2026 VIPR-GS Research Center
Annual Review Agenda
Clemson University – Clemson, South Carolina

Optional Daytime Activity: Tuesday, March 3rd
Half-Day Site Tour & Faculty Engagement at CU-ICAR

11:00 AM – until…

Site Tour & Faculty Engagement *TD Gallery, Innovation Place building, CU-ICAR*

Dr. Robert Prucka, Director, Virtual Prototyping of Ground Systems Center
Dr. Pamela Murray-Tuite, Deputy Director, VIPR-GS
R. Jeffrey Linden, Managing Director, VIPR-GS

Prior to the formal VIPR-GS annual review sessions, attendees are invited to participate in an informal half-day tour of key CU-ICAR facilities, including the VIPR-GS Program Headquarters, Deep Orange vehicle integration labs, and select Automotive Engineering research laboratories. The tour will showcase active research efforts and provide direct insight into program infrastructure, student engagement, and industry-aligned innovation. Targeted faculty discussions will be coordinated in parallel or upon request, enabling sponsors and stakeholders to engage one-on-one with principal investigators on specific technical roadmaps, collaboration opportunities, or workforce development pipelines.

Participation is optional but encouraged to gain a comprehensive understanding of the VIPR-GS program's impact. Box lunches will be provided for registered participants.

Evening Welcome Activity: Tuesday, March 3rd
Fueling Partnerships: A VIPR-GS Innovation Social – Holcombe Room, Nieri Family Alumni and Visitors Center

6:00 PM – 9:30 PM

Fueling Partnerships: A VIPR-GS Innovation Social
Holcombe Room, Nieri Family Alumni and Visitors Center

Dr. Robert Prucka, *Director, Virtual Prototyping of Ground Systems Center*

On the eve of the VIPR-GS Annual Review, this signature reception celebrates the industry-academia partnerships and breakthrough innovations that define the VIPR-GS program. Designed for early-arriving Annual Review participants, the event offers a relaxed, high-energy setting to forge connections, exchange insights, and preview the next generation of VIPR-GS research.

Guests will enjoy curated heavy hors d'oeuvres showcasing South Carolina flavors, as well as an open bar featuring local craft beers and signature cocktails.

Attendees will have the opportunity to engage directly with VIPR-GS faculty and senior government and industry partners in an informal atmosphere conducive to strategic dialogue, talent pipeline discussions, and collaborative ideation.

We invite you to join us as we recognize the collective ingenuity and investment that propel VIPR-GS toward a digital, sustainable, and autonomous mobility future.

2026 VIPR-GS Research Center Annual Review Agenda

Clemson University – Clemson, South Carolina

DAY 1 Morning: Wednesday, March 4th
Clemson University Madren Conference Center

8:00 AM – 8:30 AM	**Continental Breakfast / Networking**	*Grand Hallway*
8:30 AM – 9:00 AM	**Welcome / VIPR Research Center Update** **Angie Leidinger**, Senior Vice President of External Affairs, Senior Advisor to the Board of Trustees **Dr. Robert Prucka**, Director, Virtual Prototyping of Ground Systems Center **Dr. Pamela Murray-Tuite**, Deputy Director, VIPR-GS	*Grand Ballroom*
9:00 AM – 9:45 AM	**Keynote — Government** **Dr. David Gorsich** The US Army's Chief Scientist for Ground Vehicle Systems	*Grand Ballroom*
9:45 AM – 10:00 AM	**Networking Break**	*Grand Hallway / North Lobby*
10:00 AM – 12:00 PM	**Concurrent Research Project Presentations**	

Autonomy **Dr. Yunyi Jia**, session chair *Auditorium*	**Power and Smart Energy** **Dr. Beshah Ayalew**, session chair *Junior Ballroom*	**Cybersecurity** **Dr. Mert Pese**, session chair *Meeting Room 3*
1.24.21 – Data-Driven Deep Koopman Control-Oriented Learning Framework for Improved Autonomous Off-Road Mobility • Dr. Umesh Vaidya	2.23.10 – High Power Density Engines and Propulsion Systems • Dr. Benjamin Lawler	1.23.10 – Monitoring and Maintaining Trustworthy Networked Autonomy in a Zero-Trust Environment • Dr. Fatemeh Afghah
1.24.16 – Virtual Prototyping and Physical Validation of Extreme Terrain Traversibility for Off-Road Vehicles via Autonomy and AI • Dr. Ardalan Vahidi	2.23.11 – Passive Battery Pack-Level Thermal Management and Energy Hybridization for Operation in -40 to 70 °C range • Dr. Ramakrishna Podila	1.24.17 – Anomaly Detection for Resilient Autonomy-Enabled Vehicle Systems • Dr. Abolfazl Razi
1.23.13 – PRECOgniTION: PRobabilistic prEdiction from CONtext determination • Dr. Matthias Schmid	2.23.12 – Physics Guided Discovery of Electrolytes for Low-Temperature Batteries • Dr. Apparao Rao	1.24.19 – Securing Autonomous Vehicle Perception Under Adversarial Settings in Off-Road Scenarios • Dr. Mert Pese

12:00 PM – 1:10 PM	**LUNCH**	*Grand Ballroom*

2026 VIPR-GS Research Center Annual Review Agenda

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DAY 1 Afternoon: Wednesday, March 4th
Clemson University Madren Conference Center

1:10 PM – 1:55 PM	**Keynote — From Algorithms to Capability: Building High-Performance Off-Road Autonomy** **Dr. Qilun Zhu**, Research Associate Professor, Automotive Engineering	*Grand Ballroom*
1:55 PM – 2:10 PM	**Networking Break**	*Grand Hallway / North Lobby*
2:10 PM – 3:30 PM	**Concurrent Research Project Presentations**	

Autonomy **Dr. Yunyi Jia**, session chair *Auditorium*	**Power and Smart Energy** **Dr. Beshah Ayalew**, session chair *Junior Ballroom*	**Digital Engineering** **Dr. Greg Mocko**, session chair *Meeting Room 3*
1.23.15 – Virtual Sensor Reconstruction for Off-Road Autonomous Vehicle • Dr. Feng Luo • Dr. Venkat Krovi	2.23.13 – Optimal Thermal Management Strategies for Off-Road Hybrid Electric Autonomous Vehicles in Extreme Ambient Conditions • Dr. Robert Prucka	3.23.12 – Online Surrogate Optimization of the Tradespace • Dr. Margaret Wiecek
1.24.20 – HyperVision: Hyperspectral and Cooperative Vision for Off-Road Autonomous Fleets • Dr. Bing Li	2.23.14 – Laser 3D Printing of Highly Compact Mobile Protonic Ceramic Fuel Cell System for Vehicle Power Supply • Dr. Joshua Tong	3.23.13 – Leveraging Emerging Natural User Interface Technology to Support Optimal Soldier-Vehicle Interaction in Next-Generation Autonomous Vehicles • Dr. Dustin Souders

3:30 PM – 3:45 PM	**Networking Break**	*Grand Hallway / North Lobby*

Autonomy **Dr. Yunyi Jia**, session chair *Auditorium*	**Power and Smart Energy** **Dr. Beshah Ayalew**, session chair *Junior Ballroom*	**Cybersecurity** **Dr. Mert Pese**, session chair *Meeting Room 3*
1.24.18 – Learning from Games: Decentralized Control for Autonomous Heterogeneous Multi-Agent Teams • Dr. Matthias Schmid	2.24.17 – Design, Prototyping, and Digital-Scaling of Inherently-Safe High-Temperature Battery Modules • Dr. Apparao Rao	1.23.12 – Standardized modular secure firmware update framework for military vehicles • Dr. Mert Pese

4:25 PM – 7:30 PM	**VIPR EXPO** Networking Reception (including heavy hors d'oeuvres) • Student Poster Session	*Owens Pavilion*

DAY 2 Morning: Thursday, March 5th
Clemson University Madren Conference Center

7:30 AM – 8:30 AM	**Breakfast**	*Grand Hallway*
8:20 AM – 8:30 AM	**Opening Remarks** **Dr. Robert Prucka**, Director, Center for Virtual Prototyping of Ground Systems	*Grand Ballroom*
8:30 AM – 9:30 AM	**Panel Discussion — Advancing Digital Engineering in the U.S. Department of Defense** **Dr. Greg Mocko**, Digital Engineering Focus Area Lead, Center for Virtual Prototyping of Ground Systems	*Grand Ballroom*
9:30 AM – 9:45 AM	**Networking Break**	*Grand Hallway / North Lobby*
9:45 AM – 11:05 AM	**Concurrent Research Project Presentations**	

Autonomy **Dr. Yunyi Jia**, session chair *Auditorium*	**Power and Smart Energy** **Dr. Beshah Ayalew**, session chair *Junior Ballroom*	**Digital Engineering** **Dr. Greg Mocko**, session chair *Meeting Room 3*
1.23.11 – VANTAGE: Vehicular Aerial Navigation of Tethered Autonomous Ground Systems Dr. Matthias Schmid	2.24.15 – Control and Evaluation of a Novel Power Split Hybrid Layout for High-Speed Tracked Vehicles • Dr. Qilun Zhu	3.24.14 – Deep Orange 16: An Optionally Manned Off-Road Research and Demonstration Platform for Forward-Looking Vehicle Control Algorithms • Dr. Robert Prucka
1.23.14 – SCSU – Data Collection Obstacle Detection Analysis for Autonomy-Enabled Ground Vehicle Navigation • Dr. Judith Mwakalonge	2.24.16 – AI-Based Universal and Adaptive Battery Management Algorithms • Dr. Beshah Ayalew	3.24.15 – Tradespace Exploration for Multiple Collaborative Vehicles Using Digital Strategies • Dr. John Wagner

11:05 AM – 11:20 AM	**Networking Break**	*Grand Hallway / North Lobby*
11:20 AM – 12:20 PM	**Focus Area Roundtable Discussions and Session Wrap-up** These sessions are organized around the program's key strategic focus areas and are designed to foster forward-looking dialogue among government technical experts, industry sponsors, faculty, and graduate researchers. Facilitated discussions will explore emerging challenges, align priorities for the research roadmap, and identify high-impact opportunities for collaboration and technology transition. Each session will conclude with a brief wrap-up summarizing key insights, proposed actions, and alignment points to inform next steps prior to adjournment.	

Autonomy **Dr. Yunyi Jia**, session chair *Auditorium*	**Power and Smart Energy** **Dr. Beshah Ayalew**, session chair *Junior Ballroom*	**Digital Engineering** **Dr. Greg Mocko**, session chair *Meeting Room 3*

12:20 PM – 1:20 PM	**LUNCH**	*Grand Ballroom*

DAY 2 Afternoon: Thursday, March 5th Clemson University Madren Conference Center		
12:20 PM – 1:20 PM	**Closed Review Session** (time extended as needed) Academic Review Board	*Board Room*
1:20 PM – 2:45 PM	**Academic Review Board Feedback and Wrap-up** GVSC Leadership, VIPR-GS Leadership	*Meeting Room 3*