David W. McKellar

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Education

Aug 2018 - **PhD, Biomedical Engineering**
Cornell University
Co-advised by Benjamin Cosgrove, PhD & Iwijn De Vlaminck, PhD

Aug 2012 – May 2016 **BS with Honor in Biomedical Engineering, minor in Biology**
Georgia Institute Of Technology

Employment

June 2016 – June 2018 **Postbaccalaureate Fellow**
NHGRI, National Institutes Of Health
Mentors: P. Paul Liu, MD/PhD & Erika Kim, PhD

Aug 2012 – May 2016 **Undergraduate Research Assistant**
Georgia Institute Of Technology
Mentor: Manu O. Platt, PhD

Publications

In submission

1. **McKellar, D. W.**, Mantri, M., Hinchman, M., Parker, J. S. L., Sethupathy, P., Cosgrove, B. D., Vlaminck, I. de. (2022). In situ polyadenylation enables spatial mapping of the total transcriptome. *bioRxiv*, 2022.04.20.488964. https://doi.org/10.1101/2022.04.20.488964
   [pdf] [link] [github]
2. Mantri, M., Hinchman, M. M., **McKellar, D. W.**, Z Wang, M. F., L Parker, J. S., de Vlaminck, I. (2021). Spatiotemporal transcriptomics reveals pathogenesis of viral myocarditis. *bioRxiv*. https://doi.org/10.1101/2021.12.07.471659
   [pdf] [link]

In print

1. Lee, U., Stuelsatz, P., Karaz, S., **McKellar, D. W.**, Russeil, J., Deak, M., de Vlaminck, I., Lepper, C., Deplancke, B., Cosgrove, B. D., & Feige, J. N. (2022). A Tead1-Apelin axis directs paracrine communication from myogenic to endothelial cells in skeletal muscle. *iScience*, 25 (7), 104589. https://doi.org/10.1016/j.isci.2022.104589
   [pdf] [link]
2. **McKellar, D.W.**, Walter, L.D., Song, L.T. et al. Large-scale integration of single-cell transcriptomic data captures transitional progenitor states in mouse skeletal muscle regeneration. *Commun Biol* 4, 1280 (2021). https://doi.org/10.1038/s42003-021-02810-x
   [pdf] [link] [github]
3. Wang, MFZ, Mantri M, Chou S-P, Scuderi GJ, **McKellar DW**, Butcher JT, Danko CG, De Vlaminck, I. Uncovering transcriptional dark matter via gene annotation independent single-cell RNA sequencing analysis. *Nat. Commun*. 12, 2158 (2021).
   [pdf] [link] [github]
4. Mantri, M., Scuderi, GJ, Abedini-Nassab, R, Wang, MFZ, **McKellar, DW**, Shi, H, Grodner, B, Butcher, JT, De Vlaminck, I. Spatiotemporal single-cell RNA sequencing of developing chicken hearts identifies interplay between cellular differentiation and morphogenesis. *Nat. Commun*. 12, 1771 (2021).
   [pdf] [link]

Grants & Awards

2021 - 2022 Immuno-Engineering: Integrated Engineering and Immunology T32 trainee
2021 1st Place, Cornell Stem Cell Symposium Poster Competition
2021 Genomics Innovation Hub Seed Grant

2019	NSF GRFP Honorable Mention
2018	Postbac Poster Day Award
2018	NSF GRFP Honorable Mention
2017	NHGRI Symposium Poster Award
2016 - 2018	NIH Postbaccalaureate Intramural Research Training Award
2016	President's Undergraduate Research Award (Georgia Tech UROP)
2012 – 2016	Dean's List, Georgia Tech
2012 – 2016	Zell Miller/HOPE Scholarship
2012 – 2016	Pattillo Scholarship Fund Scholarship

Presentations

Invited talks

July 28, 2022 — 13th International Havemeyer Foundation Horse Genome Workshop
Ithaca, NY, USA

Contributed Talks

May 3, 2022 — Gordon Research Conference, Single-Cell Genomics
Les Diablarets, Switzerland

Oct 7, 2021 — 2021 Biomedical Engineering Society Annual Meeting
Orlando, FL, USA

Aug 20, 2021 — Cornell Biomedical Engineering Society Symposium
Ithaca, NY, USA

Jun 14, 2021 — Cornell Stem Cell Program, 8th Stem Cell Symposium
Ithaca, NY, USA

May 20, 2020 — Cornell Single-Cell Working Group Seminar
Ithaca, NY, USA

Nov 19, 2019 — Cornell Stem Cell Program WIP Seminar
Ithaca, NY, USA

Oct 17, 2017 — NIH Postbac Seminar Series
Bethesda, MD, USA

May 26, 2017 — NHGRI Translational And Functional Genomics Branch Meeting
Bethesda, MD, USA

Feb 2, 2016 — Georgia Tech InVenture Semi-Finals
Atlanta, GA, USA

Posters

May 3, 2022 — Gordon Research Conference, Single-Cell Genomics
Les Diablarets, Switzerland

Oct 20, 2020 — The New York Stem Cell Foundation Conference
Online

Oct 18, 2019 — 2019 BMES Annual Meeting
Philadelphia, PA, USA

May 2, 2018 — NIH Postbaccalaureate Poster Day
Bethesda, MD, USA

Oct 26, 2017 — 2017 NHGRI Symposium
Bethesda, MD, USA

Sep 15, 2017 — NIH Research Festival
Bethesda, MD, USA

May 4, 2017 — NIH Postbaccalaureate Poster
Bethesda, MD, USA

Apr 19, 2016 — The Georgia Tech Annual Undergraduate Research Spring Symposium
Atlanta, GA, USA

Dec. 2, 2016 — Georgia Tech Senior Design Expo
Atlanta, GA, USA

Journal & Grant Reviewing

2022 Cornell Genomics Innovation Hub, Grant review committee
2022 *Advanced Science*
2020 Cornell Genomics Innovation Hub, Grant review committee

Teaching

2019 Guest Lecturer, BME 6110: Stem Cell Bioengineering (Cornell University)
2015 Teaching Assistant, BME 1300: Problems in Biomedical Engineering (Georgia Tech)

University Service

2022 - Member, College Of Engineering Graduate Student Advisory Board
2021 - 2022 Communications Director, Cornell Biomedical Engineering Society
2013 - 2014 Vice President, Biomedical Research Opportunities Society