

2016 MBL Microbial Diversity Course Schedule

	Date		Lecture 1 9:15 – 10:15 AM Candle House 104-105	Lecture 2 10:30 – 11:30 AM Candle House 104-105	Afternoon	Evening	
0	1-Jul	F					
0	2-Jul	Sa					
0	3-Jul	Su			Staff Collect Samples	Opening Mixer: 7:30 PM	
1	4-Jul	M	<i>Jared Leadbetter</i> <i>Where We've Been</i>	- Parade -	Heterotrophs	Fireworks & Volta Flame	
	5-Jul	T	<i>Dianne Newman</i> <i>Where We're Going</i>	Field Trip & Box Lunch	Chemo & phototrophic anaerobes	Chalk Talks I & basic m'scopes	
	6-Jul	W	<i>Kurt Hanselmann</i> <i>Intro to Thermo</i>	<i>Kurt Hanselmann</i> <i>Intro to Thermo</i>	Micro Electrodes & Enrichments	Chalk Talks II & Thermodyn Groups 1&2	
	7-Jul	R	<i>Dianne Newman</i> <i>Bioenergetics</i>	<i>Scott Dawson</i> <i>Culture independent approaches</i>	Gas Chromatography Culturing	Chalk Talks III & Thermodyn Groups 3&4	
	8-Jul	F	<i>Kurt Hanselmann</i> Sulfur Cycling	<i>Jared Leadbetter</i> Acetogenesis/Methanogenesis	MRC Tour (1, 2PM-2 groups) CH104, Lab work	Fungal Fermentation	
	9-Jul	S	<i>Lab: Growth Curves & Enrichments</i>	<i>Lab: Growth Curves, Enrichments, Discussion</i>	Flex/FREE		
	10-Jul	S	FREE				
2	11-Jul	M	<i>Ethan Garner</i> Quantitative Microscopy	<i>Ethan Garner</i> Cell Bio Opportunities	Culturing; Colony PCR <i>Specs, Imaging (learn how to take a photo in focus + scale bar)</i>		
	12-Jul	T	<i>George O'Toole</i> Why Genetics	<i>Dianne</i> Stories from Woods Hole	HPLC,		
	13-Jul	W	<i>Roberto</i>	<i>Roberto</i>	Dionex		
	14-Jul	R	<i>George</i> Examples	<i>Dianne</i> Examples	<i>Louis Kerr (MBL 208 Lilly) – EM Facility tour: lkerr@mbl.edu; 508-289-7273</i>		
	15-Jul	F	<i>Bill Metcalf</i> 1. A practical approach for development of genetic tools in microbial systems 2. Genetic analysis of energy-conserving metabolism in <i>Methanosarcina</i> species				MBL Fri Night Lecture
	16-Jul	S	Symposium I (Microbial Stress Response): Paula Welander, Karine Gibbs, Arash Komeili, George O'Toole				
	17-Jul	S	FREE				

2016 MBL Microbial Diversity Course Schedule

Wk	Date		Lecture 1 9:15 – 10:15 AM Candle House 104-105	Lecture 2 10:30 – 11:30 AM Candle House 104-105	Afternoon	Evening
3	18-Jul	M	<i>Jared Leadbetter</i> Endospores & Outer Membranes	<i>Jared Leadbetter</i> Motility & Behavior	Isolate colony PCR, filter FISH samples	FISH lecture, project brainstorming
	19-Jul	T	<i>Sean Crosson</i> Building and organizing bacterial cells	<i>EVELEIGH: Alison Butler</i> Metals, Microbes and Mussels: the Chemical Biology of Siderophores	PCR gels, FISH	mono-FISH, PCR gels, Termite gut dissection
	20-Jul	W	<i>Sean Crosson</i> More on microbial cell motility and growth	<i>Alison Butler</i> Metals of Marine Life and the Importance of Iron	mono-FISH, shape and motility quantification	mono-FISH, shape and motility quantification
	21-Jul	R	<i>Journal Club</i>	<i>Aretha Fiebig</i> Comparative genetic analysis in Alphaproteobacteria.	FISH imaging, dynamic tracking	FISH imaging, dynamic tracking
	22-Jul	F	<i>Jessica Polka</i> R Bodies	<i>Liz Kujawinski</i> Microbial function, viewed through the chemical lens of metabolomics	16S rDNA ID and 2° Structures	MBL Fri Night Lecture
	23-Jul	S	Group Reports in Candle House			FREE
24-Jul	S	FREE (Whale Watching for those that are going)				
4	25-Jul	M	<i>Norm Pace</i> The Evolution of an Evolutionary 'Tree of Life'	<i>Norm Pace</i> Adventures in Microbial Ecology: the Human Environment	QIIME	
	26-Jul	T	<i>Trunk River Data Discussion</i>	<i>Titus</i> Genome Assembly	Genome Assembly	
	27-Jul	W	Lecture location changes: Fishbowl <i>Scott</i> Homology	Lecture location changes: Fishbowl <i>Scott</i> Genome Annotation	Genome Annotation	
	28-Jul	R	<i>Tracy: Metagenomics Assembly</i>	<i>Ying Zhang</i> From genomes to metabolic models: making a blueprint of genotype-phenotype associations.	anvi'o for visualization	
	29-Jul	F	<i>Scott</i> 2016 MD genomes and pangenomes	<i>Scott</i> Phylogenetic Analysis	MiniProjects, optional R lesson	MBL Fri Night Lecture
	30-Jul	S	Symposium II (Geomicrobiology): Jeff Gralnick (U Minn), Colleen Hansel (WHO), Derek Lovley (UMass), and Ann Pearson (Harvard)			
31-Jul	S	FREE				

2016 MBL Microbial Diversity Course Schedule

Wk	Date		Lecture 1 9:15 – 10:15 AM Fishbowl	Lecture 2 10:30 – 11:30 AM Fishbowl	Afternoon	Evening
5	1-Aug	M	<i>Wiebke Ziebis</i>	<i>Wiebke Ziebis</i>		
	2-Aug	T	<i>Bernhard Schink</i>	<i>Graham Walker Rhizobia</i>		
	3-Aug	W	<i>Bernhard Schink</i>	<i>Julie Huber</i>		
	4-Aug	R	<i>Colleen Cavanaugh</i> <i>To the next generation and beyond: Transmission strategies in chemosynthetic symbioses.</i>	<i>Pete Girguis</i>		Optional MinION Talk – Lisa Cohen 9:00 pm
	5-Aug	F	Journal Club	<i>Nicole Dubilier</i>		MBL Fri Night Lecture
	6-Aug	S				
7-Aug	S	FREE				

2016 MBL Microbial Diversity Course Schedule

Wk	Date		Lecture 1 9:15 – 10:15 AM Fishbowl	Lecture 2 10:30 – 11:30 AM Fishbowl	Afternoon	Evening
6	8-Aug	M	Mak Saito		MiniProjects & 7 pm Course Photo	
	9-Aug	T	Brian von Herzen	MiniProjects		
	10-Aug	W	A. Murat Eren (Meren)	MiniProjects		
	11-Aug	R	MiniProjects	MiniProjects & 1 pm deadline for colony PCR or clone libraries and CARD-FISH		
	12-Aug	F	MiniProjects	MiniProjects & 1 pm deadline for other FISH	MBL Fri Night Lecture	
	13-Aug	S	MiniProjects	Pipettes Down at 3 PM		
7	14-Aug	S	9 am -12 pm Lab Clean-up (groups 2,3)	Project Reports – oral presentations (groups 1,4)		Lab Clean-up / Writing (all)
	15-Aug	M	9 am – 12 pm Lab Clean-up (groups 1,4)	Project Reports – oral presentations (groups 2,3)		Lab Clean-up / Writing (all)
	16-Aug	T	Final Lab Clean-up and Pack-up Final Project Report files due by 10:30 AM to Jessica			Graduation and dinner!
	17-Aug	W	Students Depart ☺			

We gratefully acknowledge the Simons Foundation, NSF, NASA, and DOE for supporting various aspects of the Microbial Diversity course. We thank the following organizations for supporting particular components:

^{GL}Maynard and Suzanne Goldman Endowed Lecturer

^{RM}Roger Milkman Endowed Lecturer;

^{WF}Waksman Foundation-sponsored Eveleigh Lecturer.

Maynard and Suzanne Goldman Endowed Lecturer
Prof. Wiebke Ziebis

Roger Milkman Endowed Lecturer
Prof. Nicole Dubilier

Waksman Foundation-sponsored Eveleigh Lecturer
Prof. Alison Butler