

## ANRAN CHEN

**Location:** Cambridge, MA, USA

### EDUCATION

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#### **Baylor College of Medicine, USA**

2018-2023

Ph.D. in Integrative Molecular and Biomedical Sciences Program.

Clinical Translational Research Certificate of Added Qualification (CTR-CAQ)

#### **Downing College, University of Cambridge, UK**

2015-2018

BA in Natural Sciences (Biological)

### SKILLS & TECHNIQUES

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#### **Data analysis**

- Statistical analyses, e.g., survival analyses and Cox regression.
- Bioinformatic analyses, e.g., GSEA, single cell analysis, and drug synergy analysis.
- Machine learning, e.g., PCA, XGboost, deep learning.
- Clinical and multi-omic data analysis.
- R and Python programming.
- Linux and experience with virtual machines such as AWS.
- Data visualization and presentation.

#### **Molecular and cellular biology**

- Mammalian tumor cells and tumor organoids culture.
- Mice handling, treatment, and tumor measurement.
- Cell line manipulation, e.g., siRNA and transduction.
- Cellular assays, e.g., viability assay, cell death assay, and flow cytometry.
- Molecular assays, e.g., DNA/RNA extraction, RT-qPCR, and immunoblot.

#### **Clinical translational research**

- Clinical assay development and validation
- Patient communication
- Project coordination with hospitals and labs

#### **Communication**

- Leading scientific and non-scientific projects.
- Assisting teaching in graduate school.
- Communication with patients and clinicians.
- Generative AIs such as Stable Diffusion and Chat-GPT.

#### **Finance and Business**

- Financial Modeling based on Excel.
- Financial Statement Analysis.
- Business Analysis to uncover and analyze needs.

## ANALYSIS & RESEARCH EXPERIENCES

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### Senior Scientist, Bayer, USA

2023-2024

- Support and drive the initiation of projects and programs to support the Oncology pipeline.
- Collaborate with other scientists in RED ONC and R&D functions and supports cross team and cross site activities to progress drug development programs in Oncology activities.
- Work across portfolio assets to drive an integrated strategy with indication, mode of action or modality focus

### Senior Scientist I, bioinformatics, Repare Therapeutics, USA

2023-2024

- Evaluate targets based on sciences, competitive pharmaceutical landscapes, and internal pipeline coordination.
- Conduct integrative analysis of cancer omics datasets to prioritize targets and identify patient populations, with a focus on analyzing pre-clinical datasets for target and biomarker identification for novel therapeutics, such as antibody-drug conjugates (ADCs).
- Develop pipelines for data processing and analysis, including CRISPR-based screens, RNAseq, and mass spectrometry, utilizing both internal and public databases like TCGA and GTEx.
- Implement biologically relevant statistical analyses and machine learning models to enhance target prioritization and experimental design.

### Breast Cancer Researcher, Baylor College of Medicine, USA

2018-2023

Dissertation: CDK4/6 inhibitors in ER+ breast cancer: Identifying vulnerabilities and overcoming drug resistance

- Profiled a collection of ER+ breast cancer patient-derived xenografts (PDXs) across genome, transcriptome, proteome, and phosphor-proteome to identify markers of resistance; integrated these findings with multi-omic clinical data, patient information, and clinical trial results.
- Conducted target validation and mechanism-of-action studies by designing and executing experiments using in vitro models such as parental and engineered cell lines, tumor organoids, in vivo PDX models, with appropriate biostatistics and bioinformatics analysis.
- My work received the Best 2nd Year Presentation at the IMBS Student Seminar, led to four poster presentations at national and international conferences, and will result in at least two first-author publications.

### Clinical Translational Researcher, Baylor College of Medicine, USA

2020-2022

- Shadowed Dr. Thompson when he visited patients and attended weekly tumor board.
- To evaluate assays for clinical trial patient selection, I analyzed IHC of tumor samples and compared them to mass spectrometry-based methods.
- My works have been contributed to one co-authored paper (accepted by *Cancer Research Communications*).

### Research Internship, Diagnostics for the Real World Ltd. UK

Dec 2016- Jan 2017

- Discussed and presented business development strategies to the CEO and executed the prioritized ones.
- Digitalized and automated the quality control system and patient record system.
- Post-internship follow-up: visited potential business partners in China and discuss with the CEO with analyses and strategies.

### Undergraduate Researcher, Department of Plant Sciences, University of Cambridge, UK

June-Aug 2016

- Selected for the Cambridge-JIC Team for the International Genetically Engineered Machine (iGEM) competition.
- Built a DNA library of plasmids to accelerate homoplasmy in *Chlamydomonas reinhardtii* Chloroplast.
- Our CRISPR-based project resulted in a gold award and the best plant synthetic biology prize.

## TEACHING

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Teaching Assistant, Baylor College of Medicine, USA

June-Oct 2023

Foundation B, biostatistics

## LEADERSHIP & COMMUNICATION EXPERIENCES

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Co-lead, CAMentreprenuer Boston Chapter

2024-present

- Coordinate an entrepreneurship network of Cambridge University Alumni with 5,000+ global members and 50+ local members.
- Organize events alone or in collaboration with other alumni groups and investors.

Student representative, Graduate student council

2021-2023

- Oversaw the digital media committee, a team of 5 student representatives responsible for written digital communication.
- Bridged the communication between graduate students and graduate school managements, including a dispute for international student's visa sponsorship for internship.

Chair, Danby Society of Downing College

2017-2018

- Coordinated a science, technology, engineering, and mathematics (STEM) network of 100+ members at Downing College, University of Cambridge.
- Invited reputable speakers to monthly talks, including award-winning professors and technology entrepreneurs.
- Organized networking events including garden parties, STEM pub quiz, and annual lunch.

## PUBLICATIONS

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Ze-Yi Zheng\*, **Anran Chen\***, Eric Jaehnig, Meenakshi Anurag, Jonathan T. Lei, Long Feng, Chenwei Wang, Diana Fandino, Purba Singh, Hilda Kennedy, Ghazal Yadav, Jill Tsai, Xi Chen, Bora Lim, Alastair Thompson, Shunqiang Li, Charles E. Foulds, Bing Zhang, Matthew J. Ellis, and Eric C. Chang. \*Contributed equally as lead authors. **NF1-depleted ER+ breast cancers are differentially sensitive to CDK4/6 inhibitors.** Under review at *Science Translational Medicine*.

**Anran Chen**, Beom-Jun Kim, Craig Vollert, Jonathan Lei, Diana Fandino, Meenakshi Anurag, Matthew Holt, Xuxu Gou, Matthew Goetz, Donald Northfelt, Susan Hilsenbeck, C Marshall, Marc Hyer, Robert Papp, Carmine De Angelis, Rachel Schiff, Suzanne Fuqua, Cynthia Ma, Charles Foulds, and Matthew Ellis. [PKMYT1 is a Marker of Treatment Response and a Therapeutic Target for CDK4/6 Inhibitor-Resistance in ER+ Breast Cancer.](#) In-press at *Molecular Cancer Therapeutics*.

Ze-Yi Zheng, **Anran Chen**, Eric Jaehnig, Meenakshi Anurag, Jonathan Lei, Chenwei Wang, Long Feng, Purba Singh, Hilda Kennedy, Jin Cao, Ghazal Yadav, Jill Tsai, Xi Chen, Charles Foulds, Bora Lim, Matthew Ellis, Bing

Zhang, and Eric Chang. [\[abstract\] CDK4/6 inhibition is a potential vulnerability in NF1-depleted ER+ breast cancer.](#) *Cancer Research* 2024

Beom-Jun Kim, Ze-Yi Zheng, Jonathan Lei, Matthew Holt, **Anran Chen**, Jianheng Peng, Diana Fandino, Purba Singh, Hilda Kennedy, Yongchao Dou, María Parrado, Emmanuel Bikorimana, Dan Ye, Yunguan Wang, Ariella Hanker, Nada Mohamed, Susan Hilsenbeck, Bora Lim, Jaya Asirvatham, Arun Sreekumar, Bing Zhang, George Miles, Meenakshi Anurag, Matthew Ellis, and Eric Chang. [Proteogenomic approaches for the identification of NF1/neurofibromin-depleted estrogen receptor positive breast cancers for targeted treatment.](#) *Cancer Research Communications* 2023

**Anran Chen**, Beom-Jun Kim, Doug Chan, Purba Singh, Lacey Dobrolecki, Jonathan Lei, Shunqiang Li, Alana Welm, Michael Lewis, Matthew Ellis. [\[abstract\] Kinome profiling of ER+ breast cancer PDXs identifies PKMYT1 as a marker of hormone independent growth and poor outcome.](#) *Cancer Research* 2021

**Anran Chen**, Purba Singh, Beom-Jun Kim, Lacey E Dobrolecki, Alana L Welm, Michael T Lewis, Matthew J Ellis. [\[abstract\] Proteogenomic analysis of estrogen modulated breast cancer metastasis.](#) *Cancer Research* 2020

**Anran Chen**, Jing Luo, Andrew Wang, Charlotte Broadbent, Jennifer Zhong, Avraham Dilmanian, Frank Zafonte, Zhong Zhong. [Fat to muscle ratio measurements with dual energy x-ray absorptiometry.](#) *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2015

CONFERENCES

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| General session, San Antonio Breast Cancer Symposium, San Antonio, TX  | 2023 |
| Title: <b>CDK4/6 inhibition is a potential vulnerability in NF1-depleted ER+ breast cancer.</b>  |      |
| Spotlight poster presentation, San Antonio Breast Cancer Symposium, San Antonio, TX  | 2020 |
| Title: <b>Kinome profiling of ER+ breast cancer PDXs identifies PKMYT1 as a marker of hormone independent growth and poor outcome.</b> |      |
| Poster presentation, San Antonio Breast Cancer Symposium, San Antonio, TX  | 2019 |
| Title: <b>Proteogenomic analysis of estrogen modulated breast cancer metastasis.</b>   |      |
| Poster presentation, Cancer Moonshot Collaborative Meeting, Rockville, MD  | 2019 |
| Title: <b>The identification of targetable kinases in endocrine therapy resistant ER+ breast cancer.</b>                               |      |

LICENSES & CERTIFICATIONS

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- CFA Program Level I - CFA Institute
- Financial Modeling and Forecasting Financial Statements - LinkedIn
- Business Analysis Foundations - LinkedIn
- Finance Foundations - LinkedIn
- Introduction to Large Language Models - LinkedIn
- Training Neural Networks in Python - LinkedIn
- Machine Learning with Python: Foundations - LinkedIn
- Linux Fundamentals - Coursera
- R Programming - Coursera