UC Irvine 趙 Chao Family
Comprehensive Cancer Center

Biostatistics Shared Resource

Wen-Pin Chen, MS

2026 Scientific Retreat

November 5, 2026

Mission & Leadership

MISSION

BSR provides a centralized resource of biostatistical expertise for the experimental design and analysis of basic, translational, clinical, and population-based cancer research

To fulfill this mission, **BSR**:

- Initiates active participation during grant preparation in the areas of cancer etiology, genetics, detection, and prevention
- Partners on research design, qualitative, and quantitative protocol features
- Incorporates existing and develops new statistical methods
- Provides guidance on sample size requirements

LEADERSHIP



Min Zhang, MD, PhD[2]

Director



Wen-Pin Chen, MS

Manager

Services

Study Design, Data Analysis, and Interpretation

- Study design and sample size calculations
- Data management and quality control
- Data analysis, interim analyses, interpretation of findings, treatment of missing data

Develop & Maintain Statistical Quality Control Procedures

- Statistical review of research protocols and grant preparation
- Evaluate protocols for clear statements of objectives, background and purpose
- Elements for evaluation include drug information, staging criteria, eligibility criteria, stratification or randomization schemes, treatment plan, monitoring of toxicities and dosage modification, and criteria for evaluation and endpoint definitions



Services

Omics Data Analysis

- Genomic (SNP, WGS, WES) data analysis (including GWAS, PheWAS)
- Transcriptomic (bulk/single cell RNA-seq) including eQTL
- Epigenetics (ChIP-seq; ATAC-seq)
- Single-cell multi-omics
- Functional (pathway, GO)
- Metabolomics

Consulting

- Bioinformatics
- Database
- Machine learning
- Statistical genetics and genomics

Research Computing

- HIPAA-compliant computational needs, cloud computing technologies
- Setup and run computationally intensive jobs on Cloud
- Programming assistance
- Database design, creation and management

Training & Education

bigcare.uci.edu



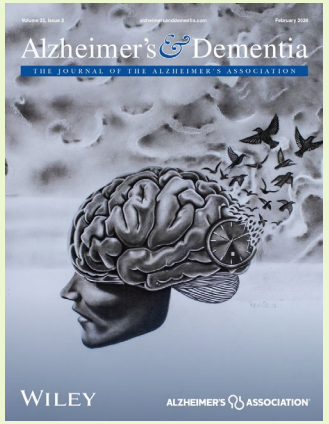
Selected 2026 Publications

CFCCC INVESTIGATOR(S)	TITLE & PUBLISHED JOURNAL	
Shawn Griffin, PharmD - SPT **Piyanuch Kongtim**, MD, PhD - CC **Stefan Ciurea**, MD - SPT	Rapid HHV-6 Clearance Following Preemptive Short-Course Foscarnet in Allogeneic Stem Cell Transplant Recipients *Am J Hematol, 2026*	
Ding Quan Ng, PhD - CC **Julia Trudeau**, PhD - CC **Ritesh Parajuli**, MD - SPT **Anshu Agrawal**, PhD - SPT **Munjal Acharya**, PhD - BIDD **Charles Limoli**, PhD - SPT **Alexandre Chan**, PharmD, PhD, MPH - CC	Electroacupuncture improves cognitive function and neuropsychiatric symptoms in breast cancer survivors: a pilot randomized controlled trial. *Journal of the National Cancer Institute, 2026*	

Selected 2026 Publications

CFCCC INVESTIGATOR(S)	TITLE & PUBLISHED JOURNAL	
Sunmin Lee ScD, MPH - CC **Michael Hoyt** PhD - CC **Argyrios Ziogas** PhD - CC **Hari Keshava** MD - CC **Gelareh Sadigh** MD – CC	A Multi-level Approach to Improve Participation in Low-dose CT for Lung Cancer Screening (Empower LCS): A Single Arm Pilot Feasibility Clinical Trial *JACR*. 2026	
Mahtab Jafari, PharmD - CC	Comparison of Mineral Levels in Blood and Hair Samples of Healthy Adults: Evaluating the Clinical Utility of Hair Mineral Analysis *Biological trace element research, 2026*	

Selected 2026 Publications

CFCCC INVESTIGATOR(S)	TITLE & PUBLISHED JOURNAL	
Dabao Zhang, PhD - SPT **Min Zhang**, MD, PhD - CC	From correlation to causation: cell-type-specific gene regulatory networks in Alzheimer's disease *Alzheimer's & dementia: the journal of the Alzheimer's Association, 2026*	

Future Plans

Community Engagement / Catchment Area

- Continue to support the development of grant applications / manuscripts that focus on the catchment area and result from partnerships developed through CE efforts;
- Continue to provide consulting services on bioinformatics, biostatistics, database access, data integration;
- Expand new services on machine learning, statistical genetics and genomics, research computing to facilitate interdisciplinary collaborations in catchment area.

Advocating for Professional Growth and Fostering Talent Development

- Offer scholarships to attend the NCI-funded big data workshop;
- Develop new machine learning methods to improve the analysis of high-dimensional data.

Education and Training

- Organize annual NCI-funded summer workshop on “Big Data Training for Cancer Research”;
- Offer regular need-based workshops on basic statistical analysis, workflow for sequencing data analysis; FAIR computational workflows on the cloud;
- Organize regular seminar series to provide education opportunities for trainees.

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Questions? Contact us!

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