

PacBio, HiFi Sequencing: See What You've Been Missing.
YOUTUBE (Nov. 2, 2021) – URL <https://www.youtube.com/watch?v=d2an7LXhPSU>
at 05:05-06:06
[00:02:02] / CS0457303

Speaker: First, I'd like to highlight the great work coming out of Dennis Lo's lab at The Chinese University of Hong Kong earlier this year. The team developed a methodology to directly examine 5-methy-c at the whole genome level using the kinetic information from real-time HiFi sequencing, without the need for bisulfite or enzymatic conversions. In the PNAS paper, Professor Lo et al. described the development of algorithms that leverage HiFi sequencing information from both DNA strands to improve the detection of 5-methyl-c. The paper describes its application to human whole genome sequencing and the benefits of characterizing the epigenome with long accurate reads. It allows epigenetic phasing and allelic differential methylation. So just like the phasing of genetic variants, the ability to detect the methylation status genome-wide with long HiFi reads also allows for long-range epigenetic phasing information.