## Synthetic Genomics Data Generation and Evaluation for the Use Case of Benchmarking Somatic Variant Calling Algorithms

Fragkouli Styliani-Christina<sup>1, 2</sup>, Pechlivanis Nikos<sup>1</sup>, Agathangelidis Andreas<sup>2</sup>, Psomopoulos Fotis<sup>1</sup>

<sup>1</sup>Institute of Applied Biosciences, Centre of Research and Technology Hellas, Thermi, 57001, Thessaloniki, Greece <sup>2</sup>Department of Biology, National and Kapodistrian University of Athens, Athens 10679, GR

## Synthetic «Gold Standard» Dataset Generation NEAT Highlights a individual barn files Generation of synthetic golden.bam golden.vcf.gz genomics data based on read1.fq.gz read2.fq.gz TP53 gene Define «Ground Truth» Truth.bam Merge bam files SNIPs and INDELs in order to benchmark 1.bam somatic variant callers Investigate the impact of x5000 coverage x500 coverage variant callers in variants at low frequencies











