

# Automotive and autonomous vehicles

## A hub for autonomous vehicle research

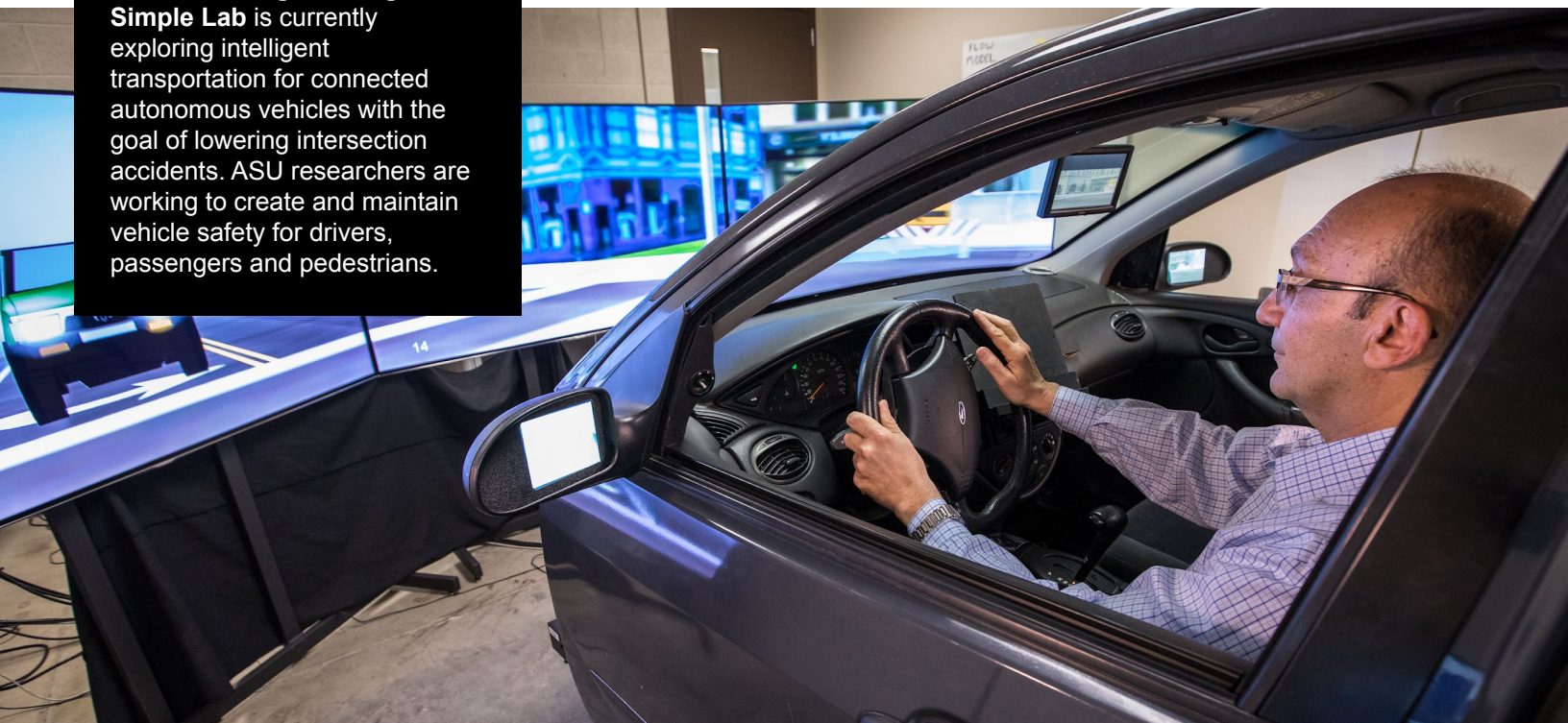
Phoenix has become a hub for autonomous vehicle research — more than ten companies (including Waymo, General Motors and Toyota) are engaged in autonomous vehicle research and development. At the ASU Ira A. Fulton Schools of Engineering students are immersed into the world of autonomous technology and operations.

### The ASU advantage

With over 10 companies currently developing autonomous vehicles in the Phoenix/Tempe area, Arizona State University is immersed in this developing innovation. ASU has access to resources and facilities that allow for in-depth, meaningful research projects that aid in the creation of autonomous vehicles.

The **Make Programming Simple Lab** is currently exploring intelligent transportation for connected autonomous vehicles with the goal of lowering intersection accidents. ASU researchers are working to create and maintain vehicle safety for drivers, passengers and pedestrians.

- The engineering program with a concentration in **automotive systems** builds the skills and knowledge necessary for vehicle design and testing. The curriculum focuses on automotive engineering fundamentals, including powertrain engineering in chassis system design as well as hands-on projects that involve designing, analyzing and building actual automotive systems.
- The aerospace engineering program with a concentration in **autonomous vehicles and systems** prepares graduates with exposure to the engineering of autonomous aircraft plus track courses in guidance, navigation and control, and communication.
- The **Master of Science in Robotics and Autonomous Systems** provides students with in-depth theoretical knowledge along with practical experience in the development and control of robotic platforms and autonomous systems. Concentrations include robotics, artificial intelligence, autonomy, control systems, machine learning, human-machine interaction and other fields of study in order to develop the next generation of intelligent robots.



# ASU is a founding member of The Institute of Automated Mobility

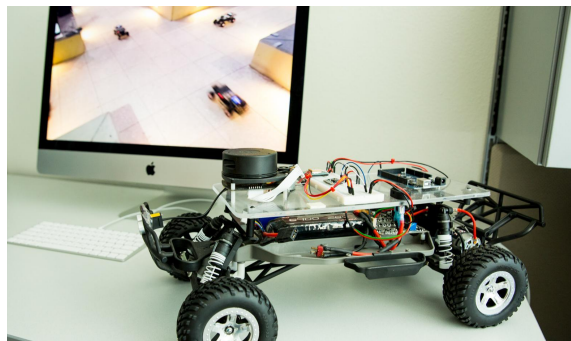
Ranked **No. 3** in number of engineering technology degrees awarded to women

## Featured research and initiatives

- Sponsored by Intel, the **Autonomous Vehicle Initiative** at ASU has helped activate university-wide collaborations across various schools for defining and developing the next generation of safe and efficient autonomous vehicles (AVs). Investigators translate technology, training and workforce development into legal policies and public safety standards.
- Outcomes from the research on **intelligent transportation for connected autonomous vehicles** include Crossroads, a time-sensitive autonomous intersection management technique as well as R2IM, robust and resilient intersection management for connected autonomous vehicles.
- The **Center for Teaching Old Models New Tricks (TOMNET)** is a research team engaged in creating and testing innovative and practical approaches to overcoming transportation challenges including attitudes towards emerging mobility options and technologies like autonomous vehicles.

## Professional organizations

- Led by the Arizona Commerce Authority, the **Institute of Automated Mobility (IAM)** combines the brightest minds from the three Arizona public universities, innovative government leaders and global industry leaders in collaboration on state-of-the-art research and testing. Members collaborate to drive development of automated mobility in Arizona and beyond.
- **The Society of Automotive Engineers (SAE International)** gives students the opportunity to join the Sun Devil Motorsports team, a multidisciplinary group creating Formula style race cars. Students conceive, design, fabricate and develop a prototype formula-style vehicle that can be purchased in competition with engineers from other universities around the world.
- **Underwater Robotics at Arizona State** is a student-led organization that builds custom unmanned submersible robots. Students pride themselves on learning about engineering through hands-on work with real world systems.



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