Our Cancer and Genetics Research Experience Teacher (RET) programs have moved online for the Summer of 2020!

During this 7-week full-time, at home research experience, teachers will work virtually with a faculty member on an authentic research project. All meetings will occur virtually and teachers will receive professional development provide by Center for Science and the Schools (CSATS) to help translate the experience to the classroom. Applications will be reviewed May 4, 2020.

Research Experience Topics:

Cancer Research
- Placements for Health Science and Statistics teachers
  - Statistical analysis
  - Epidemiology
  - Prevention of infectious disease
  - Public health

Genetics Research
- Placement for Biology teachers
  - Bioinformatics

Check out projects on the next page!

Program Benefits

- $5000 stipend for the summer program and developing a classroom research project
- $1500 stipend for implementing the classroom research project with students during the academic year
- Opportunity to earn up to 3 graduate credits through Penn State (SCIED 597)
- Receive up to $1000 stipend for materials and resources needed to implement the classroom research project
- Option to present at MJ Murdock Partners in Science Conference in San Diego, CA, January 2021

Program Eligibility

→ Teach secondary biology, health science, statistics, or another discipline related to the research with at least 3 years full time teaching experience
→ Commit to implementing a classroom research project during the 2020-2021 academic school year

For further information, how to apply, and contact information please visit our website: csats.psu.edu

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Cancer Research Projects

Statistical analysis cancer research
In 2019, OCHE conducted the Cancer Community Health Assessment survey to determine prevalence of cancer-related behaviors, practices, care, and research in central Pennsylvania. The project objective is to learn and apply statistical analysis to survey data and develop communication tools for dissemination. The participant will use a statistical package, such as SAS, and prepare figures, charts, maps, and tables to compare survey results to epidemiological data of cancer incidence, morbidity, and mortality.

Epidemiology focused cancer research
The objective of this project is to learn and apply epidemiologic and statistical practices to estimate the impact of COVID-19 on cancer risk, incidence and mortality in central Pennsylvania. Clinical care has changed; in particular preventive care, such as cancer screening, has been delayed, as well as care for select cancer patients to reduce risk through immunosuppression and risk for COVID-19 contraction. This project will develop quantitative models to estimate the impact of these changes on cancer incidence, morbidity, and mortality in central Pennsylvania.

Cancer risk from preventable infectious disease
The objective of this project is to learn and apply principles, resources and strategies to be used in the instruction of high school students in epidemiology and prevention of infectious disease-associated cancers in central PA, such as HPV and Hepatitis B. This project will lead to development of a school-based approach to examine epidemiologic and medical concepts such as cancer risk from infectious agents, research ethics, and clinical and public health trials to test prevention of these cancers. The project will also involve review of vaccination myths and strategies.

Clinic and public health human cancer research
The objective of this project is to learn and apply principles, resources and strategies for the instruction of high school students in the process of clinical and public health cancer research that involves human participants in central Pennsylvania. Concepts will include the process of scientific inquiry into cancer risk and treatment, study design, data analysis, recruitment and protection of human subjects, and diffusion/adoption of evidence from human cancer research. The project will focus on the unique populations for human cancer research in central Pennsylvania.

Genetics Research

Bioinformatics
This project will focus on gene regulation and transcription factor binding to introduce concepts in bioinformatics. Participants will learn how to computationally process DNA sequencing data, map regulatory events, and analyze their features to investigate whether regulatory elements have moved around the bat genome to help the species adapt liver metabolism to new diets.