

# Summer Course

on Environmental Life Sciences Engineering

**27 June – 15 July 2017**

Nanyang Technological University  
National University of Singapore

The Singapore Centre for Environmental Life Sciences Engineering (SCELSE) is a unique interdisciplinary Research Centre of Excellence (RCE) established to explore and translate the life of microbial biofilms into environmental solutions and significant environmental, health and industrial benefits by engineering microbial communities. SCELSE's unique interdisciplinary approach is at the forefront of the emerging field of environmental life sciences engineering (ELSE).

SCELSE is offering an intensive and highly interactive course which unites fields such as engineering and microbial ecology through the commonalities of biofilms.

Graduate and postgraduate researchers are invited to participate in this international Summer Course designed to bridge environmental engineering and contemporary life sciences in the context of microbial biofilm-driven processes.

## Course Aims

1. Familiarise participants with our current state of knowledge of microbial systems.
2. Enhance understanding of the biofilm mode of microbial life to harness microbial activities to efficiently recycle natural resources, provide pure water, control health risks and ensure a sustainable environment for future generations.

## Course Structure

Learning outcomes involve understanding mechanisms and processes using quantitative approaches. This knowledge will be used to design experiments that can yield information for developing new technologies or solving problems in the engineered environments.

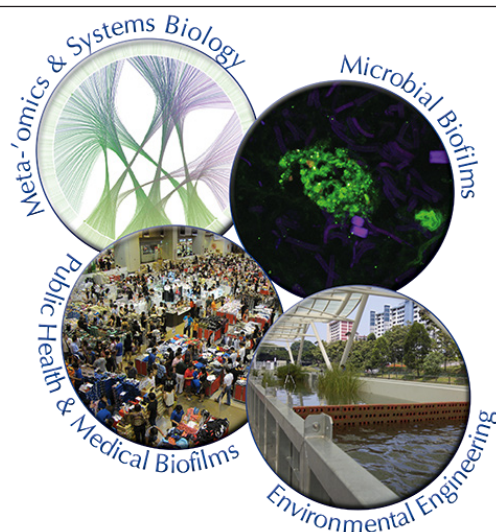
The course consists of: structured core lectures, topical seminars, guided discussions on specialised topics, hands-on sessions, student presentations and case studies; international and regional perspectives; exposure to Singapore's advanced water resource management through field trips.

*Participants of SCELSE's 2016 Summer Course came from around the globe, including Singapore, Malaysia, Australia, China, India, Japan, Italy, South Korea, USA and Argentina.*

## Application information

Applicants will be selected based on their strong and demonstrated interest in exploring interdisciplinary approaches to address complex scientific scenarios.

The course is open for students worldwide currently pursuing graduate programs or those graduated within the last three years in engineering or other sciences.



## High-Profile Teachers

This three-week course brings together world-renowned scientists and engineers including SCELSE scientific leaders in the fields of microbial physiology and ecology, environmental engineering, meta'-omics and systems biology, as well as visiting experts such as Per Nielsen (Aalborg U), Peter Steinberg (UNSW), Ken Nealson (USC), Gerard Wong (UCLA) and Janelle Thompson (MIT) joining the teaching team for 2017. Participants interact with these experienced mentors in their interdisciplinary approach in both practical and tutorial settings.

## Student comments

*"Through interactive sessions and discussions we learn to ask the right questions, as we share lunch and coffee with the experts, and conclude that there is so much to discover in this field."*

*"I have made life long friends from attending the course and felt that there was a real camaraderie between the participants of the course."*

*"The course was highly intense but well structured. It's a great opportunity to interact with some of the world's best scientists in microbial biofilms and microbiology."*



Admission to the course is competitive with a restricted number of places. Successful applicants will receive housing, meals and some allowances including partial financial support for travel.

Students and early career professionals from Asia are highly encouraged to apply. Please apply at:

<http://www.scelse.sg/Page/SummerCourse>