



VIP Innovation Competition participants

## Current VIP Teams [www.vip.gatech.edu](http://www.vip.gatech.edu)

- 21st Century Humanities
- 2D Heterostructure Synthesis
- Academic Resilience
- Active Safety for Autonomous & Semi-Autonomous Vehicles
- Advanced Graphene Battery Technology
- Agile Communication Architectures
- AquaBots
- Augmented Reality Experiences
- Automated Alogrithm Design
- Automotive LIDAR
- Bee-Snap
- Big Data & Quantum Mechanics
- BioBots
- Bio-inspired Network Dynamics & Geo-mechanics
- Brain Trauma Assessment Protocols
- ChemFlow
- Chip Scale Power & Energy
- Civic Design
- Collaborative Air, Sea, & Underwater Autonomous Vehicles
- Concussion Connect
- Configurable Computing & Embedded Systems
- Curiosity-driven Frugal Science
- Data-Driven Education
- Digital Deliberation
- EcoCAR
- Embedded System Cyber Security
- EnerCage
- Engineering for Smart Cities
- Engineering for Social Innovation
- Evolutionary Mechanics
- Exploratory Robotics
- Future Technology for Sports
- Gravitational Wave Astrophysics
- GT Mobile STEM Lab
- GT Motorsports
- GT Off-Road
- GT Solar Racing
- GT USLI Rocket
- GTRI Agricultural Robotics
- Hands-on Learning
- Health Informatics on FHIR
- HumaniTech
- Humor Genome
- Intelligent Digital Communication
- Intelligent Platform for Crowdsourcing
- Intelligent Transportation Systems
- Intelligent Tutoring Systems
- IoT in Health
- Lightning from the Edge of Space
- Living Dynamical Systems
- M.A.R.S.
- Patagonia
- Retrofuturistic Hardware
- RoboSense
- Robotic Human Augmentation
- Robotic Musicianship
- Secure Hardware
- Smart and Connected Bioelectronics
- Smart City Infrastructure
- Smart^3 Makerspaces
- Stadium-IoPT
- STEMcomm
- Subsurface Energy
- TerraBots

## New VIP Faculty Overview

### Vertically Integrated Projects



Real-World Challenges

Expertise within Field

Professional Skills

Multidisciplinary Experience

"You see **real growth**

in many aspects of the students' **professional demeanor**

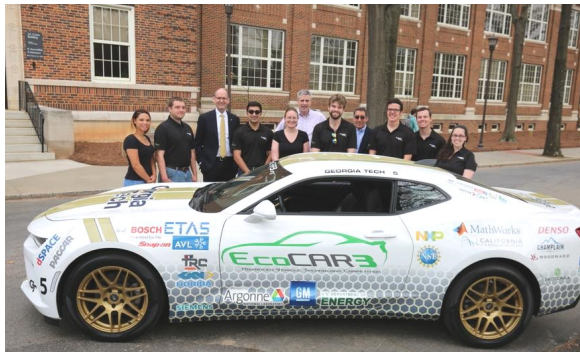
along with their ability to

**teach themselves**

how to learn whatever they need to

**move the project along."**

*Professor James McClellan  
Electrical & Computer Engineering*



VIP EcoCAR Team

## The VIP Model

VIP Faculty lead student teams in large-scale, long-term, multidisciplinary projects embedded in their research/innovation efforts.

### Multidisciplinary

Faculty choose majors of interest, and VIP handles student recruiting.

### Long-term

Projects last 3-5 years and usually evolve with the instructor's research. Students can participate multiple semesters, but the project outlasts any single student.

### Large-scale

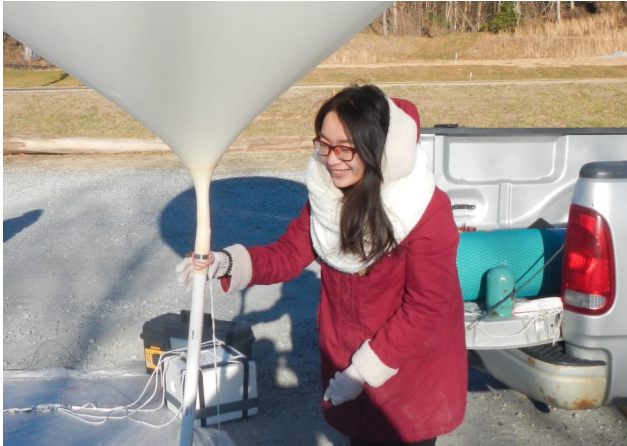
10-20 students/team.

### Meet weekly

Instructors choose the day/time and location.

### Returning students lighten the load

Returning students help onboard new students and take on additional responsibilities, decreasing instructor time spent on lower-level issues.



VIP student from "Lightning from the Edge of Space" team releasing a weather balloon.

## Support and Services

### Program Support

- ⇒ Instructor start-up workshops with the Center for Teaching and Learning (CTL)
- ⇒ Student recruiting:
  - Online team listings & email campaigns
  - Poster Session
- ⇒ VIP classrooms for team meetings and student use outside of scheduled classes

### Academic

- ⇒ Syllabus templates and framework for grading
- ⇒ Centrally administered peer evaluation

### Support for Proposals and Sponsorships

- ⇒ No overhead on team sponsorships
- ⇒ Letters of support for proposals
- ⇒ Results of educational research on VIP for use in proposals

**"The VIP program is remarkable. It provides a structure for addressing huge challenges in undergraduate and graduate learning...VIP teams require multidisciplinary approaches and they give students an opportunity to see results of their learning applied in real settings."**

*Professor Ellen Zegura  
Computer Science*

## What is the difference...

### ...between VIP and undergraduate research for credit/pay?

Both are great! Differences:

- ⇒ VIP involves peer mentoring. Stronger students bring less experienced students further along, in both technical and non-technical areas.
- ⇒ Like undergraduate research, faculty can pay VIP students if they choose.

### ... between VIP and PURA?

(Presidents Undergraduate Research Award)

VIP can be used for PURA!

- ⇒ PURA students are paid for doing research with a professor. To apply, students propose a project to the UROP Office with help from a professor.
- ⇒ Students can use their VIP work for PURA. In the semester they receive the award, they simply register for a PURA section of your VIP course.



VIP Poster Session - Fall 2018