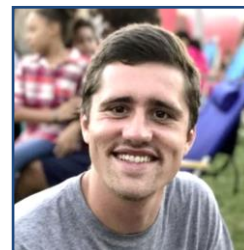


Kyle M. McClary

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Skills

- Wet-lab biochemistry
- Cross-platform software development
- Project management
- Media production
- Data visualization
- Problem solving

Education

- **Ph.D., Chemistry**
University of Southern California, May 2020
- **B.S., Biochemistry**
S. Illinois University Edwardsville, May 2014
- **B.S., Mathematics**
Murray State University, Aug 2012

Experience

Graduate Research Fellow - USC Michelson Center for Convergent Bioscience

Jan 2015 – Present | University of Southern California | Advisor: Raymond C. Stevens, Ph.D.

- **Whole Cell Modeling** – performed experiments and integrated data using mass-spec proteomics, RNA-seq transcriptomics, fluorescence imaging, and soft x-ray tomography to characterize pancreatic beta cells
- **3D Imaging Software Development** – created software to visualize 3D images from microscopes in virtual reality and on desktop, mobile, and web using C#, JSON, and HLSL.
- **Cross-Institutional Collaboration** – assisted in developing the Pancreatic Beta Cell Consortium, weekly collaboration with 15+ international research groups, worked in partner labs at Scripps and UCSF
- **Structural Biology** – Solved the structure of multiple G protein coupled receptors, including the first structure of the melanocortin 4 receptor, using X-ray crystallography, CryoEM, and NMR.

Lead Developer and Project Manager – Microscape (www.microscape.info)

Jan 2017 – Present | University of Southern California | Advisor: Scott E. Fraser, Ph.D.

- **Fundraising** - Raised \$40K in funding from USC to develop a software application capable of rendering 3D microscope and MRI image volumes in virtual reality
- **Project Management** - Hired and managed a team of masters-student software developers and graphic designers to assist in creating the application
- **Software Development** – Built, beta-tested, and shipped 3D image viewing software for virtual reality, PC, Mac, mobile, and web. Developed additional features for simultaneous remote multi-person viewing
- **Patent Application** - Worked with USC Technology Transfer Office to file provisional patent application for software stack

Experience (continued)

Program Founder and Director - The Bridge Art + Science Alliance (www.bridgeartsci.org)

Jan 2017 – Present | University of Southern California | Advisor: Richard Weinberg, Ph.D.

- **Fundraising** - Raised \$100K in funding from USC pitch contest to create The Bridge Art + Science Alliance, a program dedicated to connecting USC artists & scientists and supporting their collaborative projects
- **Media Production** – Produced 25+ media projects including short films, documentaries, animations, video games, virtual reality experiences, comic books, and more
- **Events** – Hosted 15+ events, workshops, and panels to connect artists and scientists at USC and in the greater Los Angeles area
- **Awards** – Projects were featured in The New Yorker, received Emmy consideration, and honored at over 20 science, media, and film festivals, including SXSW, Ars Electronica, and DOC NYC.

Publications

- **McClary, K.**, Francis, J., Cutrale, F., Fraser, S., Stevens, R.; [Microscape: Visualize 3D+ Imaging Data in Virtual Reality and on Desktop, Mobile, and Web using Game Engine Technology](#). *In Preparation*
- Jing, Y., Gimenez, L., Hernandez, C., Wu, Y., Wein, A., Han, G., **McClary, K.**, Mittal, S., Stauch, B., Wu, L., Stevens, S., Peisley, A., Williams, S., Chen, V., Millhauser, G., Zhao, S., Cone, R., Stevens R.; [Determination of the Melanocortin-4 Receptor Structure Identifies Ca²⁺ as a Cofactor for Ligand Binding](#). *Science* (2020)
- **McClary, K.**, Singla, J., White, K., Alber, F., Sali, A., Stevens, R.; [Opportunities and Challenges in Building a Spatiotemporal Multi-Scale Model of the Human Pancreatic Beta Cell](#). *Cell* (2018).
- Eddy, M., Lee, M., Gao, Z., White, K., Didenko, T., Horst, R., Audet, M., Stanczak, P., **McClary, K.**, Han, G., Jacobsen, K., Stevens, R., Wuthrich, K.; [Allosteric Coupling of Drug Binding and Intracellular Signaling in the A2A Adenosine Receptor](#). *Cell* (2018).

Teaching

- **Stories of Science and Complexity** (BISC 499 + IML 475)
Jan 2019 – May 2019 | USC Department of Computational Biology + USC School of Cinematic Arts
- **World Building, Narrative Design, and Design Visualization** (IML 575)
Jan 2018 – Dec 2018 | USC School of Cinematic Arts
- **Convergent Biosciences** (BISC 599)
Jan 2017 – Dec 2017 | USC Department of Computational Biology
- **Analytical Chemistry** (CHEM 300)
Aug 2014 – May 2015 | USC Department of Chemistry
- **General, Organic, and Biological Chemistry Laboratory** (CHEM 124A)
Jan 2013 – Dec 2013 | SIUE Department of Chemistry