ABOUT THE RET SITE

The University of Houston College of Technology Research Experience for Teachers (RET) site is sponsored by National Science Foundation grant EEC-1855147. The goal of the RET site is to provide opportunities for high school STEM teachers to engage in innovative engineering design and manufacturing research and develop advanced high school curriculum modules. It provides an interdisciplinary and hands-on learning experience to stimulate the interest of teachers and students. Academic year follow-up includes course module discussion and feedback, school visits, and conferences.

OUR TEAM

DR. WEIHANG ZHU
Principal Investigator
Mechanical Engineering Technology (MET)
wzhu13@uh.edu
713-743-6980

DR. AUGUSTINA REYES
Co-Principal Investigator
Education Leadership and Policy Studies
areyes7@uh.edu
713-743-5026

DR. KAMRAN ALBA
Assistant Professor, MET

DR. BURAK BASARAN
Instructional Assistant Professor, MET

DR. MEDHAT EL NAHAS
Instructional Associate Professor, MET

DR. ZHENG FAN
Assistant Professor, MET

DR. FRANCISCO ROBLES HERNANDEZ
Associate Professor, MET

DR. HUDA SARRAJ
Director of Assessment and Accreditation Services

For more information visit:
uh.edu/technology/ret

FOR MORE INFORMATION

University of Houston | College of Technology
4730 Calhoun Road, Houston TX 77204-4021
uh.edu/technology
713.743.4100

UNIVERSITY of HOUSTON
COLLEGE of TECHNOLOGY

RESEARCH EXPERIENCE FOR TEACHERS

(RET SUMMER PROGRAM)

INGENUITY APPLIED.

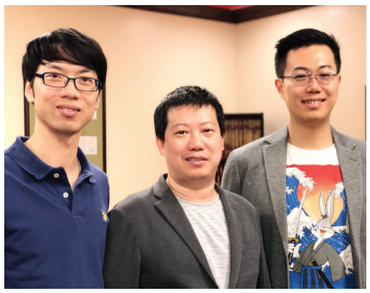
UNIVERSITY OF HOUSTON COLLEGE OF TECHNOLOGY

RESEARCH EXPERIENCE FOR HIGH SCHOOL TEACHERS

ABOUT THE PROGRAM

The University of Houston College of Technology will host twelve high school teachers of science, technology, engineering, and math (STEM) subjects for six weeks, during three consecutive summers, from 2020-2022. The teachers will explore advanced design and manufacturing research topics, which may include:

- Design and manufacturing, 3D printing, virtual reality (VR)/augmented reality (AR), and applications
- Bio-inspired design and manufacturing of a robotic swimmer
- Modeling and simulation of robot path planning
- Solar cell manufacturing
- Fluid mechanics and industrial applications
- Nanotechnology for water sustainability through photo-catalysts



Activities will include workshops, curriculum development, seminars, and field trips to local manufacturing companies. The research experience will be incorporated into high school curricula to meet Texas Essential Knowledge and Skills (TEKS) requirements and align with Next Generation Science Standards (NGSS).

The program results will be disseminated through local teacher conferences. Each summer program participant will make one presentation in one conference and develop at least one high school course module that meets teachengineering.org standards.

BENEFITS

Each teacher will receive:

- A stipend of $1,050/week* for participation in the six-week summer program.
- $1,800 upon completion of the implementation and evaluation activities during the following academic year.
- A free 3D printer for use in the high school.

**$1,150/week for Master Teachers*

HOW TO APPLY

Applicants must submit the following materials:

- Applicant's current STEM syllabus
- Application form
- A curriculum vitae
- Recommendation letters from the Principal/ Assistant Principal
- 1-2 page essay that addresses the following topics:
    1. What are your main reasons for participating in this program?
    2. What do you hope to gain from the RET experience?
    3. Describe professional leadership roles you have held.
    4. If chosen, how would you implement your experience with fellow faculty and students?

Applicants for the Master Teacher designation must submit an essay (one or more pages) describing:

- Curriculum development experience
- The biggest challenges for RET participants and how being a Master Teacher can help them

People from under-represented racial and ethnic groups, or people with disabilities are especially encouraged to apply. Please include your background information for consideration.

Forms available at:
uh.edu/technology/ret