27-Dec-17

KEY

- Overview
- Fundamentals
- Ecology
- Physiology
- Genetics and systems biology
- Discussions/Exercises/Hands-on
- Presentations
- Conclusion

Summer Course on Environmental Life Sciences Engineering (18 June - 6 July 2018)

	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul (Closing)
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
09:00AM - 09:30AM	Arrival and Registration	Welcome & Course Overview	Gene Expression and Regulation	Biofouling	Basic Ecological Principles II	Carbon and nitrogen cycling in environment and technical systems	Cultural Tour	Aquatic Microbial Ecology	Microbial Fuel Cells	**Metagenomics Day** Genomics Principles	Approaches to Biofilm Drug Discovery	**Holobionts Day** **Plant Microbiome**	Free Day	Free Day	Bioprocesses in Wastewater Treatment	Biofilm Kinetics and Modelling	Some basic physics for understanding bacterial motility and early biofilm development	**NUS DAY** Systems Biology of Complex Microbial Communities	Overview Discussion
09:30AM - 10:00AM																			
10:00AM - 10:30AM																			
10:30AM - 11:00AM												**Coffee Break**							
11:00AM - 11:30AM		**Coffee Break**						**Coffee Break**				Human microbiome			**Coffee Break**				
11:30AM - 12:00PM		Biofilm concepts	Genomics Principles	Signalling/Cell-Cell Communication in biofilms	Predation	Marine Microbiology		Cycling of sulfur, iron and phosphorus in environment and technical systems	Hands-on potentiostat session	Metagenomics	Biofilm Matrix				Numericals/ Exercises II	Medical Biofilms	Ecology and Functioning of Tropical Peatlands	Chemical Biology	Concluding Session; Feedback
12:00PM - 12:30PM																			
12:30PM - 1:00PM												**Lunch**							
01:00PM - 01:30PM		**Lunch**						**Lunch**							**Lunch**				
01:30PM - 02:00PM																			
02:00PM - 02:30PM												Marine holobionts							
02:30PM - 03:00PM		Environmental Life Sciences @ SCELSE: An Overview	Synthetic Biology	Basic Ecological Principles I	Experimental design & data analysis- Hands-on session	Biocorrosion		Electroconductivity	Applications of electrochemistry	Metagenomics using MEGAN Hands-on session	Nitrogen removal from waste water				Numericals/ Exercises II	Mixed Species Interactions	Antimicrobials, immune responses, and biofilms	Metabolomics and its Applications in Microbial Ecology	Photo Session
03:00PM - 03:30PM																			
03:30PM - 04:00PM		Biofilm Fundamentals										Discussion			Student Presentations				
04:00PM - 04:30PM																			
04:30PM - 05:00PM		**Coffee Break**						**Coffee Break**							**Coffee Break**				
05:00PM - 05:30PM		Student Presentations Planning	Student Presentations	Student Presentations	Experimental design & data analysis- Hands-on session	Student Presentations		Student Presentations	Student Presentations	Metagenomics using MEGAN Hands-on session	Student Presentations	Student Presentations			Student Presentations	Student Presentations	Resource recovery: The Future of Wastewater Management?	Visits to NERI (Leave NUS by 6.30pm)	
05:30PM - 06:00 PM																			
6 PM Onwards	Dinner																Dinner		