

Oceanography Seminar

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"Towards 4 Dimensional (Eco) Systems Biology in the

Seas are now providing deeper insights into the diversity of microbial taxa, genes, and metabolic diversity. A larger challenge remaining is defining the various processes on different spatial and temporal scales that to be better addressed include: How do activities vary over the course of minutes, hours, days and weeks? Over what scales are they coherently predictable? How does variation in microbial activity correspond to environmental variation, and how can robotic sampling strategies that capture transcriptomic and proteomic data from microbial populations, have potential to provide a foundation for understanding gene expression dynamics, that can begin to address these questions. Recent approaches show that individual coexisting eukaryotic species display remarkably similar, time-variable patterns of gene expression over extended periods of time. Furthermore these patterns are conserved in genetically related populations that span the Pacific Ocean. Specific environmental cues may elicit cross-species responses.

Thursday September 10, 2015, 3:30pm, MB 100B

These data are leading to specific, testable hypotheses about how matter and energy exchange may influence the