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

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Faculty Name Jeffrey Frost

Phone: Office: 713-500-6319 Cell: _____

Faculty E-mail Jeffrey.a.frost@uth.tmc.edu

School/Campus McGovern Medical School

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:	Molecular mechanisms of breast cancer metastasis	Funding Source:	NCI
Project Description: (100 words max) Think of this as an ad. Students will select projects based on these descriptions.	Cancer cell motility is a key aspect of breast cancer metastasis. We are studying the role of Rho GTPases in breast cancer cell motility, which are key regulators of movement in many cell types. Current studies focus on the role of a RhoA regulatory protein called Net1, which is overexpressed in human breast cancer and is required for metastasis in animal models of breast cancer. Students interested in this project will use cell and biochemical approaches to understand the molecular mechanisms controlling Net1 function in breast cancer cells. Participation in this project will provide a student with training in modern biomedical research approaches and background in basic science underlying breast cancer cell motility and invasion.			

Contact with: public patients lab samples animals none

Project Status	IRB	Yes	No
IRB Num-			

Laboratory safety protocol	Yes	X	No
Protocol Num-			

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

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Will the fellow be added to the protocol? Yes No

Source of fellow funding: CPRIT Training grant Preceptor

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. Culture of human breast cancer cells
2. Analysis of subcellular localization of Net1 by immunofluorescence microscopy
3. Analysis of actin cytoskeletal organization by microscopy
4. Assessment of Rho GTPase activation by pulldown assays
- 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

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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

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. Analyze project results in the context of a larger project
2. Interact with graduate students and postdoctoral fellows in the lab
- 3.
- 4.
- 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. Learn experimental approaches to assessing protein subcellular localization, enzymatic activity, and cancer cell motility and invasion
2. Learn to write a scientific abstract
- 3.
- 4.
- 5.

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

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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 co-mentor 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
