Landscape of DNA and RNA Methylation





Christopher Mason, Ph.D.

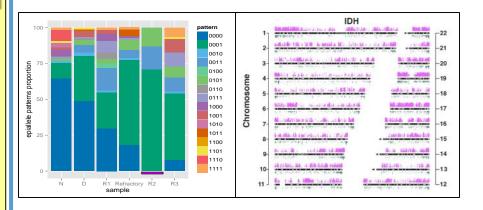


Francine Garrett-Bakelman, M.D. Ph.D.

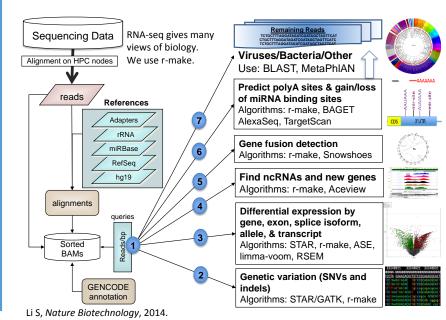
DNA to Reproduction DNA transcription RNA translation Protein

- #1 Genome-wide epigenetic profiles of DNA methylation changes
- #2 A comprehensive catalog of coding and noncoding, small and large RNA
 #3 – Transcriptome-wide maps of RNA methylation sites

<u>A in Epigenetics</u>: Loci, regions, and clones



<u>A in Transcriptome</u>: Genes, Isoform, Edits, Allele, SNVs, ncRNAs, Fusions, & Methylation



Implications of the Research for Space & Earth



Space: (1) Establish the genetic networks and expression patterns activated by space travel, (2) trace clonality of epigenetic changes, (3) examine the methylation of RNA



Earth: Aid research on aging, cancer, RNA biology, and circadian rhythm, all of which show differences at the (epi)genome & (epi)transcritpome