

Email completed form to [cprisummer@uth.tmc.edu](mailto:cprisummer@uth.tmc.edu)



## SUMMER 2018: UTHealth-CPRIT UNDERGRADUATE INNOVATION IN CANCER PREVENTION RESEARCH FELLOWSHIP: MENTOR RESEARCH OPPORTUNITY

(This is a Word table; use Tab to go from one blank to the next)

Faculty Name Yang Gong, MD, PhD

Phone: Office: 713-500-3547 Cell: 713-796-9628

Faculty E-mail Yang.Gong@uth.tmc.edu

School/Campus School of Biomedical Informatics

### Research Projects

Each fellow is expected to spend an average of 40 hours/week on their research project, organized seminars and innovation generation course

**Applicants will click on the titles of projects they are interested in to see the description. Give your project an inviting name! Projects that are not funded can also be submitted.**

1	Title:	Funding Source:
	Investigating technology-induced Errors via Natural Language Processing (NLP)	
Project Description: (100 words max)  Think of this as an ad. Students will select projects based on these descriptions.	While health IT is designed and implemented for improving healthcare quality and safety, it may also potentially introduce new errors. There is a need for improved approaches to better understand the impact of health IT on healthcare. The goal of this project is to develop NLP methods towards investigating massive safety reports with high-efficiency and translating the insights into improved digital health design, implementation, and performance. The trainee will work with an interdisciplinary team and participate in analyzing safety reports collected by the Patient Safety Organizations and FDA. We will provide training on: 1) manipulating real-world datasets with informatics tools; 2) innovatively extracting key information from free texts with NLP tools; 3) writing scientific manuscripts. Our previous CPRIT trainees have successfully published the research in conferences on biomedical informatics.	

Contact with: public  patients  lab samples  animals  none

Project Status	IRB	Yes	X	No
IRB Number	HSC-SBMI-12-0767			

Laboratory safety protocol	Yes	No	X
Protocol Number			

Will the fellow be added to the protocol? Yes  No

Source of fellow funding: CPRIT Training grant  Preceptor

**NB: Please do not submit more than two projects. Fill out one form per project**

Email completed form to [cprisummer@uth.tmc.edu](mailto:cprisummer@uth.tmc.edu)

If mentor funding, will fellow take part in innovation course, seminars and cancer prevention related research?

Yes

No

## 1. End Product(s):

### A. All Fellows:

1. Complete a mini project explicitly using the tools of innovative thinking
2. Prepare and present a research poster on their project
3. Participate in the 90-second elevator speech competition for a prize award
4. Write a 3-page reflection paper, describing the summer experience, including instances of applying skills for innovative thinking, and in what way, if any, the experience has affected career plans, goals (due one week before his/her last day)

### B. Project specific end products:

**Mentors' please specify**, e.g., *GIS map to track whether and other environmental conditions for day laborer "corners" throughout Houston, design for a social network platform for follow-up with research participants, manuscript on xxx to be submitted for publication, abstract on yyy to be submitted to a scientific meeting*

1. A NLP pipeline to extract key information from thousands of safety reports;
2. Oral presentation about the work at the last week meeting during the 10 weeks.
- 3.
- 4.
- 5.

Note to mentors: Any confidentiality agreements regarding the project or data you are using (e.g. unpublished results) should be arranged between you and your fellow.

## 2. Fellows Activities:

### A. All Fellows

1. Complete the Massive Open online Course (MOOC) on Innovation Generation- IMAGINE99x
2. Apply the tools of innovative thinking in a mini-project
3. Participate in 1-hour weekly group meetings and seminars in Houston and via ITV
4. Participate in the elevator speech workshop and feedback sessions
5. Take part in the mid-course review and brainstorming session on the use of the tools for innovative thinking
6. Provide bi-monthly feedback to the program coordinator
7. Meet with the preceptor weekly to discuss the training experience, progress, and challenges: Day and Time
8. Submit a final review of training experience

**NB:** Please do not submit more than two projects. Fill out one form per project

Email completed form to [cprisummer@uth.tmc.edu](mailto:cprisummer@uth.tmc.edu)

**B. Project specific trainee activities**

*Mentors, please specify additional fellow activities, e.g., Fellow will commit to the design, analysis of a mini project XXX as part of a larger project?*

1. Participate in preprocessing safety reports
2. Participate in design of data mining experiments
3. Attend weekly team meetings
4. Commit to the coding work if necessary
- 5.

**3. Learning Objectives: *By the end of the summer experience, fellow will demonstrate that they can***

**A. All Fellows:**

1. Describe and apply the tools of innovative thinking to increase creativity
2. Describe, in the reflection paper, at least 3 instances of applying one or more tools for innovative thinking
3. Recognize potential conflict(s) of interest in scenarios provided in CITI training
4. Develop interviewing skills for graduate school
5. Develop skills for research poster design and presentation

**B. Project specific learning objectives:**

*Mentors, please specify additional learning objectives, e.g. Fellow will be able to write instructions for low literacy audiences, design a mini project with supervision*

1. Fellow will be able to process narrative data with NLP tools
2. Fellow will be able to evaluate the performance of an informatics product
3. Fellow will be able to be familiar with FDA medical device report database
4. Fellow will be able to communicate ideas with scientific writing
- 5.

**4. Are there special fellow characteristics e.g., major, interests, language, culture or other preferences that would be desirable? Please specify:**

Note to mentors: Any confidentiality agreements regarding the project or data you are using (e.g. unpublished results) should be arranged between you and your summer fellow.

The trainee should be highly motivated for research on patient safety. The trainees' major is expected, but not limited to be biomedical informatics, computer science, or public health. Experience in programming languages (e.g., Python, Java, R, etc.) is preferred. Excellent written and oral communication skills are preferred.

**NB: Please do not submit more than two projects. Fill out one form per project**

## 5. Mentor Responsibilities

---

1. Attend the orientation and the elevator speech competition
  2. Be available for >8 weeks or have suitable substitute
- 

Will you be out for more than 2 weeks during the training period?    Yes                       No

If yes, when would you be gone and for how long?

Who would serve as co-mentor during your absence (name and credentials, please specify)?

Name: Ju Wang

---

Job title: Postdoctoral Research Fellow

---

E-mail: Ju.Wang@uth.tmc.edu

---

Phone number: office:

Cell: 832-847-1136

---

3. Meet with the fellow weekly – progress, challenges...
  4. Encourage the use of the tools for innovative thinking
  5. Notify the project coordinator if the fellow is not meeting the agreed upon responsibilities.  
(This should be as early as possible to allow problem solving.)
  6. Complete an evaluation of the fellow at the end of the program
  7. Provide feedback on the program experience to the program coordinator
-