FastTrack publication

Bull Mar Sci. 90(1):000–000. 2014
http://dx.doi.org/10.5343/bms.2013.1008

perspective

So, you want to use next-generation sequencing in marine systems? Insight from the Pan-Pacific Advanced Studies Institute

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Date Submitted: 17 January, 2013.
Date Accepted: 1 July, 2013.
Available Online: 10 January, 2014.

ABSTRACT.—The emerging field of next-generation sequencing (NGS) is rapidly expanding capabilities for cutting edge genomic research, with applications that can help meet marine conservation challenges of food security, biodiversity loss, and climate change. Navigating the use of these tools, however, is complex at best. Furthermore, applications of marine genomic questions are limited in developing nations where both marine biodiversity and threats to marine biodiversity are most concentrated. This is particularly true in Southeast Asia. The first Pan-Pacific Advanced Studies Institute (PacASI) entitled "Genomic Applications to Marine Science and Resource Management in Southeast Asia" was held in July 2012 in Dumaguete, Philippines, with the intent to draw together leading scientists from both sides of the Pacific Ocean to understand the potential of NGS in helping address the aforementioned challenges. Here we synthesize discussions held during the PacASI to provide perspectives and guidance to help scientists new to NGS choose among the variety of available advanced genomic methodologies specifically for marine science questions.

In July 2012, the first Pan-Pacific Advanced Studies Institute (PacASI), funded by the United States National Science Foundation, was held in Dumaguete, Philippines (http://sci.odu.edu/impa/pacasi/index.html). Entitled "Genomic Applications to Marine Science and Resource Management in Southeast Asia," the 2-wk workshop