

Paul Gregory Donlin-Asp, PhD

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Nationality: USA

Current Location: Edinburgh UK

Group leader:

ESAT Fellow

Simons Initiative for the Developing Brain

Centre for Discovery Brain Science

University of Edinburgh

January 2023-present

Postdoctoral work:

Max Planck Institute for Brain Research

Department of Synaptic Plasticity

March 2017-December 2022

Advisor: Dr. Erin M. Schuman, PhD

PhD work:

Emory University

August 2011-December 2016 (PhD awarded May 2017)

Biochemistry, Cell and Developmental Biology.

Advisor(s): Dr. Gary Bassell, PhD; Dr. Wilfried Rossoll, PhD

Additional Research Experiences:

CRTA post-bac research fellow

National Cancer Institute

2009-2011

Advisor: Dr. Yamini Dalal, PhD

Undergraduate Researcher

University of Illinois at Urbana-Champaign

2007-2009

Advisor: Dr. Andrew Belmont, MD/PhD

Undergraduate studies:

University of Illinois at Urbana-Champaign

Molecular and Cellular Biology, May 2009

Graduated with distinction from the department of MCB

Current funding:

Start up funding (Simons Initiative for the Developing Brain) January 2023-present

SynGAP SRF (\$130,000 USD) February 2024-January 2026

Publications (1st author):

1. Differential regulation of local mRNA dynamics and translation following long-term potentiation and depression. PNAS 2021**.

Donlin-Asp PG, Polisseni C, Klimek R, Heckel A, Schuman EM.

**Highlighted in Faculty Opinions.

2. Local protein synthesis is a ubiquitous feature of neuronal pre- and postsynaptic compartments. *Science*, 2019**.
Hafner AS*, **Donlin-Asp PG***, Leitch B, Herzog E, Schuman EM.
*contributed equally to this work
**Highlighted in Faculty Opinions.
3. The Survival of Motor Neuron Protein Acts as a Molecular Chaperone for mRNP Assembly. *Cell Reports*, 2017
Donlin-Asp PG, Fallini C, Campos J, Chou CC, Merritt ME, Phan HC, Bassell GJ, Rossoll W.
4. Deficiency of the Survival of Motor Neuron Proteins Impairs mRNA Localization and Local Translation in the Growth Cone of Motor Neurons. *Journal of Neuroscience*, 2016.
Fallini, C. *, **Donlin-Asp, PG***, Rouanet, J.P., Bassell, G.J., Rossoll, W.
*contributed equally to this work.

Publications (collaborative):

1. Visible light-activatable Q-dye molecular beacons for long-term mRNA monitoring in neurons. *Chem Comm* 2021.
Klimek R, **Donlin-Asp PG**, Polisseni C, Hanff V, Schuman EM, Heckel A.
2. Correction of amygdalar dysfunction in a rat model of fragile X syndrome. *Cell Reports* 2021.
Fernandes G, Mishra PK., Nawaz MS, **Donlin-Asp PG**, Hazra A, Rahman MM, Kedia S, Kayenaat A, Songara D, Wyllie DJA, Schuman EM, Kind PC, Chattarji S.
3. The switch-like expression of heme-regulated kinase 1 mediates neuronal proteostasis following proteasome inhibition. *eLife* 2020**.
Alvarez-Castelo B, Tom Dieck S, Fusco CM, **Donlin-Asp PG**, Perez JD, Schuman EM.
**Highlighted in Faculty Opinions.
4. TDP-43 pathology disrupts nuclear pore complexes and nucleocytoplasmic transport in ALS/FTD. *Nature Neuroscience*, 2018.
Chou CC, Zhang Y, Umoh ME, Vaughan SW, Lorenzini I, Liu F, Sayegh M, **Donlin-Asp PG**, Chen YH, Duong DM, Seyfried NT, Powers MA, Kukar T, Hales CM, Gearing M, Cairns NJ, Boylan KB, Dickson DW, Rademakers R, Zhang YJ, Petrucelli L, Sattler R, Zarnescu DC, Glass JD, Rossoll W.
5. KDM1A/LSD1 regulates the differentiation and maintenance of spermatogonia in mice. *PLoS One*, 2017
Myrick DA, Christopher MA, Scott AM, Simon AK, **Donlin-Asp PG**, Kelly WG, Katz DJ.
6. Internal modifications in the CENP-A nucleosome modulate centromeric dynamics. *Epigenetics Chromatin*, 2017.
Bui M, Pitman M, Nuccio A, Roque S, **Donlin-Asp PG**, Nita-Lazar A, Papoian GA, Dalal Y.
7. Dynamics of survival of motor neuron (SMN) protein interaction with the mRNA-binding protein IMP1 facilitates its trafficking into motor neuron axons. *Developmental Neurobiology*, 2013.
Fallini, C. Rouanet, J.P., **Donlin-Asp, PG**, Guo, P., Zhang, H., Singer, R.H., Rossoll, W., Bassell, G.J.
8. Dynamic changes in the genomic localization of DNA replication-related element binding factor during the cell cycle. *Cell Cycle*, 2013.
Gurudatta, B.V., Yang, J. Van Bortle, K., **Donlin-Asp, PG**, Corces, V.G.
9. A subset of Drosophila Myc sites remain associated with mitotic chromosomes colocalized with insulator proteins. *Nature Communications*, 2013.
Yang, J., Sung, E., **Donlin-Asp, PG**, Corces, V.G.

Reviews:

1. Local translation in neuronal processes. *Current Opinion in Neurobiology*, 2019.
Biever A*, **Donlin-Asp PG***, Schuman EM.
*contributed equally to this work.
2. Spatially and temporally regulating translation via mRNA-binding proteins in cellular and neuronal function. *FEBS Letters*, 2017.
Donlin-Asp PG, Rossoll W, Bassell GJ.
3. A role for the survival of motor neuron protein in mRNP assembly and transport. *Current Opinion in Neurobiology*, 2016.
Donlin-Asp, PG, Bassell, G.J., Rossoll, W.

Book chapter:

- Molecular Mechanisms, Hippocampus vol 2 (along with Anne-Sophie Hafner & Erin M Schuman)

Service and outreach:

- Pint of Science speaker, Edinburgh, May 2024
- Member of EdiRNA RNA society salon organizing committee 2023-present
- Reviewing Editor *eLife* 2023-present
- mEPSCs selection committee member, MPI Brain Research external postdoctoral seminar series, 2020-2021
- Guest editor "RNA localization and Localized Translation in Neurons" *Frontiers in Integrative Neuroscience*, 2020-2021
- Chair Cell Biology of the Neuron GRS, 2020 (postponed until 2022)* resigned due to conflict of schedule with 2 year delay
- Max Planck Institute for Brain Research postdoctoral representative, 2018
- Bar of Science 2018 (Frankfurt am Main) participant
- Emory Science Advocacy Network (EScAN) Treasurer, 2014-2015
- SfN Hill Day 2014 Participant
- RoLL (Rollins and Laney Graduate School LGBT group) Treasurer 2012-2014

Awards and honors:

- Biochemistry, Cell and Developmental Biology Student of the Year, 2016
- ARCS Scholar, The Roche Foundation Award, ARCS Atlanta Chapter, 2014-2016
- Young Researcher Attendee of the 64th Annual Lindau Nobel Laureate Meeting, 2014
- Graduated with Distinction, School of Molecular and Cellular Biology, UIUC 2009

Funding:

- Humboldt Postdoctoral Fellowship (USA-1198990-HFST-P): January 2019-December 2020
- Peter und Traudl Engelhorn Stiftung Postdoctoral Fellowship: January-December 2018
- NINDS NRSA (F31NS084730-01): July 2013-June 2016
- BCMB training grant (T32GM008367): June 2012-July 2013

Selected talks:

- San Rafael Institute, Milan, May 2024

- Kings College London, December 2023
- Emory University Department of Cell Biology, November 2023
- NeuroBio UK, York UK, September 2023
- Translation UK, Cambridge UK, July 2023
- University College London, April 2023
- Neuroscience Day, Edinburgh UK, February 2023
- SIDB annual retreat, Edinburgh UK, September 2022
- RNA localization and local translation meeting, July 2022
- RNA 2022, May 2022
- Kings College London, January 2022
- NIDDK, National Institutes of Health, January 2022
- RNA Biomedicine Institute, University of Michigan Ann Arbor, December 2021
- SPINES Postdoctoral Seminar Series, NYU Langone's Neuroscience Institute, October 2021
- Microtubules in Neurons, October 2021
- SiNaPS Postdoctoral Seminar Series, Department of Neuroscience UT Southwestern, September 2021
- NCI-CCR 20th Anniversary Seminar Series, September 2021
- Department of Functional Genomics VU Amsterdam, July 2021
- NeuroFrance, May 2021
- Dendrites GRC, March 2019
- Cell Biology of the Neuron GRS, June 2018
- Midwestern Motoneuron Symposium, September 2016
- CureSMA Research Conference, May 2016

Courses attended:

- Microtubules in Neurons Fall Course (Frauenchiemsee, Germany 2021)
- Posttranscriptional Gene Regulation (Orsay, France 2016)
- iClip and Ribosome profiling (Barcelona, Spain 2016)

Teaching experience:

- Giving a scientific presentation, Edinburgh Neuroscience, October 2023
- RNA localization and local translation in neurons, BCDB Foundations, Emory University, Spring 2021
- Modern techniques in neurobiology, lecture and practical on molecular techniques, MPIBR 2019
- Modern topics in neuroscience, lecture on cellular neuroscience, MPIBR 2019
- Modern techniques in neurobiology, lecture on molecular techniques, MPIBR 2018
- MPIBR teaching lab, MPIBR 2017-2018
- TA Cellular Biology, Emory University Fall 2012

PhD Students:

- Veronica Villeri (PhD Student, SIDB, University of Edinburgh) 2023-present
- Jamey Brewster* (PhD Student, SIDB, University of Edinburgh) 2023-present
*second supervisor

Postdoctoral fellows:

- Dr. Rhys Livingstone, PhD 2023-present

Students mentored (pre group leader):

- Leah Broger (Masters Student, Radboud University Nijmegen, 2021-2022)
- Mara Müller (Masters Student, Technische Universität Dresden, 2019-2020; currently a PhD student in

the Schuman lab)

- Nensi Alivodej (IMPRS rotation student 2019; currently a PhD student in the Acker-Palmer lab)
- Teresa Spanó (IMPRS rotation student 2018; currently a PhD student in the Schuman lab)
- Ha Nguyen, co-mentored with Anne-Sophie Hafner (Masters Student, Université de Bordeaux/VU Amsterdam, spring 2018; currently a PhD Student, University of Zurich)
- Jazmin Campos (Bachelors Student, Emory University 2015-2016; currently a Research Associate at the Allen Brain Institute)
- Shirley Huang (Bachelors Student, Emory University 2014-2015; currently a Postdoctoral fellow at UNC)
- Jeremy Rouanet (Bachelors Student, Emory University 2012-2014, currently a MD/PhD student at UC Irvine)