Davis T. Weaver

EDUCATION

Case Western Reserve University School of Medicine, Cleveland, Ohio, *MD, PhD* July 2018 – Present

Graduate GPA: 4.0

Duke University, Durham, NC, *B.S. Biology*, 2012-2016

RESEARCH EXPERIENCE

Theory Division, Cleveland Clinic, Cleveland, Ohio, *Graduate Student Researcher*, March 2019 - Present

- I work with Dr. Jacob Scott, a physician-scientist and practicing radiation oncologist, in an interdisciplinary lab focused on cancer and microbial evolution.
- We are currently designing a novel analytical pipeline to identify miRNA that are predicted to kill cancer cells, using Ewing's Sarcoma as a model system.

MGH Institute for Technology Assessment, Boston, MA, *Research Associate*, June 2016 – June 2018

- I worked with Drs. Pandharipande and Knudsen as part of a multi-disciplinary team focused on decision analytics.
- We applied decision analytics and disease simulation to optimize treatment and screening protocols. My specific projects were focused on ovarian cancer treatment, pancreatic cancer screening, colorectal cancer screening, and designing a model to project the course of the current opioid crisis.

Duke University: Department of Psychiatry, Durham, NC, *Research Assistant*, January 2016-May 2016

- I worked with Dr. Zhi Deng in his lab focused on identifying biomarkers predictive of response to therapy in refractory depression.
- In the Deng Lab, I had my first hands-on exposure to research and began to develop the skills necessary to succeed in computational biology research. My project was focused on analyzing EEG data for patients with refractory depression that had either undergone ECT or MCT.

AWARDS

Cancer Center Trainee Award for Cancer Research, Case Comprehensive Cancer Center, May, 2019

Lepow Day Poster Award, Case Western Reserve University School of Medicine, September, 2019

Dean's List with Distinction, Duke University, 2015

Dean's List, Duke University, 2014-2015

SELECTED PUBLICATIONS

1. **Davis T. Weaver**, Kathleen I. Pishas, Drew Williamson, Jessica Scarborough, Stephen L. Lessnick, Andrew Dhawan, Jacob G. Scott, "Network potential identifies therapeutic miRNA cocktails in Ewings Sarcoma", Plos Computational Biology, 2021, https://journals.plos.org/ploscompbiol/article/comments?id=10.1371/journal.pcbi.1008755
2. Badar J Kayani*, **Davis T Weaver***, Vishvaan Gopalakrishnan, Eshan S King, Emily Dolson, Nikhil Krishnan, Julia Pelesko, Michael J Scott, Masahiro Hitomi, Jennifer L Cadnum, Daniel F Li, Curtis J Donskey, Jacob G Scott, Ian Charnas, "UV-C Tower for point-of-care decontamination of filtering facepiece respirators", American Journal of Infection Control, 2020
    a. *: contributed equally
3. Lietz AP*, **Weaver DT***, Melamed A, Rauh-Hain JA, Wright JD, Wright AA, Knudsen AB, Pandharipande PV. Potential survival benefits from optimized chemotherapy implementation in advanced ovarian cancer: projections from a microsimulation model. Plos One, 2019.
    a. * contributed equally
4. **Davis T. Weaver**, Anna P. Lietz, Sarah F. Mercaldo, Mary Linton B. Peters, Chin Hur, Chung Y. Kong, Brian M.

Wolpin, Alec J. Megibow, Lincoln L. Berland, Amy B. Knudsen, Pari V. Pandharipande, "Testing for Verification Bias in Reported Malignancy Risks for Side-Branch Intraductal Papillary Mucinous Neoplasms: A Simulation Modeling Approach." *American Journal of Roentgenology, 2018*.

5. **Davis T. Weaver**, Tiana J. Raphel, Alexander Melamed, J. Alejandro Rauh-Hain, John O. Schorge, Amy B. Knudsen, Pari V. Pandharipande, "Modeling treatment outcomes for patients with advanced ovarian cancer: Projected benefits of a test to optimize treatment selection", *Gynecologic Oncology*, 2018, Volume 149, Issue 2, 256 – 262.

SELECTED PRESENTATIONS

1. **Davis T. Weaver**, Jeff Maltas, Jacob G. Scott, "EvoDM achieves superior population control in an *in silico* system of evolution." Biomedical Graduate Student Symposium, CWRU, November, 2021
2. **Davis T. Weaver**, Kathleen I. Pishas, Drew Williamson, Jessica Scarborough, Stephen L. Lessnick, Andrew Dhawan, Jacob G. Scott, "Network potential identifies therapeutic miRNA cocktails in Ewings Sarcoma", Poster Presentation, AACR 2020
3. **Davis T. Weaver**, Tiana J. Raphel, Alexander Melamed, J. Alejandro Rauh-Hain, John O. Schorge, Amy B. Knudsen, Pari V. Pandharipande, "Modeling Ovarian Cancer Treatment Outcomes: Projected Benefits of a Test to Optimize Treatment Selection", Oral Presentation, 39th Annual Meeting of the Society for Medical Decision-Making, October, 2017

TEACHING EXPERIENCE

Case Western Reserve University, Cleveland, Ohio, *Graduate Teaching Assistant*, July 2021 – Present

- I am currently the TA for "Machine Learning in Business Analytics" a course in the Weatherhead School of Management at CWRU

Varsity Tutors/ Kaplan, Boston, MA, *instructor/ tutor*, 2016-2018

- I taught an MCAT preparatory class for Kaplan. In addition, I provided one on one tutoring in organic chemistry, general chemistry, physics, and general MCAT strategies.

Duke University, Durham NC, *Teaching Assistant*, Fall 2015

TECHNICAL SKILLS

1. R (>5 years of experience), including package development, data science, and bioinformatics. https://github.com/DavisWeaver
2. Python (> 3 years of experience)
3. SQL
4. C++