

# David W. McKellar

dwm269@cornell.edu | mckellardw.github.io | [github.com/mckellardw](https://github.com/mckellardw)

## Education

- Aug 2018 - **PhD, Biomedical Engineering**  
Cornell University  
Co-advised by Benjamin Cosgrove, PhD & Iwijn De Vlaminck, PhD
- Aug 2012 – **BS with Honor in Biomedical Engineering, minor in Biology**  
May 2016 Georgia Institute Of Technology

## Employment

- June 2016 – **Postbaccalaureate Fellow**  
June 2018 NHGRI, National Institutes Of Health  
Mentors: P. Paul Liu, MD/PhD & Erika Kim, PhD
- Aug 2012 – **Undergraduate Research Assistant**  
May 2016 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 13<sup>th</sup> International Havemeyer Foundation Horse Genome Workshop  
*Ithaca, NY, USA*

### Contributed Talks

May 3, 2022 Gordon Research Conference, Single-Cell Genomics  
*Les Diablerets, 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 Diablerets, 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