Q9. Mentor Research Application for Summer 2020 (June 1 - August 7)

Welcome to the UTHealth - Cancer Prevention & Research Institute of Texas (CPRIT) Fellowship in Innovation for Cancer Prevention Research - UTHealth’s training program for undergraduates, pre- and post-doctoral fellowships in cancer prevention.

This program goes beyond being a quality cancer education and career development program to focus on helping those seeking a career in cancer prevention and control research to learn to ask the important research questions, apply cutting-edge methods, and move the field of cancer forward.

We appreciate your willingness to take on the mentorship of one of our undergraduate trainees. This application will help orient you with the goals and expectations of our summer mentors and trainees.

All applications must be submitted by 11:59 PM on Friday, January 17, 2020.

Q10. Faculty Mentor Information

Q1. First name

Xiaobo

Q2. Last name

Zhou

Q11. Phone number

(713) 500-3923

Q12. E-mail address

Xiaobo.Zhou@uth.tmc.edu

Q4. School/Campus Affiliation

- UTHealth School of Public Health- Houston
- UTHealth School of Biomedical Informatics
- UTHealth School of Dentistry
Q13. 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! Acceptable projects do not need to be externally funded.

Q15. Project title

Artificial Intelligence Improves Liver Cancer Screenings

Q14. Lay summary of the project (100 words maximum). Examples of project descriptions can be found here. If pasting or deleting text into this field, please make sure to press the space bar after the last word in order to see your accurate word count.

Hepatocellular carcinoma (HCC) is the third leading cause of cancer-related deaths worldwide. Texas has the highest age-adjusted liver cancer incidence rate in the United States. HCC usually develops in patients with underlying liver cirrhosis. The degree of underlying liver cirrhosis is an important risk factor to determine the prognosis of patients. New screening methods are in unmet need for early discovery of potential risk of HCC development. We propose to develop an artificial intelligence program that automatically analyzes quantitative imaging features in conjunction with blood biomarkers will improve liver cancer screening and detect liver HCC at early stage in Texas.
Q16. Project will require contact with:

- Public
- Patients
- Biological samples
- Animals
- None of these

Q17. Does the project require IRB approval?

- Yes
- No

Q18. If yes, please provide the IRB number below.

*This question was not displayed to the respondent.*

Q19. Does the project have a Laboratory Safety Protocol?

- Yes
- No

Q20. If yes, please provide the Protocol Number below.

*This question was not displayed to the respondent.*

Q21. Will the summer fellow be added to the protocol?

- Yes
- No

Q22. End Products of Summer Fellowship

Q23. **End products for all Fellows:**
1. Complete a project explicitly using the tools of innovative thinking.
2. Prepare and present a research poster on their project, including how you applied tools for innovative thinking.
3. Participate in the 90-second elevator speech competition.

Q25. **Project-specific end products (determined by Mentor):**
Examples:
1. GIS map to track whether and other environmental conditions for day laborer “corners” throughout Houston
2. Design for a social network platform for follow-up with research participants, manuscript on xxx to be submitted for publication
3. Abstract on yyy to be submitted to a scientific meeting
1. Demonstrate whether using our new approach of using radiogenomics QI features computed from pre-NST images only yields similar stratification performance to that using a conventional approach of computing and using QI feature difference assessed from a pair of match pre- and post-NST images (p > 0.05). 2. Developed a new integrated ICAD system, optimized and tested to achieve higher than 80% prediction sensitivity and 90% specificity to stratification between responders and non-responders to NST in the initial retrospective studies.

Q27.
Fellows’ Activities

Q28. Activities for all fellows:
1. Complete the Massive Open Online Course (MOOC) on Innovation Generation
2. Participate in weekly MOOC reviews and occasional cancer-related seminars in Houston and/or remotely via ITV
3. Apply the tools of innovative thinking in project discussions
4. Participate in two elevator speech workshops
5. Provide mid-course and final evaluation feedback
6. Meet with the preceptor or representative to discuss the training experience, progress, and challenges
7. Prepare and present a poster on the summer research
8. Present a 90-second elevator speech

Q29. Project-specific Trainee Activities (determined by Mentor):
Example: Fellow will commit to the design and analysis of a mini project YYY as part of a larger project

Fellow will commit to develop a new integrated ICAD system.

Q31. Learning Objectives:
By the end of the summer experience, the following objectives should be achieved.

Q32. Objectives for all fellows:
1. Describe and apply the tools of innovative thinking to increase creativity
2. Develop communication and presentation skills

Q33. Project-specific Learning Objectives (determined by Mentor):
Examples:
1. Fellow will be able to write instructions for low literacy audiences
2. Fellow will design a mini project with supervision

1. Fellow will be able to analysis association between QI features and protein biomarkers. 2. Fellow will develop a new integrated ICAD system.
Q34. Are there any special fellow characteristics that would be desirable? Examples: major, interests, language, or culture

Q35. Mentor Responsibilities
1. Attend the closing ceremony (elevator speech competition and poster presentation) on August 7, 2020.
2. Provide feedback on the program experience to the program coordinator.
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 Dr. Mullen if the intern is not meeting the agreed upon responsibilities as early as possible to allow problem-solving.
6. Complete an evaluation of the fellow at mid-course and end of the program.

Q36. If you plan to delegate some of the supervision to another lab member, please list their name and contact information so that we can copy them on all correspondence.

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Q37. Will you be out of lab for more than 2 weeks during the training period (June 1, 2020 - August 7, 2020)?

- Yes
- No

Location Data
Location: (29.70596923828, -95.402000427246)

Source: GeoIP Estimation