



Universidad de Concepción



AUSTRAL SUMMER INSTITUTE XIII (ASI XIII)

Department of Oceanography & COPAS Sur-Austral

University of Concepcion, Chile

Chemical and biological characteristics of the oceanic phosphorous cycle

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PROGRAM

Phosphorous is an essential nutrient for productivity in marine environments. Despite its importance, many marine ecosystems are limited by the availability of phosphorous. The course explored all aspects of phosphorous cycling in marine ecosystems. It began with an overview of the global phosphorus distribution and discussed the areas that are limited by phosphorous. Subsequently, the course examined the analytical techniques available for the determination of inorganic and organic phosphorus components. Particular attention was paid to the utilization of radioactive tracers for exploring the kinetics of phosphorous cycling. Novel advances which couple ^{33}P tracer experiments with single cell and molecular tools were discussed to examine the competition for phosphorous uptake between different groups of biological organisms. Finally, the course explored recently developed techniques in genomics to advance our insight into the biological cycling of this crucial element.

Open lecture: “The importance of species diversity for regulating biogeochemical fluxes: insights from the biological carbon pump”