



## CANCER PREVENTION & RESEARCH INSTITUTE OF TEXAS

Award ID:  
RP101503

Project Title:  
Research Training Award

Award Mechanism:  
Research Training

Principal Investigator:  
Ness, Roberta

Entity:  
The University of Texas Health Science Center at Houston

### Lay Summary:

We have mobilized research and training expertise from the University of Texas Health Science Center at Houston (UTHSC-H): School of Public Health (SPH), School of Biomedical Informatics (SBI), Graduate School of Biomedical Sciences (GSBS), and MD Anderson Prevention Sciences, enriched by the innovative interdisciplinary research at the Institute for Molecular Medicine. SPH offers graduate population sciences training with a statewide regional campus system, facilities for distance education and intercampus research, and networks of public health practitioners and community-based organizations. SBIS, also using distance education, brings internationally recognized expertise in cognitive sciences (e.g., humancomputer interaction), biomedical modeling and simulation, informatics application in health education, taxonomy and ontology research in cancer prevention, and public health informatics (e.g. identifying cancer disparities by spatiotemporal analysis). GSBS provides outstanding training and "breadth" courses in basic cancer biology, molecular biology of genes and cancer development, molecular epidemiology of gene-environmental interactions, and molecular virology. Its research programs that focus on host and environmental (e.g., viruses, tobacco, chemicals) biomarkers for cancer development are aimed at early detection and treatment. We will enlist a broad portfolio of training methods, including coursework, workshops, Cancer Prevention Grand Rounds, and a wealth of research opportunities to prepare predoctoral and postdoctoral fellows from SPH and SBI in core competencies, according to individualized training plans. Key elements are: 1) Training for trainees and mentors in innovative thinking skills supported by a training environment that encourages innovation. An evidence-based course is being piloted by Ness (PI) SBI Dean. Program leaders and mentors will provide incentives and reinforcement for innovation and interdisciplinary perspectives. Trainees' projects will be judged on the validity and accomplishment of design and the soundness and feasibility of approach and execution rather than on the certainty of positive or anticipated outcomes. 2) Extension of the 3 schools' curricula with courses/workshops to demonstrate perspectives and methods of epidemiology and health promotion behavioral sciences, cognitive sciences and informatics, and biological sciences--facilitated by a new SPH cancer prevention concentration for UTHSC-H doctoral students (certificate for post-docs). 3) Multifaceted mentoring for projects to support innovative approaches. 4) Career skills development through courses and the Integrative Seminar that will bring together trainees, Program faculty and mentors focused on trainee proposal and paper development, discussions of journal articles selected to provoke creative, "outside-the-box" ideas, and integrated discussions to supplement courses in research ethics. We will also select undergraduates

to participate in summer research internships based in the participating schools in Houston and at the SPH regional campuses in El Paso, San Antonio, Brownsville, Austin, and Dallas. Ness (PI), SPH Dean, an innovative cancer epidemiologist, academic leader, and training director, will chair the Executive Committee (EC), oversee mentor selection, monitor overall quality, and co-teach Innovative Thinking. Mullen (Co-PI), a behavioral scientist and highly successful NCI training director, will coordinate curriculum development, trainee recruitment and selection, and program evaluation. The EC will evaluate trainee projects, research assignments, and individualized training plans.