

**KEY**

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

Summer Course on Environmental Life Sciences Engineering (25Jun - 12 Jul 2019)

	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul	8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	Closing											
	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday												
09:00AM - 09:30AM	Welcome Breakfast & Course Overview	Gene Expression and Regulation	Biofouling	Experimental Design & Data Analysis- Hands-On Session	Horizontal Gene Transfer		Aquatic Microbial Ecology	Research Approaches To Comparative Genomics	Metagenomics Day Genomics Principles	Biofilm Matrix	Holobionts Day Marine Holobionts			Nitrogen Removal From Waste Water	NUS DAY Metabolomics And Its Applications In Microbial Ecology	Biofilm Kinetics And Modelling	Ecology And Functioning Of Tropical Peatlands	Overview Discussion												
09:30AM - 10:00AM																														
10:00AM - 10:30AM																														
10:30AM - 11:00AM	Coffee Break						Coffee Break						Coffee Break																	
11:00AM - 11:30AM	Biofilm Concepts	Genomics Principles	Signalling/Cell-Cell Communication In Biofilms	Basic Ecological Principles II	Discussion Section Horizontal Gene Transfer		Comparative Genomics On Photosynthesis	Bioelectrochemistry	Metagenomics	Approaches To Biofilm Drug Discovery	Human Microbiome			Numericals/ Exercises I	Synthetic Biology	Molecular Aspects Of Biofilm Infections	Some Basic Physics For Understanding Bacterial Motility And Early Biofilm Development	Concluding Session; Feedback												
11:30AM - 12:00PM																														
12:00PM - 12:30PM																														
12:30PM - 1:00PM						Free Day						Cultural Tour																		
01:00PM - 01:30PM	Lunch						Lunch	Demonstration Sessions	Lunch	Lunch	Lunch		Lunch	Lunch	Lunch															
01:30PM - 02:00PM								Lunch	Lunch	Lunch	Lunch		Lunch	Lunch																
02:00PM - 02:30PM							Electroconductivity	Applications Of Electrochemistry	Metagenomics Using MEGAN Hands-On Session	Bioprocesses In Wastewater Treatment	Plant Microbiome	Discussion			Numericals/ Exercises II	Chemical Biology	Mixed Species Interactions	Antimicrobials, Immune Responses And Biofilms	Photo Session											
02:30PM - 03:00PM	Environmental Life Sciences @ SCELSE: An Overview	Biocorrosion	Basic Ecological Principles I	Experimental Design & Data Analysis- Hands-On Session	Biogeochemical Transformations																					Student Presentations				
03:00PM - 03:30PM	Gene Expression and Regulation																													
03:30PM - 04:00PM												Coffee Break																		
04:00PM - 04:30PM																														
04:30PM - 05:00PM																														
05:00PM - 05:30PM	Student Presentations	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	Visits To NERI	Student Presentations	Resource Recovery: The Future of Wastewater Management?													
05:30PM - 06:00 PM																														
6 PM Onwards																Dinner														