Baylor College of Medicine

Biotechnology Research Incubator

for Teachers and Students

BCM-BRITE

Biotechnology Research High School Student Symposium

September 24th, 2022

Department of Education, Innovation

& Technology

Advanced Technology Cores

Baylor College of Medicine

BCM-BRITE 2022 Biotechnology Research High School Student Symposium

BCM-BRITE Biotechnology Research High School Student Symposium is an opportunity for students to organize their research work into a structured abstract and present their research in a poster or PowerPoint format to their peers and mentors.

Through participating in the symposium, students learn how to write a scientific abstract and make a poster or a PowerPoint presentation for conferences. The student symposium provides a platform for presentation, discussion, and scientific inquiry, stimulating student's interest in biotechnology and biomedical fields.

The abstracts presented here are by high school students who conducted biotechnology research projects at Baylor College of Medicine, MD Anderson Cancer Center, Texas Southern University, and New York University.

All abstracts are printed into an abstract book and selected abstracts will be showcased on the BCM-BRITE website.

Program Director and Symposium Chair:
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Symposium Co-Chair:
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Acknowledgements

Department of Education, Innovation, & Technology
Advanced Technology Cores
Huffington Center of Aging
Baylor College of Medicine
Mentors and their centers and departments

Contents

BCM-BRITE STUDENT SYMPOSIUM 2022

STUDENT PARTICIPANTS

Student Name	Student School	Internship Institute
Andy Liu	Jordan High School, Fulshear, TX	MD Anderson Cancer Center, Houston, TX
Anne-Salome Olaleye	Vistas Early College, High School Program, Houston, TX	Texas Southern University, Houston, TX
Eric Qi	Dawson High School, Pearland, TX	MD Anderson Cancer Center, Houston, TX
Grenna Vasquez	Clear Falls High School, League City, TX	University of Texas Medical Branch, Galveston, Texas
Haochen Wang	Jordan High School, Fulshear, TX	MD Anderson Cancer Center, Houston, TX
He Shi	Dawson High School, Pearland, TX	Baylor College of Medicine, Houston, TX
Jeffrey Yang	The Bronx High School of Science, Bronx, NY	New York University, New York, NY
Jiyuan Yu	Clear Lake High School, Houston TX	Texas Southern University, Houston, TX
Kenneth Yuan	James E. Taylor High School, Katy, TX	Texas Southern University, Houston, TX
Ruyuan Yu	Clear Lake High School, Houston, TX	Texas Southern University, Houston, TX
Sara Adio	Clear Brook High School, Friendswood, TX	Baylor College of Medicine, Houston, TX
Sophie Melancon	Kinder High School for the Performing and Visual Arts, Houston, TX	Texas Southern University, Houston, TX
Zoe Man	Dawson High School, Pearland, TX	Baylor College of Medicine, Houston, TX

Assessment of *Ilex vomitoria* leaf extract cytotoxicity on Squamous Head and Neck Cell Carcinoma cells *in vitro*

Andy Liu[1], Haochen Wang[1], Eric Qi[2], Jian Gu[**]
[1]Jordan High School, Fulshear, TX, [2]Dawson High School, Pearland, TX
[**]Department of Epidemiology, UT MD Anderson, Houston, TX

The Application of Optogenetics to Discover More about the Role of Nervous Systems in Phantom Limb Pain

Grenna M. Vasquez, Shelly Buffington
Clear Falls High School, League City, Texas
Department of Neuroscience, Cell Biology, & Anatomy, University of Texas Medical Branch, Galveston, Texas

Characteristics and Cytotoxic Properties of Drug-Loaded Silica Nanoparticles on Liver and Pancreatic Cancer Cells

He Shi, Ghanashyam Acharya, Crystal Shin
Dawson High School, Pearland, Texas
Department of Surgery, Baylor College of Medicine, Houston, TX

Determination of environmental pollutants effects on pancreatic cancer

Jeffrey Yang[1], Xiaohong Jing[2], Shenin Dettwyler[2], Despoina Kalfakakou[2], Miquel Porta[3], Leonardo Trasande[4], Diane Simeone[2]
[1]The Bronx High School of Science, Bronx, NY
[2]NYU Langone Health Perlmutter Cancer Center, New York, NY
[3]Spanish Consortium for Research on Epidemiology and Public Health
[4]Department of Pediatrics and Department of Environmental Medicine, NYU School of Medicine, New York, NY

An LC-MS Method to Test Benzoylecgonine in Urine

Jiyuan Yu*, Jing Ma, Huan Xie**
*Clear Lake High School, Houston, Texas
** Department of Pharmaceutical Sciences, College of Pharmacy and Health Sciences, Texas Southern University, Houston, Texas

Determination of Acetaminophen solubility in different solvents

Kenneth Yuan*, Mahua Sarkar, Huan Xie**

*James E. Taylor High School, Katy, TX

**Department of Pharmaceutical Sciences, Texas Southern University, Houston, TX

The Identification of R14 using QTOF MS/MS

Ruyuan Yu*, Jing Ma, Huan Xie**
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Antibody Validation of Suppressor of Fused Homolog (SUFU) Protein for High Throughput Proteomic Analysis

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Development of Slow-Release Oral Formulations of Novel Therapeutic Agent OJT010 Against SARS-CoV-2

Sophie T. Melancon[1], Anne-Salome Olaleye[2], Yen Maroney Lawrence[3], Tolulope Adebusuyi[3], and Liang Dong[3]
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[2]Vistas Early College, High School Program, Houston, TX
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PCR screening of the Green Fluorescent Protein (GFP) Transgene in Patient Derived Xenografts

Zoe D. Man*, John D. Landua and Michael T. Lewis
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BCM-BRITE STUDENT SYMPOSIUM 2022

BIOTECHNOLOGY RESEARCH MENTORS

Mentor	Department/Center	Institute
Dr. Crystal Shin	Department of Surgery	Baylor College of Medicine, Houston, TX
Dr. Diane Simeone	Department of Pediatrics Department of Environmental Medicine NYU School of Medicine	New York University, New York, NY
Dr. Huan Xie	Department of Pharmaceutical Sciences College of Pharmacy and Health Sciences	Texas Southern University, Houston, TX
Dr. Jian Gu	Department of Epidemiology	MD Anderson Cancer Center, Houston, TX
Dr. Liang Dong	Department of Pharmaceutical Sciences College of Pharmacy and Health Sciences	Texas Southern University, Houston, TX
Dr. Michael Lewis	Lester and Sue Smith Breast Center	Baylor College of Medicine, Houston, TX
Dr. Shelly Buffington	Department of Neuroscience, Cell Biology, & Anatomy	University of Texas Medical Branch, Galveston, TX
Dr. Shixia Huang	Department of Education, Innovation & Technology Advanced Technology Cores Department of Molecular & Cellular Biology	Baylor College of Medicine, Houston, TX