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

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Faculty Name   Cui Tao, PhD

Phone: Office: **713-500-3981**   Cell:

Faculty E-mail   Cui.tao@tmc.uth.edu

School/Campus   School of Biomedical Informatics/UTHealth at Houston

Research Projects

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

==Students 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:	TIMER: Temporal Information Modeling, Extraction, and Reasoning	Funding Source:	CPRIT
Project Description: (100 words max) Think of this as an ad. Students will select projects based on these descriptions.		With the big data revolution in healthcare, growing is the interest to utilize patient history to predict trends, such as drug/vaccine safety events over time and disease progression. To transform the traditional manual method to an automatic "time machine" in clinical records, breakthroughs are needed for better extraction and representation of temporal information. The objective of this study is to develop our "time machine", a systematic method involving ontology tools to model the temporal relations in clinical reports. The ultimate goal is to serve for Nature language processing (NLP) methods to extract information and actively monitor clincial events. We will provide students with trainings on using our annotation tool, ontologies, and reasoners. Students will also be involved in ontology improvement and manuscript preparation. Our previous CPRIT undergraduate trainees have successfully published the research findings in the American Medical Informatics Association (AMIA) Summit on Clinical Research Informatics and Nursing Informatics.		

Contact with: public [x]   patients [ ]   lab samples [ ]   animals [ ]   none [ ]

Project Status	IRB	Yes		No			Laboratory safety protocol	Yes		No	
IRB Number							Protocol Number				

Will the fellow be added to the protocol?   Yes [ ]   No [x]

Source of fellow funding: CPRIT Training grant [x]   Preceptor [ ]

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

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.   Manuscript(s) to be submitted to an informatics conference or journal

2.

3.

4.

5.

Note to preceptors: 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

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B. Project specific trainee activities

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

1. Attend weekly research meetings

2. Attend research seminars

3. Participate manuscript preparation to report the research findings

4.

5.

3. **Learning Objectives:** *By the end of the summer experience, trainees 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. Trainee will be able to write instructions for low literacy audiences, design a mini project with supervision

1. Trainee will be able to write scientifically for publishable content

2. Trainee will be familiar with basic informatics technologies

3. Trainee will understand the concepts of biomedical terminologies and ontologies

4.

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 trainee.

Programming skill is preferred.

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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 preceptor during your absence (name and credentials, please specify)?

Name:

Job title:

E-mail:

Phone number: office: Cell:

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

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