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Headline: Open-Source Data-Analysis Tools Shed Light on Systems Biology, Toxicology

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Computational biologists, bioinformaticians and data scientists pooled their knowledge and resources to explore new ways to approach large, complex datasets at Datathon, the inaugural sbv IMPROVER data hackathon, held in Singapore. According to Dr. Samik Ghosh, CTO of SBX Corporation in Tokyo, Japan, “The sbv IMPROVER Datathon has established an exciting new model for biological investigation whereby scientists can explore data and create verifiable research workflows that facilitate deeper understanding of biological processes. Ultimately, it allows us to turn Big Data into knowledge and insights.”

Data comprised a range of 'omics and functional measurements taken from a seven-month inhalation study of heated tobacco, supplemented with additional lung and blood DNA methylation data. Dr. Blaine Philips, study director, Philip Morris International, Singapore, said, “This large-scale study involved the assessment of classical toxicological end points together with additional transcriptomics, proteomics and lipidomics investigations. It has generated a substantial, rich and varied dataset and we are delighted that it has been investigated so thoroughly in the Datathon. The data set remains available for ongoing use and review by the scientific community.”

[sbv IMPROVER](#), a collaborative initiative led and funded by Philip Morris International, aims to develop a robust methodology for verifying scientific methods and results in the context of industrial and academic research. Based on the principles of crowd-sourcing and collaborative competition, the platform is facilitating enhanced dialogue within the scientific community, transparency of research processes and open innovation in scientific discovery.

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