

Syllabus SIO 242B – Winter 2020
Marine Biotechnology

Instructors:

Paul Jensen (pjensen@ucsd.edu)
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Tuesday/Thursday 2:00 – 3:20 PM
Vaughan Hall 300
(4 Units)

Date	#	Instructor	Topic	Speaker
Jan 7	1	Jensen	Introduction to biotechnology	Paul Jensen (SIO)
Jan 9	2	Moore	Intellectual property & patents	Skip Cynar (UCSD)
Jan 14	3	Moore	Green algae biotechnology	Stephen Mayfield (UCSD)
Jan 16	4	Jensen	History of marine natural products	Bill Fenical
Jan 21	5	Jensen	Starting a marine biotech company	Ed Esquinazi (Sirenas)
Jan 23	6	Moore	Genomics	Todd Michael (JCVI)
Jan 28	7	Jensen	<i>Site visit</i> – Bioengineering solutions	John Trawick (Genomatica)
Jan 30	8	Jensen	Research at an undergraduate university	Katherine Maloney
Feb 4	9	Moore	<i>Site visit</i> – Biocatalysts and enzymes	Zachary Miles (BASF)
Feb 6	10	Moore	Harmful algal blooms and technology	Clarissa Anderson (SCCOOS)
Feb 11	11	Jensen	<i>Site visit</i> – NGS and beyond	Sigrid Katz (Illumina)
Feb 13	12	Jensen	Marizomib clinical development	TBA (Celgene)
Feb 18	13	Jensen	Environmental monitoring	John Griffith (SCCWRP)
Feb 20	14	Moore	Drug discovery and design	Mike Gilson (UCSD)
Feb 25	15	Bartlett	Deep sea biotechnology	Doug Bartlett (SIO)
Feb 27	16	Bartlett	Industrial relations & entrepreneurship	Gwen Nero (SIO)
Mar 3	17	Jensen	Molecular sensors	Kelly Goodwin (NOAA)
Mar 5	18	Moore	Case study in biosynthesis	Bradley Moore (SIO)
Mar 10	19	Moore	MS imaging of marine biology	Pieter Dorrestein (UCSD)
Mar 12	20	Moore	Microbiome innovations	Rob Knight (UCSD)

Finals weeks Mar 16-20

SIO242B is a graduate level course in marine biotechnology. It is designed to provide exposure to diverse aspects of industrial and academic biotechnology. Speakers will provide perspectives on their career development in addition to specifics about their field of research. The course aims to provide a broad perspective on career opportunities in biotechnology along with a practical understanding of what is involved in starting a biotechnology company. The course will include trips to a number of local biotechnology companies for practical exposure to their science and working environment. Each student will be required to develop a concept for a biotechnology start-up company and write an SBIR-style NIH grant application, which will be due the last week of class. The final exam will consist of 10-minute oral presentations describing the concepts behind each company.

Grading: attendance and participation in discussions (20%), SBIR/NIH application (50%), oral presentation (30%).

Title IX Statement

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