Toyota's Collaborative Safety Research Center to Study Societal Acceptance of Connected and Automated Vehicle Technologies

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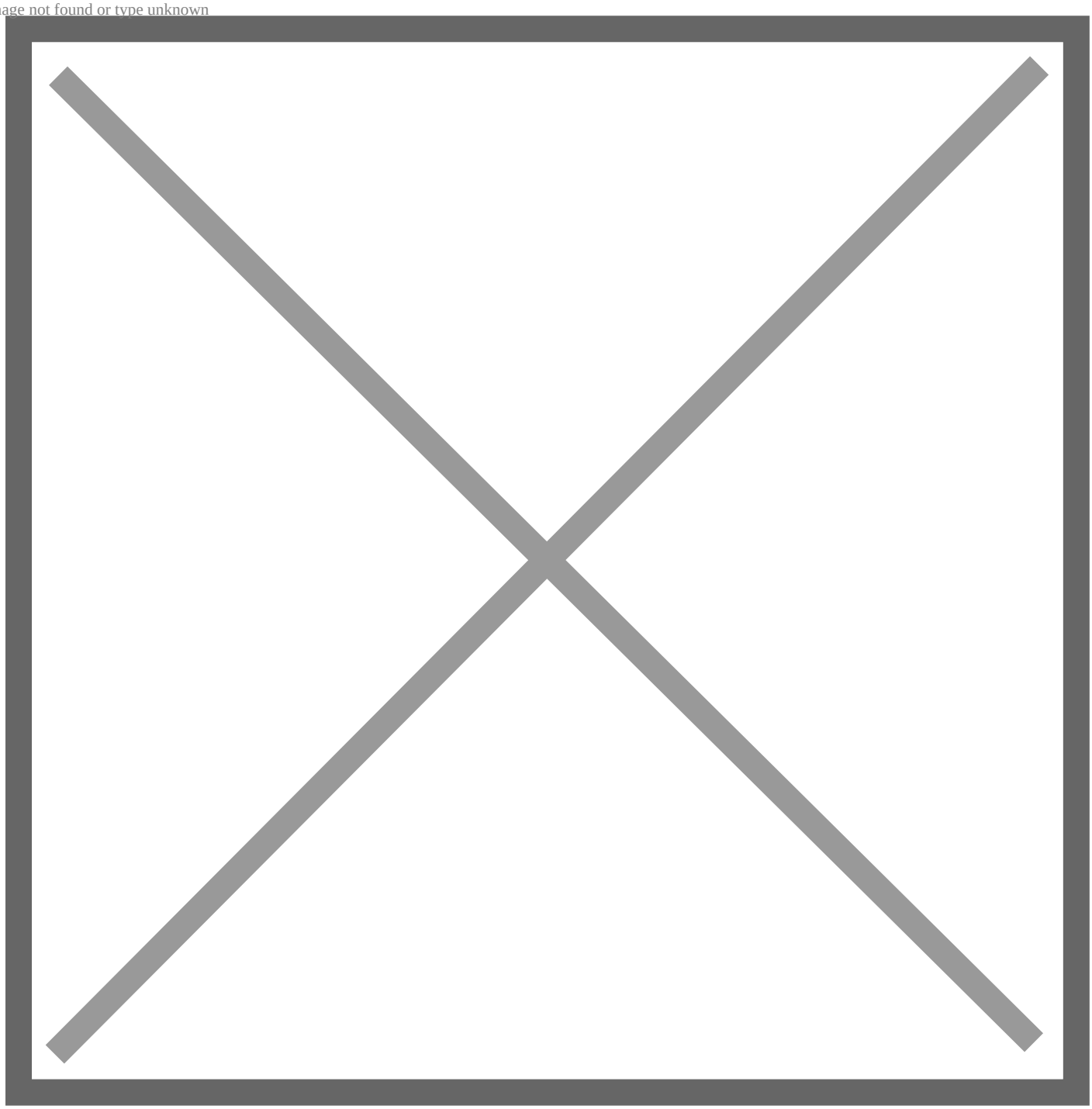

ANN ARBOR, Mich. (Nov. 15, 2017) – Toyota's Collaborative Safety Research Center (CSRC) today announced five new research projects focused on better understanding how drivers use and respond to advanced vehicle technologies, including automated driver assistance systems. The new projects, undertaken in partnership with five U.S. research institutions, will launch as part of CSRC Next, the Center's new five-year program designed to support and inform a safe transition to future mobility.

Emerging vehicle technologies, including automated driver assistance systems, offer tremendous promise to help improve road safety, but important questions remain about the most beneficial interaction with drivers, and how drivers can be educated about their safe operation. Four of the five research projects will focus on societal acceptance and generate data-driven insights into the use of these technologies. This data can help support their effective integration, foster safer driving behaviors, and offer potential countermeasures to risky driving behavior.

"The development of advanced vehicle technologies may be progressing faster than the ability of some people to fully understand their capabilities, and it's important to identify how drivers actually understand and use these emerging systems," said Chuck Gulash, director of CSRC. "By working with our partner institutions, and openly sharing our insights with the broader automotive, government, NGO, and technology communities, we believe we can help progress society's acceptance of these new and promising technologies."

The five research projects will launch in partnership with George Mason University, Rockville Institute, University of Washington, University of Michigan Transportation Research Institute, and San Francisco State University. Data from each project will be shared across the institutions to help speed research, with the results made public to support the advancement of auto safety industrywide.

Launched in May 2017, CSRC Next builds upon the insights gained from the CSRC's first five years to direct $35 million towards safety research into advanced vehicle technologies. CSRC Next also supports ongoing research programs at the Toyota Research Institute (TRI) and Toyota Connected (TC) to help accelerate the development of automated and connected driving technologies and services.

Since its launch in 2011, CSRC has initiated 60 research projects with 26 partner universities, publishing more than 200 papers and presenting at multiple industry conferences. CSRC projects have made meaningful contributions to auto safety industrywide, including research into human factors on vehicle safety and the efficacy of active and passive safety systems, as well as the collection of driving safety data and development of new tools to analyze that data.

The new CSRC Next research projects include:

Project Title	Description
A Neuroergonomic Evaluation of Mental Model Development of Future Automated Driving Technologies	This project is aimed at objectively determining (through neuroergonomic methods) how different factors impact mental model development and evoluti advanced safety technologies.

A Naturalistic Driving Evaluation of Mental Model Development of Future Automated Driving Technologies	This project will develop a taxonomy of mental model development of automo safety technologies by determining in a naturalistic driving setting how users develop and maintain mental models as AV safety technologies are integrated the vehicle.
Effectiveness of Short and Long Term Education Methods to Enhance Risk Mitigation and Associated Safety-Related Driving Skills	The aim of the project is to develop analytical models that can capture and ide changes in driver performance that are indicative of risk mitigation behavior a assess the effectiveness of candidate behavioral countermeasures aimed at cur future risk.
Guidelines for Development of Evidenced-Based Countermeasures for Risky Driving	The overall project objective is to create a set of guidelines that can be used to inform the development of risky driving countermeasures that are evidence-ba guided by theory, and lead to sustained behavioral change. This will be done identifying the underlying constructs of current, and future, risky driving beha identifying driver attributes that contribute to the performance of these risky behaviors, and finally, ascertaining the behavior change theories that are most likely to create lasting change.
Effective Stimuli and Behavior for Driving Safety in Automated Driving	This project provides a proof of concept that appropriate behaviors toward perceived risks can be generated automatically and effortlessly after a short fo training that links stimuli to adaptive behavioral dispositions.