

**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.