

Email this completed form to [cpritsummer@uth.tmc.edu](mailto:cpritsummer@uth.tmc.edu) by Friday, January 4, 2019.



CANCER PREVENTION & RESEARCH  
INSTITUTE OF TEXAS

**MENTOR RESEARCH OPPORTUNITY – SUMMER 2019 (JUNE 3<sup>RD</sup>-AUGUST 9<sup>TH</sup>)**  
**UTHEALTH-CPRIT UNDERGRADUATE INNOVATION IN**  
**CANCER PREVENTION RESEARCH FELLOWSHIP**  
 (This is a Word table; use Tab to go from one blank to the next)

Faculty Name Wenyi Wang

Office: FC4.5038 Cell: 6502240952

Faculty E-mail Wwang7@mdanderson.org

School/Campus The University of Texas MD Anderson Cancer Center

**Research Projects**

Each fellow is expected to spend an average of 40 hours/week on his/her 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 externally funded can be submitted.

<b>1</b>	<b>Title:</b>	Create a novel deconvolution pipeline for delineating interactions between tumor, stroma, immune cells in heterogeneous tumor samples
<b>Project Description:</b> (100 words max)  Think of this as an ad. Students will select projects based on these descriptions.		<p>Dr. Wang's research is motivated by large-scale complex data sets in recent genomic and familial studies and by important biological questions that emerge from the analysis of these data. The current lab research focuses are 1) Personalized cancer risk prediction models using TP53 mutation-associated Li-Fraumeni syndrome as a model; and 2) Tumor heterogeneity and evolution using computational deconvolution of both transcriptomic and genomic data.</p> <p>Lab website: <a href="https://odin.mdacc.tmc.edu/~wwang7/index.html">https://odin.mdacc.tmc.edu/~wwang7/index.html</a></p> <p>Our lab has trainees in Statistics, Biostatistics and Computational Biology. The intern will work closely with the team to make innovative contributions to the ongoing lab projects as outlined above.</p>

Contact with: Public  Patients  Lab Samples  Animals  None

Project Status	IRB	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
----------------	-----	-----	--------------------------	----	-------------------------------------

Laboratory Safety Protocol	Yes	<input type="checkbox"/>	No	<input checked="" type="checkbox"/>
----------------------------	-----	--------------------------	----	-------------------------------------

Email this completed form to [cprisummer@uth.tmc.edu](mailto:cprisummer@uth.tmc.edu) by Friday, January 4, 2019.

If yes, IRB Number	
--------------------	--

Protocol Number	
-----------------	--

Will the fellow be added to the protocol? Yes  No

**1. End Product(s):**

**A. All Fellows:**

1. Complete a research project, integrating innovative thinking with lab unique expertise
2. Prepare and present a research poster on their project, including how the applied skills for innovative thinking
3. Participate in the 90-second elevator speech competition for a prize

**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. Findings of the varying activity in immune infiltration across tumor samples and its impact on cancer prognosis in at least one cancer type
2. Develop a more computationally efficient algorithm for either transcriptomic or genomic deconvolution
3. Develop a complete analysis pipeline for the deconvolution of cancer transcriptomes

**2. Fellows' Activities:**

**A. All Fellows:**

1. Complete the Massive Open online Course (MOOC) on Innovation Generation
2. Apply the tools of innovative thinking in a project poster presentation
3. Participate in weekly group meetings and seminars in Houston and/or via ITV
4. Participate in the elevator speech workshop and feedback sessions
5. Provide bi-monthly feedback to the program coordinator
6. Meet with the preceptor weekly to discuss the training experience, progress, and challenges
7. 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?*

Email this completed form to [cprisummer@uth.tmc.edu](mailto:cprisummer@uth.tmc.edu) by Friday, January 4, 2019.

1. Fellow will be encouraged to bring out novel thoughts and try unconventional strategies or approaches.
2. Fellow will be assigned a mentored individual research project.
3. Fellow will learn to perform various statistical analyses related to the project.
4. Fellow will read related research literature.
5. Fellow will attend routine lab weekly meetings and present at lab meetings on literature review and progress report.

### 3. Learning Objectives:

***By the end of the summer experience, the following objectives should be achieved.***

#### A. All Fellows:

1. Describe and apply the tools of innovative thinking to increase creativity
2. Develop communication and presentation skills for graduate school

#### 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 be familiar with basic statistical programming and Unix commands.
2. Fellow will have a broad overview of tumor heterogeneity and other lab ongoing projects.
3. Fellow will learn about efficient teamwork and critical scientific thinking.
4. Fellow will develop self-driven interest in the type of research and the core skillsets required to perform such research.

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

A great learning experience for both students with computational science (statistics, biostatistics, mathematics, computer science, etc.) or biology backgrounds. Interested and open to learn new techniques through seminars, collaborations and mentoring. Comfortable with technical writing, literature review and effective communication. Ready for the challenges and the heat in Houston!

Females and minorities are encouraged to apply!

### 5. Mentor Responsibilities

Email this completed form to [cprisummer@uth.tmc.edu](mailto:cprisummer@uth.tmc.edu) by Friday, January 4, 2019.

---

1. Attend the orientation (June 3, 2019) and the elevator speech competition and poster presentation (August 9, 2019)

---

2. Be available for >8 weeks or have suitable substitute (faculty member or postdoc)

---

Will you be out for more than 2 weeks during the training period  
(June 3, 2019 – August 9, 2019)?

Yes

No

If yes, when will you be away and for how long?

June 16-July 1

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

Name: Shaolong Cao

---

Job Title: Postdoctoral fellow

---

E-mail: [scao@mdanderson.org](mailto:scao@mdanderson.org)

---

Phone Number: Office:

Cell:

---

---

3. Meet with the fellow weekly to discuss training experience, progress, and 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 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

---