# DNA HIVE Announces Major Award from Advanced Research Projects Agency for Health (ARPA-H) For Biomedical Data Fabric (BDF) Toolbox Development

*Rockville, MD — October 11, 2024 —* DNA HIVE has been awarded up to $8.6M from ARPA-H as part of their exciting BDF Toolbox program that strives to improve the connection of biomedical research data from thousands of sources and overcome obstacles created by incompatible data dialects.

In support of the BDF program, DNA HIVE proposed a Federated Ecosystem for Analytics and Standardization Technologies (FEAST) – an innovative data virtualization approach. FEAST enables location-agnostic, syntax-independent, security-guaranteed, semantically harmonized access to healthcare/biomedical data for AI-driven QA/QC, provenance, analyses, and visualization without the need to move data and without expensive alteration of existing ecosystems.

The project is led by DNA HIVE's Chief Scientist, Dr. Vahan Simonyan, as the overall principal investigator. The collaborative team includes a diverse group of colleagues from George Washington University, Weill Cornell Medical Center and New York Presbyterian Hospital system, Georgetown University, National Cancer Institute, Vanderbilt University Medical Center, European Bioinformatics Institute, and Kaiser Permanente.

*The Challenge*

The healthcare system in the United States is fragmented and there is a tremendous need to assess clinical/healthcare data quality and run analytical queries across different healthcare systems. Data fragmentation makes it very difficult to use data at scale with a consistent QA/QC or analytics approach. In addition, data and process harmonization across multiple institutions is challenging; and healthcare organizations are not strongly incentivized to conduct software, hardware, and data standardization.

*DNA HIVE Solution*

The solution offers two major innovations for digital healthcare ecosystems addressing current challenges. 1) Agnostic federation across multiple data sources allows DNA HIVE to move computations to data instead of moving data to computation; this avoids violation of regulations for data export while using all data. 2) Agnostic harmonization through self-standardizing protocols enables computers to handshake and find appropriate standard transformations as per need without prior need for expensive standardization efforts at sites.

“DNA HIVE is building FEAST as a foundational technology solution enabling the community to develop secure digital healthcare tools without the need to deal with a multitude of standards and complexity of multisource data retrieval protocols’’ said Dr Vahan Simonyan.

DNA HIVE plans to develop and roll out the platform with some critically important standardization, QC/QA, and analytic tools. Then, DNA HIVE intends to release APIs for public use. ‘’We envision a multitude of healthcare data scientists, bioinformaticians, and

clinicians developing new queries and algorithms using these APIs and building data warehouses that will enable federated research'' commented one of the co-principal investigators Professor Art Sedrakyan from Weill Cornell Medical college.

DNA HIVE expects that the use and funding from ARPA-H will create trust and pave the road for this novel platform sustainability so that data can be used for many clinical and research purposes. ''Reusability of the data will create benefits for academic and industry partners for target discovery, preclinical research, clinical and post-market studies, patient engagement, and technology development'' said Professor Raja Mazumder, and other co-principal investigator from George Washington University and one of the original developers of HIVE technology along with Dr. Vahan Simonyan.

DNA HIVE expects to have end-users such as clinicians, healthcare administrators, and program managers run fit-for-purpose tools developed by HIVE and other ARPA-H Application developers. ''This platform will allow researchers to leverage the tools to use EHR data, genomics, images and other increasingly diverse data produced by health care system to make better, informed clinical decisions without risking privacy and without sacrificing the coherence and quality of inference,'' commented professor Michael Matheny from Vanderbilt university who is a co-investigator leading a major workstream within the project.

ARPA-H's support and scaling of the FEAST technological platform will have benefits far beyond its original vision. FEAST will harden on use-cases and expand the network to

clinical systems with federally supported clinical trials (NIH/NCI/etc.) and later to industry funded multicenter trial networks.

For more information, press only:

Dr. Vahan Simonyan, Chief Scientist, DNA HIVE

vahan.simonyan@dnahive.com

For more information on DNA HIVE:

http://www.dnahive.com/