

2024-2025 Chen Lab summary

One goal of being a scientist is to publish the best science in the best journals. We made it! After six years of tireless work across multiple labs, our research has finally been accepted at *Cell*. It tells us a simple message: we *can do it*. This achievement means a lot to Bin and the entire lab, especially after many unsuccessful submissions over the years. Although the project took years to complete and several related studies were published along the way, this submission process was unexpectedly smooth. *Cell* was our first choice, and the revision was minor. This experience reinforces that as long as we build on our strengths, focus on significant problems, and persist, we will ultimately prevail. However, this kind of success also requires a certain level of funding security - one that allows a team to stay focused, take risks, and remain patient. Sadly, this has become increasingly difficult in today's environment, given the growing anxiety around funding shortages.

In addition to this paper, with support from Xiaodan, Nabas published her first paper in *Drug Discovery Today* and has drafted several more. Rama and Tom were also able to publish their long overdue work. Each of these projects began several years ago and became inactive due to shifting priorities, but they have finally been published. In academia, publications are capital. Unpublished work is like an unfinished building: it exists, but no one appreciates the value. The longer it remains unpublished, the more it depreciates.

Reviewers do not take unpublished work into account. The accumulation of promising but unpublished projects has directly affected our lab's funding applications. Although we submitted over a dozen proposals, none were funded. It is true that the NIH has been particularly chaotic this year. With unusual policies, unexpected delays, and intense competition for funding, many labs are struggling, and we are no exception. Nevertheless, maintaining high productivity remains critical. One piece of good news is that Bin has begun serving as a regular member of an NIH study section. We hope this experience will provide him with greater insight and strategies for securing funding in the coming year.

Because of the worsening funding situation, we had to downsize the lab. Regrettably, we had to support Shreya in exploring other career opportunities this year. Everyone in the MSU lab has benefited from Shreya's support since the lab relocated to MSU. Bin often said that Shreya was the backbone of the lab's research operations. In today's climate, even the most dedicated and supportive individuals can be forced to leave. Unfortunately, we lack institutional systems to adequately support research assistants like Shreya, despite their substantial contributions to unit development. We are pleased to know that Shreya is applying for PhD programs and wish her all the best.

We were able to manage our budget in a way that allowed us to continue supporting others, including Linqing and Zsolt, who officially joined the lab as PhD students. Welcome! Last year, Nabas successfully passed her qualifying exam, published her first paper, and spent a semester at Mount Sinai Health. Dimitri also passed his comprehensive exam and published his first paper. Well done to all!

Reflecting on last year's priorities, we are pleased that several legacy projects - especially GPS - have now been accepted for publication. We will continue to prioritize these efforts. We also had our Center for AI-Enabled Drug Discovery approved by the college and a company incorporated. However, despite holding these titles and roles, we did not pursue them

substantively, largely because Bin's time was consumed by other pressing priorities, particularly grant applications. Next year, securing stable funding will be Bin's top priority.

One event from last year that Bin will never forget is the passing of his postdoctoral mentor, Dr. Atul Butte, who lost his battle with cancer at the age of 55. He was too young to die. Through Atul, Bin was introduced to the world of translational bioinformatics. With Atul's generous support, Bin was able to devote his career to drug discovery for liver cancer - a devastating disease that claimed the lives of Bin's two uncles in their fifties, 15 years ago. Sadly, even today, the situation has not fundamentally changed. Despite access to the most advanced resources and therapies, Atul succumbed to the disease within two years. This is a sobering reminder of how much we still do not understand about cancer.

We conclude with Atul's words: we should publish great science, but more importantly, we must translate it into therapeutics to benefit patients – after all at the end of the day, we are all patients.

Bin Chen

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