Toyota Research Institute Commits $36 million in Funding Over the Next Four Years for Accelerated Materials Design and Discovery with University Partners

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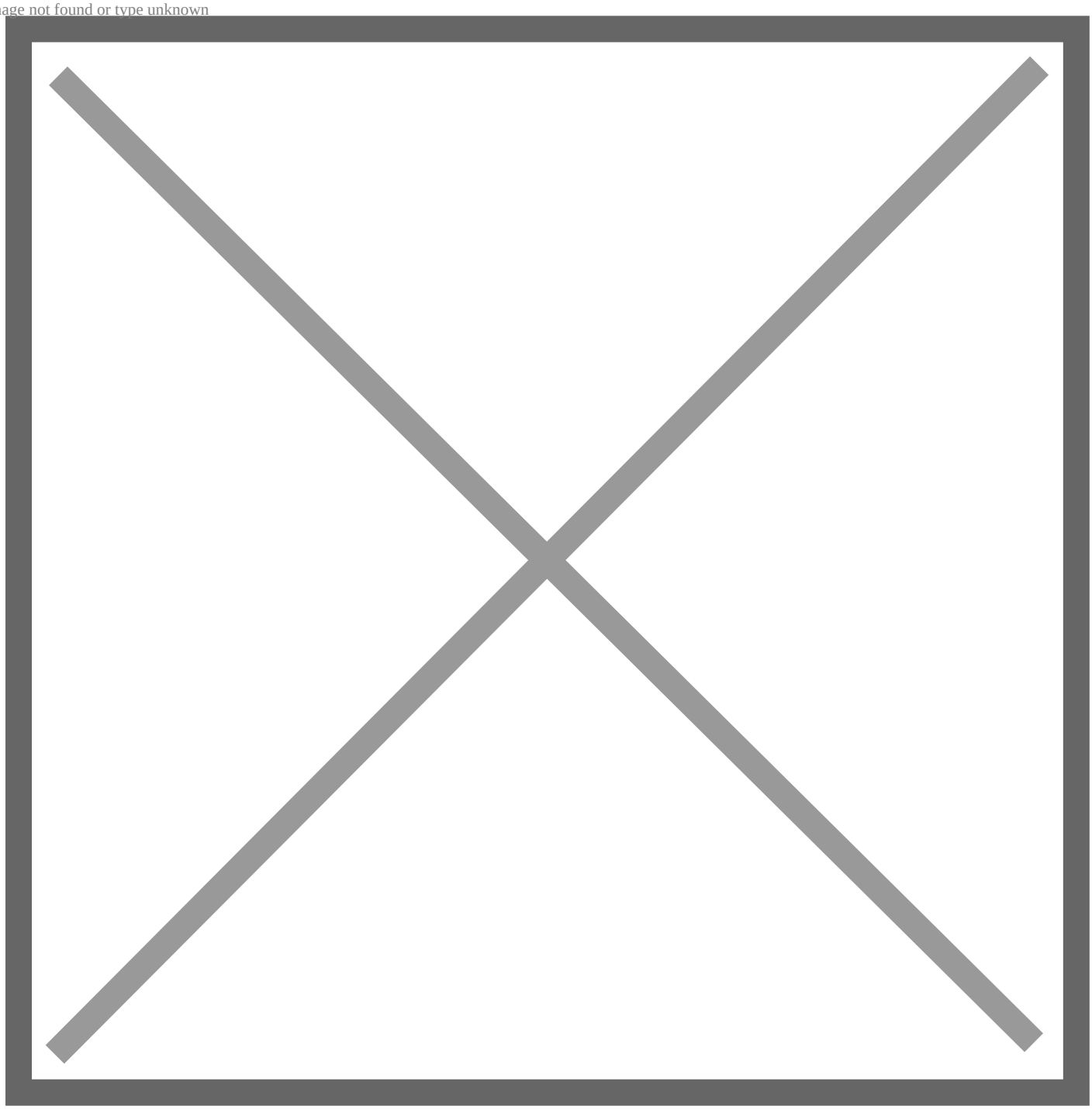

LOS ALTOS, Calif. (May 18, 2021) – Toyota Research Institute (TRI) announced today that it is committing another $36 million to its Accelerated Materials Design and Discovery (AMDD) collaborative university research program over the next four years. In early 2017, TRI announced the formation of AMDD and launched the program with the mission of using AI to find new materials for emissions free mobility. The total scope of the initial investment was $35M over four years with multiple university partners. Today's news builds on that initial investment with new funding and closer collaboration with program partners.

"Our focus on collaboration is what makes our research program unique. Rather than acting strictly as a funding source, TRI has formed deep collaborations with researchers which have led to joint publications as well as co-developed open-source data and software," said Brian Storey, Director of TRI's AMDD program. "This

collaborative approach is critical to accelerate the development of new materials for battery and fuel cell vehicles as no single entity can do this alone."

Over the last four years, TRI's AMDD program has published over 150 academic papers that have advanced our understanding of the battery and fuel cell materials that are critical to reaching a carbon neutral future. Key research topics for the program include accelerating the testing of battery lifetime, developing methods for the AI-driven discovery of new fuel cell materials, creating a novel robotic platform for rapid design of new polymer formulations for batteries, and launching autonomous systems that can discover materials in simulation with no human intervention. In addition to publications, the research program has led to multiple open source software packages and some of the largest open data sets for batteries.

Over the next four years, TRI will focus more strongly on creating new research tools, methodologies, and capabilities to accelerate the commercialization of these advanced materials. The participating institutions, include:

- California Institute of Technology,
- Carnegie Mellon University,
- Cornell University,
- Fraunhofer Institute for Solar Energy Systems
- Georgia Institute of Technology,
- Lawrence Berkeley National Laboratory,
- Massachusetts Institute of Technology (MIT),
- Northwestern University,
- SLAC National Accelerator Lab,
- Stanford University, and
- University of Michigan.

"We're working with TRI to bring together polymer synthesis, rapid robotic experiments, molecular simulation, and AI to establish new design rules for polymers," said MIT professor Yang Shao-Horn. "Working with TRI has enabled us to bring together several different disciplines within MIT for a common mission of designing materials for next generation batteries."

"We are eager and excited to work with the world-class TRI team to explore how machine learning can be used with high-quality big data sets to explore the materials genome as it pertains to catalyst development – we are on the cusp of something big!" said Professor Chad Mirkin from Northwestern University.

Learn more about TRI's AMDD work on Medium.