

Bin Chen

Assistant Professor of Pediatrics and Human Development at Michigan State University

Grand Rapids, MI, US

Dr. Chen is the founding member of DahShu, a non-profit organization to promote research and education in data sciences.

Biography

The long-term interest of the Chen lab is to harness big genomic data and artificial intelligence to discover new or better therapeutic candidates for cancers through collaborating with bench scientists and clinicians. The past few years have witnessed the generation of voluminous omics data across multiple modalities ?from bulk tissues to single cells, from patients to preclinical models, from disease samples to drug-treatment samples. The Chen lab develops advanced AI methods to find molecular patterns for diseases and drugs and then match a disease to the best drug based on those patterns. Using this approach, they have successfully identified drug candidates for three cancers: Ewing?s sarcoma (Oncotarget, 2016), liver cancer (Gastroenterology, 2017) and basal cell carcinoma (JCI Insight, 2017). They recently discovered that deworming pills might be used to treat liver cancer. Now they are using a similar strategy to discover new therapeutics for rare diseases including DIPG, a pediatric cancer with a five-year survival rate of less than 1%. Dr. Chen was recruited to MSU through the Global Impact Initiative. Prior to this position, Dr. Chen was an assistant professor in the Institute for Computational Health Sciences at University of California, San Francisco. Dr. Chen is also the founding member of DahShu, a non-profit organization to promote research and education in data sciences. Dr. Chen trained as a chemist in college, worked as a software engineer before graduate school, trained as a chem/bioinformatician in graduate school, worked as a computational scientist at Novartis, Pfizer and Merck. He received his PhD in informatics at Indiana University, Bloomington and pursued postdoctoral training in Dr. Atul Butte?s lab at Stanford University. His work has been featured in STAT, GEN, GenomeWeb and KCBS. As a PI, he has received >\$4.5 million research funding. He has also contributed to several big grants (e.g., P01 and U24) as a co-investigator.

Industry Expertise

Education/Learning

Areas of Expertise

Cancer Therapy, Drug Repositioning, Translational Bioinformatics, AI, Big Data, Cancer Therapeutic Discovery, Cheminformatics, Precision Medicine

Affiliations

DahShu : Founding Member, Department of Pharmacology and Toxicology

Education

Stanford University
Postdoc Bioinformatics

Indiana University
PhD Informatics

Indiana University
MS Chemical Informatics

Chongqing University
BA Chemistry

Accomplishments

NIGMS R01 (2019)
2019

NCATS R21
2017

BD2K K01 Award
2017

LINCS Meeting Travel Fellowship
2016

Intel Science Talent Search (Intel STS) Research Teacher
2015

Presidential Trainee Award ASCPT
2014

Jason Morrow Trainee Award ASCPT
2014

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