Stanford



Charles William Ryan

Postdoctoral Scholar, Ophthalmology

Bio

BIO

I was born and raised in Syracuse, New York. I first attended Onondaga Community College, where I developed a fascination with the development of complex biological systems, and then transferred to Syracuse University where I completed my B.S. in biochemistry. I next attended the University of Michigan MD/PhD program, where I used in-vitro models of human neurodevelopment to study to role of epigenetic marks in guiding neurogenesis. While at Michigan, I became interested in the prospect of harnessing in-vitro differentiation to cultivate functional tissues that can be transplanted to replace what is lost in degenerative conditions. Ophthalmology, with its microsurgical access to functionally critical cell layers, is well-positioned to capitalize on this emerging field of science to treat degenerative conditions. I am humbled and incredibly thankful to have the opportunity to pursue this aim as a SOAR resident at Stanford.

Publications

PUBLICATIONS

- **Safety and tolerability of RPESC-RPE transplantation in patients with dry age-related macular degeneration: Low-dose clinical outcomes.** *Cell stem cell*
  Rao, R. C., Arduini, B. L., Borden, S., Sareen, D., Svendsen, C., Lee, P., Ryan, C., Kodati, S., Nyaiburi, C., Wolsieffer, K., Oh, E., Park, S., Ford, et al
  2025
- **RNF2 Missense Variants Disrupt Polycomb Repression and Enable Ectopic Mesenchymal Lineage Conversion During Human Neural Differentiation.** *Research square*
  Ryan, C. W., Regan, S. L., Sheingold, J. B., Goswami, A., Mulhern, M., Ploeger, J., Huang, S., Hartill, V., Rippert, A., Bhoj, E., Chung, W. K., Bain, J., Srivastava, et al
  2025
- **Bilateral acute macular neuroretinopathy following influenza A infection** *IDCASES*
  Ryan, C. W., Rao, R. C.
  2025; 39: e02173
- **Ophthalmology at the Veterans Health Administration: How Sex and Other Factors Affect Salary** *Journal of Academic Ophthalmology*
  Carman, T. J., Parkinson, D. H., Habib, N. B., Ryan, C. W., DuPuis, D. T., Rosenthal, J. M., Kim, D. S., John, D. A., Maiz, A. M., Rao, R. C.
  2025; 17 (3)
- **A novel interaction between RNA m⁶A methyltransferase METTL3 and RREB1** *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*
  Xu, J., Sivakumar, C., Ryan, C. W., Rao, R. C.
  2024; 733: 150668
- **RING1 missense variants reveal sensitivity of DNA damage repair to H2A monoubiquitination dosage during neurogenesis** *NATURE COMMUNICATIONS*

Ryan, C. W., Regan, S. L., Mills, E. F., McGrath, B. T., Gong, E., Lai, Y. T., Sheingold, J. B., Patel, K., Horowitz, T., Moccia, A., Tsan, Y. C., Srivastava, A., Bielas, et al
2024; 15 (1): 7931

- **H2A monoubiquitination: insights from human genetics and animal models** *HUMAN GENETICS*
  Ryan, C. W., Peirent, E. R., Regan, S. L., Guxholli, A., Bielas, S. L.
  2024; 143 (4): 511-527

- **Identifying the Gene Regulatory Network of the Starvation-Induced Transcriptional Activator Nla28** *JOURNAL OF BACTERIOLOGY*
  Ma, M., Garza, A. G., Lemon, D. J., Caro, E. A., Ritchie, L., Ryan, C., Spearing, V. M., Murphy, K. A., Welch, R. D.
  2022; 204 (12): e0026522

- **Deciphering multi-way interactions in the human genome** *NATURE COMMUNICATIONS*
  Dotson, G. A., Chen, C., Lindsly, S., Cicalo, A., Dilworth, S., Ryan, C., Jeyarajan, S., Meixner, W., Stansbury, C., Pickard, J., Beckloff, N., Surana, A., Wicha, et al
  2022; 13 (1): 5498

- **Functional organization of the maternal and paternal human 4D Nucleome** *ISCIENCE*
  Lindsly, S., Jia, W., Chen, H., Liu, S., Ronquist, S., Chen, C., Wen, X., Stansbury, C., Dotson, G. A., Ryan, C., Rehemtulla, A., Omenn, G. S., Wicha, et al
  2021; 24 (12): 103452

- **Predicting severe outcomes in Covid-19 related illness using only patient demographics, comorbidities and symptoms** *AMERICAN JOURNAL OF EMERGENCY MEDICINE*
  Ryan, C., Minc, A., Caceres, J., Balsalobre, A., Dixit, A., KaPik Ng, B., Schmitzberger, F., Syed-Abdul, S., Fung, C.
  2021; 45: 378-384

- **Cellular reprogramming: Mathematics meets medicine** *WIRES MECHANISMS OF DISEASE*
  Dotson, G. A., Ryan, C. W., Chen, C., Muir, L., Rajapakse, I.
  2021; 13 (4): e1515