CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:
RP140106

Project Title:
The Future of Cancer Research: Training Program for Basic and Translational Scientists

Award Mechanism:
Research Training Award Continuation Grants for Years 4 and 5

Principal Investigator:
Watowich, Stephanie

Entity:
The University of Texas M.D. Anderson Cancer Center

Lay Summary:

As an international leader in clinical cancer care and translational cancer research, with an outstanding platform of basic science research in cancer-related fields, the University of Texas MD Anderson Cancer Center (MD Anderson) is uniquely poised to train the next generation of cancer researchers. We propose an innovative training program to recruit and educate exceptional undergraduate, predoctoral and postdoctoral fellows through a multi-disciplinary approach that only MD Anderson can offer, positioning them for a career in cancer research. The CPRIT training program will instruct predoctoral students (CPRIT Graduate Scholars) and undergraduates in fundamental biological concepts in an environment where they can apply that knowledge to problems in cancer biology. The CPRIT Graduate Scholar Program will dovetail with a pioneering translational program for post-doctoral fellows (CPRIT TRIUMPH Program), to train PhD scientists in skills necessary to lead a translational cancer research program. This multi-disciplinary CPRIT training program provides a comprehensive learning environment centered on cancer research. CPRIT Graduate Scholar Program goals: 1. Generate a strong basic science platform by providing rigorous education in basic biological and/or biophysical concepts pertaining to cancer. 2. Provide cross-disciplinary training in specialties related to cancer research and stimulate critical thinking skills. 3. Accelerate the acquisition of professional attributes necessary for advancement by providing training in ethical conduct and career skills. 4. Provide high-quality mentoring by prominent cancer researchers, to foster relationships to enhance career development, cross-disciplinary collaboration and a lifelong passion for cancer research. CPRIT TRIUMPH program goals: 1. Provide translational training through didactic coursework and laboratory research. Instruct in cutting edge basic and clinical science, clinically relevant problems, etiology of cancer, and design/execution of human protocol research and clinical trials. 2. Train in 3-5 oncology clinics to introduce fellows to the role of different treatment modalities in cancer patients. Provide medical school level training in histology and pathology of cancer. 3. Provide the best possible mentoring in research, organizational and leadership skills by successful cancer researchers to position TRIUMPH fellows for a career in translational research. The CPRIT Summer Undergraduate Research Program is aimed at providing an interactive and fulfilling experience in cancer research to talented undergraduate students, emphasizing recruitment of underrepresented minorities and increasing awareness of and matriculation into GSBS by outstanding undergraduate students. Didactic and research training activities: The CPRIT Graduate Scholar Program includes a

1st year curriculum focused on basic science subjects pertaining to cancer, 3 laboratory tutorials and selection of a faculty mentor. The 2nd year curriculum will increase understanding of cancer through advanced coursework. CPRIT Graduate Scholars will be supervised by their faculty mentor and a faculty committee, including direct mentoring by at least one CPRIT faculty mentor. CPRIT Graduate Scholars will participate in a monthly CPRIT journal club with TRIUMPH fellows, the PI and co-PI to enhance their understanding of current cancer research. CPRIT TRIUMPH fellows will identify a translational research laboratory for their research project, complete didactic courses and receive training in clinical trial development and human protocols in their first year. In the second year, TRIUMPH fellow will complete 3-5 clinical rotations that complement their laboratory training. The third year will be devoted to completion of the research project, obtaining post-doctoral fellowships and devising future career paths. TRIUMPH fellows will participate in the monthly CPRIT journal club, and will be trained in laboratory management, grant and manuscript preparation. CPRIT Summer Undergraduates will perform hands-on laboratory research under the close supervision of CPRIT Graduate Scholar or TRIUMPH faculty mentors to gain an understanding of the scientific process in cancer research. Institutional infrastructure and commitment: The CPRIT training program has been led successfully by Dr. Stephanie Watowich (PI), Associate Professor and Associate Dean, and Dr. Khandan Keyomarsi (co-PI), Professor. Their collaboration provides complimentary strengths in basic and translational science. The program fits perfectly within the educational mission of MD Anderson and its shared graduate program at The University of Texas Graduate School of Biomedical Sciences at Houston. The program benefits from outstanding institutional support including exceptional research facilities, educational programs, institutional funds, faculty participation and administrative support.