Luo Y, Cook AP, McKim TH, Kophs EC, Falt T, Negrón Morales AM, Burke A, Hebditch J, Willie KP, Willie R, Popovych S, Kemnitz N, Ih D, Lee K, Lu R, Halageri A, Bae JA, Jourdan B, Schwartzman G, Demarest DD, Behnke E, Bland D, Kristiansen A, Skelton J, Stocks T, Garner D, Salman F, Daly KC, Hernandez A, Kumar S, Dorkenwald S, Collman F, Suver MP, Fenk LM, Pankratz MJ, Jefferis GSXE, Eichler K, Seeds AM, Hampel S, Agrawal S, Zandawala M, Macrina T, Adjavon DY, Funke J, Tuthill JC, Azevedo A, Seung HS, de Bivort BL, Murthy M, Drugowitsch J, Wilson RI, Lee WA. Distributed control circuits across a brain-and-cord connectome. *bioRxiv*. 2025 Aug 2; PubMed Central PMCID: PMC12324551.
2. Eckstein N, Bates AS, Champion A, Du M, Yin Y, Schlegel P, Lu AK, Rymer T, Finley-May S, Paterson T, Parekh R, Dorkenwald S, Matsliah A, Yu SC, McKellar C, Sterling A, Eichler K, Costa M, Seung S, Murthy M, Hartenstein V, Jefferis GSXE, Funke J. Neurotransmitter classification from electron microscopy images at synaptic sites in *Drosophila melanogaster*. *Cell*. 2024 May 9;187(10):2574-2594.e23. PubMed Central PMCID: PMC11106717.
3. Bates AS, Schlegel P, Roberts RJV, Drummond N, Tamimi IFM, Turnbull R, Zhao X, Marin EC, Popovici PD, Dhawan S, Jamasb A, Javier A, Serratos Capdevila L, Li F, Rubin GM, Waddell S, Bock DD, Costa M, Jefferis GSXE. Complete Connectomic Reconstruction of Olfactory Projection Neurons in the Fly Brain. *Curr Biol*. 2020 Aug 17;30(16):3183-3199.e6. PubMed Central PMCID: PMC7443706.
4. Bates AS, Manton JD, Jagannathan SR, Costa M, Schlegel P, Rohlfing T, Jefferis GS. The natverse, a versatile toolbox for combining and analysing neuroanatomical data. *Elife*. 2020 Apr 14;9 PubMed Central PMCID: PMC7242028.

**B. Positions, Scientific Appointments and Honors**

## **Positions and Scientific Appointments**

2020 - Research Fellow in Neurobiology, Harvard Medical School, University of Oxford, Cambridge, MA

## **Honors**

2022 - 2026 Sir Henry Wellcome Fellowship, Wellcome Trust  
2021 - 2022 EMBO Fellow, European Molecular Biology Organization  
2015 - 2019 Herchel Smith PhD Scholarship, The University of Cambridge  
2015 - 2019 Honorary Vice Chancellor's Award, University of Cambridge  
2016 - 2018 Boehringer Ingelheim PhD Scholarship, Boehringer Ingelheim Fonds  
2013 - 2015 Burnstock Prize, UCL Neuroscience Programme  
2013 - 2014 Dean's list, University College London  
2020 Max Perutz Prize, MRC LMB  
2020 BNA Postgraduate Prize, British Neuroscience Association  
2015 Rob Clarke Award, Society of Physiology  
2015 University of Queensland Winter Scholarship, University of Queensland  
2014 Amgen Scholarship, Amgen

## **C. Contribution to Science**

1. Acted as a reviewer for Nature Communications, Plos Computational Biology, eLife, COSYNE and UKRI Grants
2. Helped to create and maintain open-source tools for neuroanatomical research (natverse.org)
  - a. Bates AS, Manton JD, Jagannathan SR, Costa M, Schlegel P, Rohlfing T, Jefferis GS. The natverse, a versatile toolbox for combining and analysing neuroanatomical data. Elife. 2020 Apr 14;9 PubMed Central PMCID: PMC7242028.
3. Actively curate and maintain public databases for fly connectome data (codex.flywire.ai/?dataset=banc)
  - a. Bates AS, Phelps JS, Kim M, Yang HH, Matsliah A, Ajabi Z, Perlman E, Delgado KM, Osman MAM, Salmon CK, Gager J, Silverman B, Renauld S, Collie MF, Fan J, Pacheco DA, Zhao Y, Patel J, Zhang W, Serratosa Capdevilla L, Roberts RJV, Munnelly EJ, Griggs N, Langley H, Moya-Llamas B, Maloney RT, Yu SC, Sterling AR, Sorek M, Kruk K, Serafetinidis N, Dhawan S, Stürner T, Klemm F, Brooks P, Lesser E, Jones JM, Pierce-Lundgren SE, Lee SY, Luo Y, Cook AP, McKim TH, Kophs EC, Falt T, Negrón Morales AM, Burke A, Hebditch J, Willie KP, Willie R, Popovych S, Kemnitz N, Ih D, Lee K, Lu R, Halageri A, Bae JA, Jourdan B, Schwartzman G, Demarest DD, Behnke E, Bland D, Kristiansen A, Skelton J, Stocks T, Garner D, Salman F, Daly KC, Hernandez A, Kumar S, Dorkenwald S, Collman F, Suver MP, Fenk LM, Pankratz MJ, Jefferis GSXE, Eichler K, Seeds AM, Hampel S, Agrawal S, Zandawala M, Macrina T, Adjavon DY, Funke J, Tuthill JC, Azevedo A, Seung HS, de Bivort BL, Murthy M, Drugowitsch J, Wilson RI, Lee WA. Distributed control circuits across a brain-and-cord connectome. bioRxiv. 2025 Aug 2; PubMed Central PMCID: PMC12324551.