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

Melvin

Q2. Last name

Klegerman

Q11. Phone number

7134862343

Q12. E-mail address

Melvin.E.Klegerman@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**

| Production of Doxorubicin-loaded Liposomes for Targeted, Controlled Release Treatment of Breast Cancer |

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.

Doxil is a well-established, licensed liposomal formulation of doxorubicin for treatment of various cancers. However, Doxil is not targeted; its main advantage is lower toxicity than the free drug after systemic administration. My laboratory has extensive experience with molecular targeting of ultrasound-sensitive liposomes for both diagnostic and therapeutic applications. The objectives of this project are to develop doxorubicin-loaded echogenic liposomes (ELIP) for ultrasound-triggered drug release, to conjugate them to trastuzumab, and to test their efficacy vs. HER2-positive tumor cells in vitro and in vivo in a collaborative study with other UTHealth investigators.
Q16. Project will require contact with:

<table>
<thead>
<tr>
<th>Public</th>
<th>Patients</th>
<th>Biological samples</th>
<th>Animals</th>
<th>None of these</th>
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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.

CSC-12-023

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. Optimized DOX-ELIP formulation for testing in efficacy project. 2. Abstract for presentation at meeting. 3. Manuscript to be submitted for publication.

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


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
Q34. Are there any special fellow characteristics that would be desirable? Examples: major, interests, language, or culture

Some experience in basic laboratory techniques. Scientific aptitude, interest and education.

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.

<table>
<thead>
<tr>
<th>Full name</th>
<th>Tao Peng</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest degree held</td>
<td>Ph.D.</td>
</tr>
<tr>
<td>Job title</td>
<td>Senior Research Associate</td>
</tr>
<tr>
<td>E-mail address</td>
<td><a href="mailto:Tao.Peng@uth.tmc.edu">Tao.Peng@uth.tmc.edu</a></td>
</tr>
<tr>
<td>Phone number</td>
<td>(713) 486-2338</td>
</tr>
</tbody>
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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