

Overview:

As part of the MCDB Skills Center program (see <https://skillscenter.colorado.edu/>, described (Hazlett et al, 2024) and associated with the UC Boulder courses MCDB 1234, 3456, and 4567) we have been experimenting with the design and impact of module topic centered podcasts to provide students with helpful background information on the module topic and to supplement the associated module protocols (accessible here: <https://skillscenter.colorado.edu/module.html>). We are currently in the process of obtaining student responses to these podcasts in order to guide their improvement, in part through generative artificial intelligence-based bot analysis of student feed back.

For each podcast, we supply the background material upon which the podcast (generated through using Google Noteblook LM) and then edited using the Descript transcript generation and editing tool). We are currently in the process of revising this podcasts based on input from students who have used them.

As part of this process we are using the Descript software package to generate and edits transcripts of the initial version of the Notebook LM-generated podcasts to remove various distractions. The working and final version are found on the Skills Center module page [<https://skillscenter.colorado.edu/module.html>]

CU Scholar - select podcast materials

Overview:

Allen Brain Atlas (Part one) Podcast generated by NotebookLM based on ...

- Gilbert, T. L. (2018). The Allen brain atlas as a resource for teaching undergraduate neuroscience. *Journal of Undergraduate Neuroscience Education*, 16(3), A261.
- Jenks, B. G. (2009). A self-study tutorial using the Allen Brain Explorer and Brain Atlas to teach concepts of mammalian neuroanatomy and brain function. *Journal of Undergraduate Neuroscience Education*, 8(1), A21.
- Lau, C., Ng, L., Thompson, C., Pathak, S., Kuan, L., Jones, A., & Hawrylycz, M. (2008). Exploration and visualization of gene expression with neuroanatomy in the adult mouse brain. *BMC bioinformatics*, 9, 1-11.

Chimera introduction

- Meng, E. C., Goddard, T. D., Pettersen, E. F., Couch, G. S., Pearson, Z. J., Morris, J. H., & Ferrin, T. E. (2023). UCSF ChimeraX: Tools for structure building and analysis. *Protein Science*, 32(11), e4792.
- Pettersen, E. F., Goddard, T. D., Huang, C. C., Meng, E. C., Couch, G. S., Croll, T. I., ... & Ferrin, T. E. (2021). UCSF ChimeraX: Structure visualization for researchers, educators, and developers. *Protein science*, 30(1), 70-82.

Cochran Reviews

Korfitsen, C. B., Mikkelsen, M. L. K., Ussing, A., Walker, K. C., Rohde, J. F., Andersen, H. K., ... & Händel, M. N. (2022). Usefulness of cochrane reviews in clinical guideline development—a survey of 585 recommendations. *International journal of environmental research and public health*, 19(2), 685.

PCR (polymerase chain reaction) 1

To be added

Cell culture

To be added

Searching the Patent literature

To be added