

**CASE WESTERN RESERVE UNIVERSITY  
EAST CLEVELAND PUBLIC SCHOOL DISTRICT  
PROVOST SCHOLARS  
Intensive University Seminar  
Session Nine– Fall 2016  
Thursday, December 8, 2016  
2:30-5:00pm  
The Cleveland Institute of Art (CIA)  
Cleveland, Ohio 44106  
Phone: 800-223-4700**

**Seminar Title:** *The Science of Tiny Things: An Introduction to Micro/Nano Biomedical Technology and Soft Lithography*

### **Purpose**

The goal of this seminar, which will take place at the Cleveland Institute of Art (CIA), is to introduce Provost Scholars participants to the micro/nano world of biotechnology, using scientific art and hands-on activities, planned and developed by CIA senior students in the Biomedical Art Program. This activity aims to use a creative integration of science and art to spark interest in the Provost Scholars about the science and engineering of tiny things.

### **Presenter Biography**



Umut A. Gurkan is leading the Case Western Reserve University Bio manufacturing and Microfabrication Laboratory (CASE-BML) in Mechanical and Aerospace Engineering. Inspired by modern advanced manufacturing methods, the primary focus of CASE-BML is developing micro/nano-scale technologies for bio manufacturing complex multiscale biological systems and micro engineered methods for rare cell isolation and manipulation. Micro/nano-engineered systems and platforms developed at CASE-BML, enable broad applications in blood cell research, cardiovascular medicine, orthopedics, musculoskeletal research, regenerative medicine, and advanced cell therapies.

### **Objectives**

The Provost Scholars will:

1. Define the science of micro/ nano biotechnology and identify how it impacts their everyday lives.
2. Discuss scientific and creative connections between art and engineering.

### **Agenda**

2:30pm – 2:45pm	Arrival and refreshments (sandwiches, fruits, and soft drinks)
2:45pm – 3:00pm	Introductions, brief pre-survey
3:00pm – 3:30pm	Presentation by art students
3:30pm – 4:00pm	Interactive learning session
4:00pm – 4:30pm	Hands-on learning session
4:30pm – 5:00pm	Wrap-up and brief post-survey

### **Provost Scholars Faculty & Staff**

- Dr. Umut Gurkan, Professor and CASE-BML Director
- Dr. Faye Gary, Professor and Program Director

**CIA Student Presenters:** Siena Fried, Rebecca Konte, Emilee Wheeler, Katelyn Ostromeck, and Megan Sigetic

**Word of the Week: Biotechnology** – (n.) The use of techniques from genetics to combine inherited characteristics selected from different kinds of organisms into one organism in order to produce useful products such as pharmaceutical agents.

**Sentence:** The *biotechnology* giants spent tens of millions of dollars to research a possible vaccine.