

An Open Letter of Invitation to Participate in the Intelligent Ground Vehicle Competition (IGVC)

To: Engineering Deans, Department Chairs, and Faculty

From: Charles Reinholtz, Professor Emeritus, Embry-Riddle Aeronautical University

Date: June 17, 2025

Message Summary: By participating in the IGVC, your institution can cultivate outstanding students and faculty while growing your research enterprise.

Dear Colleagues,

There are many outstanding collegiate competitions that provide experiential learning opportunities for students. The Intelligent Ground Vehicle Competition (IGVC) is among the best. But unlike many others, IGVC prepares students for both industry careers and graduate-level research in robotics, mechatronics, and artificial intelligence.

I know this from experience. Over the years, students I mentored through IGVC have become my best graduate student researchers. They have co-authored journal papers, helped to secure externally funded grants and contracts, generated intellectual property, and co-founded and run successful companies.

30 Years of IGVC Involvement

Over the past three decades, I've had the privilege of participating in IGVC in multiple roles and at two institutions. As a professor at Virginia Tech and later at Embry-Riddle Aeronautical University, I mentored dozens of student teams that competed in the IGVC and sometimes even stood on the winners' podium. But the value of the IGVC to students, to me and to my academic institutions went far beyond trophies and prize money. IGVC helped us build a robust robotics research program. It gave us direct connections to government funding agencies, including DARPA, the Army Research Office, the Office of Naval Research, and others. It also led to industrial research funding and dozens of peer-reviewed publications.

Participation in the IGVC inherently requires multi-disciplinary skills, effective communication, and an understanding of the broader impact of engineering solutions. This makes it an ideal project for meeting many of the objectives and outcomes required for accreditation. IGVC is an international, interdisciplinary competition that challenges students to design, build, and operate intelligent autonomous ground vehicles. It inherently integrates skills in:

Electro-mechanical (mechatronic) design
Perception and decision making
Computer vision, Lidar, GPS, IMUs
Safety and cybersecurity
Control systems and real-time processing

Artificial intelligence and machine learning
System integration
System analysis and simulation
Testing and experimentation
Written and oral communication



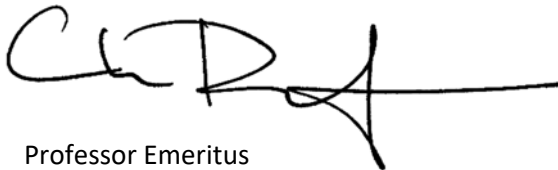
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Though global in reach, IGVC has remained proudly U.S.-based at in Rochester, Michigan since its founding in 1993. Competition sponsors include the nearby Army Ground Vehicle Systems Center, Magna, Hyundai Mobis, National Defense Industrial Association, AUVSI and many others. These organizations recruit talent at IGVC and also seek collaborative research opportunities with participating universities.

I encourage you to consider integrating IGVC into your engineering curriculum — whether through senior design projects, specialized robotics courses, or student-led clubs. The 33rd Annual IGVC will take place May 29 – June 1, 2026. Please consider joining this vibrant, forward-thinking community of educators and students working at the intersection of autonomy, innovation, and systems engineering.

If you have questions, feel free to contact me directly, or reach out to IGVC Co-Chair and Founder Jerry Lane at GERALD.LANE50@gmail.com. Additional IGVC information can be found at www.IGVC.org or the On-site program updated throughout the year at <http://www.gl-systems-technology.net/index.html> or scan the QR code below.

With respect and enthusiasm,
Charles Reinholtz



Professor Emeritus
Embry-Riddle Aeronautical University
reinholc@erau.edu



IGVC QR Code

