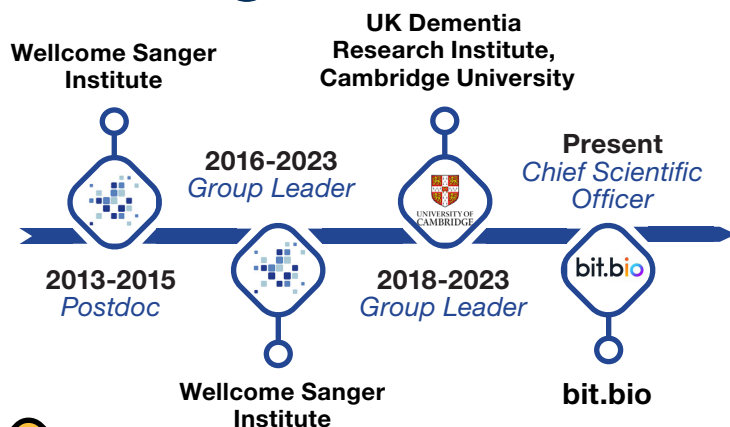


Sanger to Success

Insights from Early Career Researcher (ECR) Alumni

Emmanouil Metzakopian



My Advice to ECRs:

Pursue what you're passionate about and **keep pushing forward, no matter the challenges**. Remember, failure is essential for meaningful success. **Setbacks offer valuable lessons** and can serve as stepping stones to future achievements. **Embrace these moments** as opportunities to learn, grow, and refine your path.



My Current Role

I oversee the science at bit.bio, a **synthetic biology company** providing human cells for research, drug discovery and cell therapy. **We apply a patented safe harbour gene-targeting approach** to inducibly express transcription factor combinations that program human induced pluripotent stem cells (iPSCs) into highly defined and mature human cell types.

Memorable Moments at Sanger

Building human and mouse CRISPR arrayed libraries involved extensive teamwork, which taught me the **importance of effective collaboration and communication**. These skills are crucial not only for career advancement, but also for **forming valuable connections and friendships along the way**.

Sanger's Influence on My Career

I gained **important knowledge and mentorship** in gene editing and screening that were the basis of my independent research. I received my first fellowship from Parkinson's UK while at Sanger which was a **robust stepping stone** for the group leader position that followed.

My Sanger Science

I developed gene editing tools involving **CRISPR-Cas9 technologies (CRISPRko and CRISPRa/i)**.

We produced the first human and mouse genome-wide **CRISPR arrayed library** which received an **R&D 100 award**, and is currently distributed worldwide by **Merck**.

We also performed proof of concept genetic screens using **CRISPRa** and identified over **50 novel cellular reprogramming genes**.

We established bioinformatic analysis methods for **genome-wide gene editing and genetic screening approaches**.