

YI-AN CHEN, PhD

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HIGHLIGHTS

- 8 years of research experience in cancer biology including 5 years of telomere biology research and 1+ year genomic technology postdoctoral training (i.e. WGS, ChIP-seq, 10X, ChIA-PET, and ChIA-Drop)
- Processed and analyzed High-throughput data by R, Python, or Bash scripts on HPC

EXPERIENCE

2021- **Postdoctoral Fellow**, The Translational Genomics Research Institute

Phoenix, Arizona, USA

Research topic: Landscape of telomeric chromatin interactions

2020 – 2021 **Postdoctoral Associate**, The Jackson Laboratory for Genomic Medicine

Farmington, Connecticut, USA

Research topic: 3D genomics in cancers; extrachromosomal DNA

- Conducted molecular biology experiments (cell line culture, neurosphere culture, FISH)
- Constructed NGS libraries (WGS, ChIP-seq, 10X, Hi-C/ChIA-PET, ChIA-Drop)
- Processed sequence data and executed pipelines on HPC in Linux environment
- Data analysis and visualization by R or Microsoft Excel

2014 – 2019 **Ph.D. student researcher**, Institute of Molecular Biology

Academia Sinica, Taipei, Taiwan

- Investigated the role of extrachromosomal telomeric DNA and innate immune signaling in ALT cancer
- Skilled in Molecular & cell biology approaches (IF, WB, PCR, in situ FISH, ..., etc.)
- Analyzed RNA expression profiles upon stimulation of antigens

2013 – 2014 **Research Associate**, Institute of Molecular Biology

Academia Sinica, Taipei, Taiwan

- Assisted Lab to maintain cell lines
- Constructed and maintained Lab inventory system and database by FileMaker
- Developed and adopted new methods for research

EDUCATION

2014 – 2019 **PhD Taiwan International Graduate Program in Molecular Biology**

Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan &
National Defense Medical Center, Taipei, Taiwan (Jointed program)
**Thesis: Investigation of Cellular Responses to the Accumulation of
Extrachromosomal Telomere Repeat DNA**

2010 – 2012 MS **Master of Biotechnology**, Department of Bioscience and Biotechnology
National Taiwan Ocean University, Keelung, Taiwan
**Thesis: AMPK is Essential Kinase for Ceramide-induced Cell
Death in Bladder Cancer**

2006 – 2010 BS **Bachelor of Life Science**, Department of Bioscience and Biotechnology
National Taiwan Ocean University, Keelung, Taiwan
**Reacher topic: Studying the Toxicity of Short-chain Ceramide in
Human Bladder Cancer Cell Lines**

SCHOLARSHIPS AND FELLOWSHIPS

2014 – 2016 **Taiwan International Graduate Program Scholarship for Ph.D. Students**,
Institute of Molecular Biology, Academia Sinica, Taipei, Taiwan
2018 **Academia Sinica Traveling Fellowship for Young Researcher**, Academia Sinica,
Taipei, Taiwan

PUBLICATIONS

Zhu Y, Gujar AD, Wong CH, Tjong H, Ngan CY, Gong L, **Chen YA**, Kim H, Liu J, Li M, Mil-Homens A, Maurya R, Kuhlberg C, Sun F, Yi E, deCarvalho AC, Ruan Y, Verhaak RGW, Wei CL. (2021). Oncogenic extrachromosomal DNA functions as mobile enhancers to globally amplify chromosomal transcription. *Cancer Cell*. 39(5), 694-707 (IF:26.60)
Chen YA, Shen YL, Hsia HY, Tiang YP, Sung TL, Chen LY. (2017). Extrachromosomal telomere repeat DNA is linked to ALT development via cGAS-STING DNA sensing pathway. *Nat. Struct. Mol. Biol.* 24(12), 1124-31 (IF:11.98) (citation: 61)

CONFERENCES AND PRESENTATIONS

Oral presentations:

2018 Extrachromosomal telomere repeat DNA is linked to ALT development via cGAS-STING DNA sensing pathway, **33th Joint Annual Conference of Biomedical Science, Taipei, Taiwan**
2017 Investigation of DNA Sensing Pathway Using Inducible ECTR System in Human Fibroblast Cells, **The Institute of Molecular Biology Retreat, New Taipei City, Taiwan**

- 2016 Potential tumor suppressor function of ECTR-induced type I interferon response in ALT cancer development, **31th Joint Annual Conference of Biomedical Science, Taipei, Taiwan**
- 2015 Extrachromosomal Telomere DNA Triggers Type I Interferon Response, **The Institute of Molecular Biology Retreat, Taoyuan, Taiwan**

Posters:

- 2018 Extrachromosomal telomere repeat DNA promotes senescence-associated secretory phenotype genes through cGAS-STING DNA sensing pathway, **Mechanism of Aging, Cold Spring Harbor Laboratory, New York, USA**
- 2017 Extrachromosomal telomere repeat DNA exhibits a suppressive activity for ALT cancer development by inducing the cGAS/STING DNA sensing pathway, **Viral Immunity: Mechanisms and Consequences, Keystone Symposia, New Mexico, USA**
- 2016 Extrachromosomal telomere repeat DNA triggers type I interferon response and inhibits ALT cancer development, **Telomere, Telomerase, and Diseases, EMBO, Liège, Belgium**
- 2015 Extrachromosomal Telomere DNA Triggers Type I Interferon Response, **International RecA and Chromosomal Biology conference, Taipei, Taiwan**

HONORS AND AWARDS

- 2019 Nominated Attendee for **Global Young Scientists Summit**, Singapore
- 2018 **The 28th Ming-Ning Wang Memorial Award for Outstanding Ph.D. Thesis**, Ming-Ning Wang Memorial Foundation, Taipei, Taiwan
- 2018 **Young Investigator Awards for Pediatric Neuropsychiatric Science**, An-An Slow Angels' Family Support Association, Yilan, Taiwan
- 2017 **Honorable Mention of Chien-Tien Hsu's Award for Outstanding Ph.D. Thesis**, The Chien-Tien Hsu Cancer Research Foundation, Taipei, Taiwan

CERTIFICATIONS

- 2021 Python for Everybody Specialization, Coursera (Credential ID: JBJR5WN8RF32)

VOLUNTEER

- 2021 **Judge**, 2021 Connecticut Science and Engineering Fair, CT
- 2020 **Judge**, 2020 Medical Student Research Day, UConn Health, CT
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