“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

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Current VIP Teams  
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 Algorithm Design  
- Automotive LIDAR  
- Bee-Snap  
- Big Data & Quantum Mechanics  
- BioBots  
- Bio-inspired Network Dynamics & Geomechanics  
- 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  

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New VIP Faculty Overview

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Real-World Challenges

Expertise within Field

Professional Skills

Multidisciplinary Experience

www.vip.gatech.edu · vip@gatech.edu
**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.

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**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

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**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.

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“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

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

VIP Poster Session - Fall 2018