Program Description
The Stanford Summer Research Program for Teachers (SRPT) and the 2020 TEDI program offer eight-week research fellowships for science, engineering and technology teachers of middle school, high school and community college in the San Francisco Bay Area. Teachers work full-time in a Stanford lab four days a week, and meet each Monday as a group for science and engineering lectures by Stanford faculty, lab tours, and seminars on teaching. Mondays are also a time when the teachers can share their individual research projects and discuss innovative teaching strategies with each other. All participants develop an Education Transfer Plan (ETP) consisting of a new lesson or other curricular materials for use in their classroom. At the end of the summer all the teachers present their research during a poster session/reception.

Participants earn a stipend of $7,000 for the summer and an additional $2,000 in grants after developing and testing new lessons with their students. Teachers are eligible for five units of Stanford Continuing Studies credit and can apply for an additional $1,000 Ignited Fund for Innovation grant. This is an intensive program that requires participants to be on campus 40 hours per week.

Stanford’s Office of Science Outreach operates this program in partnership with Ignited.

The goals of the programs are to:
- Re-excite teachers about the wonders of science and engineering.
- Provide teachers with hands-on authentic research experience.
- Give teachers the opportunity to become students again and revisit the academic learning process.
- Help teachers learn about new areas of scientific research.
- Support science teachers in their critically important jobs of training the next generation of America’s scientists, engineers, and scientifically literate members of society.

Program Dates
Program dates for 2020 are June 15 - August 7. Please note: dates are not very flexible due to the weekly scheduled teacher meetings and poster session. We can accommodate some variation if a teacher’s school schedule requires it.
How to Apply
The application process for this program is managed by Ignited; interested teachers apply via Ignited’s online application process. Once your application is complete, you can view Fellowship openings on Ignited’s website and express interest in those of particular interest to you at Stanford or within other Ignited sponsors. Stanford will begin reviewing applicant resumes and conducting interviews in March. The majority of Fellowships will be filled by mid-May.

Questions
Questions specific to Stanford? Kaye Storm, Director, Office of Science Outreach, kstorm@stanford.edu.

Sample Ignited Fellowship Assignments at Stanford

Culture breast cancer cells in biomaterials that are used to mimic breast cancer tissue, then analyze the behavior of the breast cancer cells in the tissue and assess their proliferation, migration, and invasive characteristics. (Mechanical Engineering)

Investigate different thin film solar cells that will achieve good performance at low cost. The focus of this project is on making solar cells from earth abundant materials using low cost methods such as chemical bath deposition. (Chemical Engineering)

Collect samples from the field and conduct analyses to test for antibiotic resistant bacteria in water samples. (Civil and Environmental Engineering)

Test small molecules as potential inhibitors to prevent bacterial amyloid assembly and biofilm formation. (Chemistry)

Study the role of environmental change in controlling long-term patterns of size evolution in a diverse group of marine protists – the foraminfera – by compiling data on the sizes of fossil specimens throughout the fossil record. (Geological and Environmental Science)

Test potential LIGO mirror coating materials, by measuring the coating mechanical loss, which is directly related to thermal noise in an effort to extend the reach of the next generation of gravitational wave detectors by reducing an important noise source limiting their performance, thermal noise in the interferometer mirrors. (Physics)

Help create a hands-on, guided inquiry activity involving the weighing of macroscopic gas samples and the mass spectrometric analysis of their molecular masses. (Chemistry)

Test lipid components in a mouse model of multiple sclerosis and determine the immune mechanisms involved in their therapeutic efficacy. (Neurology and Neurological Sciences)
Develop some basic physics and calculus problems based on experiments performed on our autonomous research vehicles (0-60 times, centripetal acceleration when drifting at different radii, etc.). (Mechanical Engineering)

Identify a bacterial gene through a genetic screen followed by molecular analysis (PCR, sequencing, and data analysis) to understand how bacteria and plants recognize and signal to each other. (Biological Sciences and Biochemistry)
Science Teachers in Stanford Research Labs