

# Tufts Institute for Innovation (TII)

is a groundbreaking initiative that will facilitate research innovation that addresses world problems by developing novel strategies, technologies, and practical and scalable models for translation. TII reflects a commitment by Tufts University to pursue science for social good and to improve the global human condition. TII will support university-wide collaboration across the unique constellation of schools at Tufts; its far-ranging interdisciplinary research and applications will draw upon the sciences, engineering, social sciences, humanities, and Tufts' insight on the evolving international context.

Students will be encouraged to play a role in the translation of research that will support social good and public service—themes that are central to Tufts' mission and the T10 strategic plan.

**TII will bring together newly assembled faculty teams from across Tufts' three campuses to work in TII's newly renovated, Boston-based laboratory space, a dynamic space for collaboration.**

**At TII, faculty members work in a new way, at a different scale, and with potentially global outcomes. The question they will ask—and answer—is, "How can we best work in the service of creating lasting change in the human condition?"**

## TII Launch Event Program

Thursday, August 28, 2014

4:00 – 6:00 p.m.

Behrakis Auditorium, Jaharis Building, 150 Harrison Avenue

### 4:00 p.m. Opening Remarks

Anthony P. Monaco, *President*

David R. Harris, *Provost and Senior Vice President*

Diane L. Souvaine, *Vice Provost for Research*

### 4:15 p.m. Welcome Remarks and Recognition of Inaugural Award Recipients

David Walt, *Founding Director, Tufts Institute for Innovation*

### 4:25 p.m. Inaugural Award Recipients: Lightning Talks

Gillian Beamer, *Assistant Professor, Infectious Disease and Global Health*

Elena Naumova, *Professor, Civil and Environmental Engineering, Adjunct Professor, Public Health and Community Medicine*

Xingmin Sun, *Research Assistant Professor, Infectious Disease and Global Health*

Sam Telford, *Professor, Infectious Disease and Global Health*

Guests proceed to TII space, 4th floor of M&V Building, for continuation of the launch event program.

### 5:00 p.m. Official Ribbon Cutting for Tufts Institute for Innovation (TII) Laboratory

Ceremony led by President Anthony Monaco and Founding Director David Walt

### 5:10 p.m. TII Laboratory Networking Reception

The first round of grants awarded by TII are centered on the thematic area of  
**Microbes: Improving the Environment and the Human Condition.**

### **Towards a Direct, Rapid, Highly Sensitive Point-of-Care Diagnostic Test for Tuberculosis**

**Principal Investigator:** Gillian Beamer (Infectious Disease and Global Health)

**Team Members:** Igor Sokolov (Mechanical Engineering), Charles B. Shoemaker (Infectious Disease and Global Health), David Walt (Chemistry)

The team will generate a platform to develop a point-of-care test for specific, sensitive, direct, and rapid detection of tuberculosis (TB); no currently available TB test has all of these capabilities. The long term, final outcome will be a simple, hand-held, temperature stable test for TB to improve patient care by promoting near-instant TB diagnosis.

### **Innovative Public Health Engineering Strategies to Reduce Water-Associated Disease Burden in Low-Income Countries**

**Principal Investigators:** Elena Naumova (Civil and Environmental Engineering, Public Health and Community Medicine) and Kurt Pennell (Civil and Environmental Engineering)

**Team Members:** David Gute (Civil and Environmental Engineering), Natalie Cápiro (Civil and Environmental Engineering), Steve Chapra (Civil and Environmental Engineering), Jeffrey Griffiths (Public Health and Community Medicine), Magaly Koch (Civil and Environmental Engineering), Karen Kosinski (Public Health and Community Medicine), Edward Kutsoati (Economics), Daniele Lantagne (Civil and Environmental Engineering), Miguel Stadecker (Integrative Physiology and Pathobiology), Honorine Ward (Medicine), Andrew Camilli (Molecular Biology and Microbiology), Sarah Pinto (Anthropology), Alexandra Kulinkina (Ph.D. student, Civil and Environmental Engineering)

**International Collaborators:** Christian Medical College Vellore, India  
 Noguchi Memorial Institute of Medical Research (NMIMR) Ghana, Legon

The team aims to reduce the public health burden of water-associated infectious diseases by addressing distinct populations and microbes in communities in India and Ghana. It will explore approaches for building an integrated surveillance system for water-related infections using information from environmental water sampling, health care reporting, remote sensing imagery, and meteorological records.

### **Second Generation Mouse Targeted Interventions: A General Platform to Reduce the Risk of Zoonotic Infections**

**Principal Investigator:** Sam Telford (Infectious Disease and Global Health)

**Team Members:** Linden Hu (Medicine), Qiaobing Xu (Biomedical Engineering)

Through the development and utilization of reservoir targeted Lyme disease vaccines, the team aims to reduce the propensity of mice to carry the causative microbe that causes Lyme disease in humans, and thereby to reduce the environmental risk to humans upon exposure to ticks.

### **Novel Multivalent Mucosal/Oral Vaccines against Clostridium Difficile Infection (CDI)**

**Principal Investigator:** Xingmin Sun (Infectious Disease and Global Health)

**Team Members:** Saul Tzipori (Infectious Disease and Global Health), Abraham Sonenshein (Molecular Biology and Microbiology), Qiaobing Xu (Biomedical Engineering)

The team aims to develop a CDI vaccine for a target population of individuals of advanced age, a weakened immune system, long-term hospitalization, antibiotic or chemotherapy, gastrointestinal tract disease, or previous CDI. The ultimate goal of the project is to evaluate, through clinical trials, the best vaccine candidate for use in CDI management.