Vertically Integrated Projects (VIP)
ECE 27900, 37900, 47900
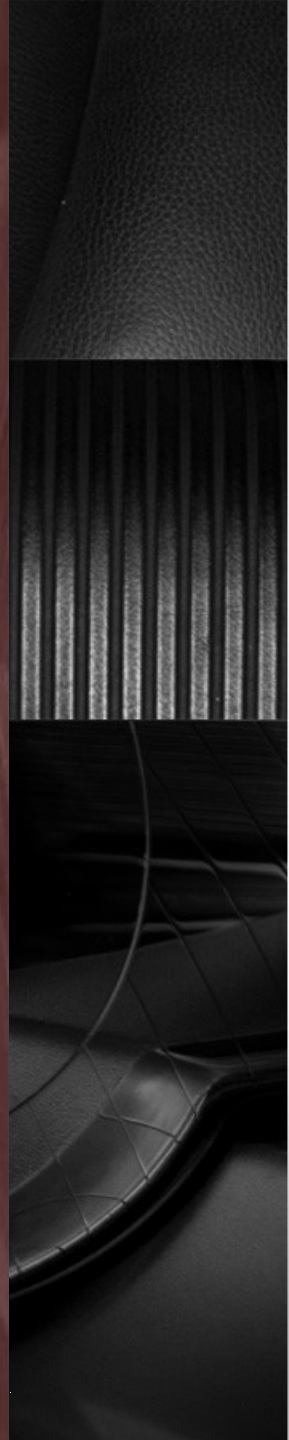# ENGR 29600, 39600, 49600

Introduction Session
Spring 2019

Prof. Carla Zoltowski
School of Electrical and Computer Engineering
Purdue University
January 9, 2019

Introductions

- VIP Leadership Team

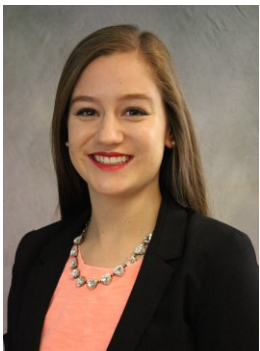Prof. Carla Zoltowski, Director

Prof. Jan Allebach

Prof. Yung-Hsiang Lu
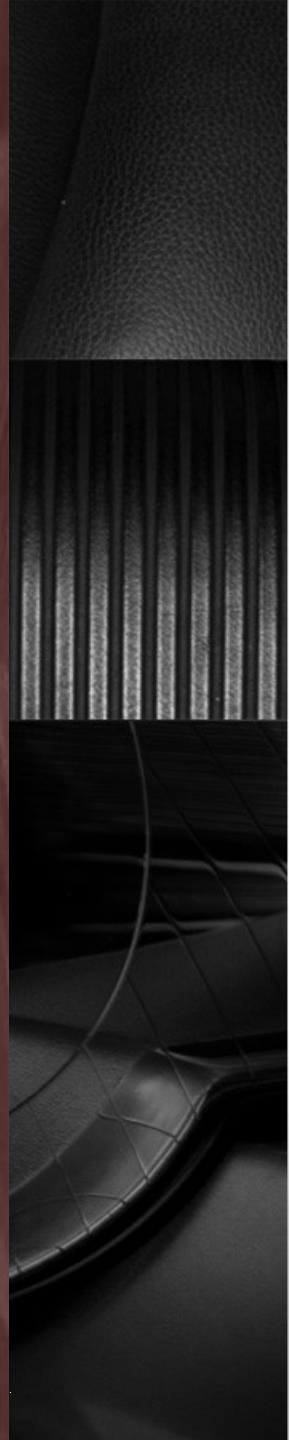
- VIP TAs

Emily Bartusiak

Zhi Li

Ryan Dailey

Baekdu Choi

What are the goals of VIP?

- Provide undergraduate students an opportunity to work one-on-one with a faculty member and/or graduate student mentor

- Give undergraduate students exposure to faculty member's research area

- Provide undergraduate students an opportunity to experience team-work
  - Collaboration
  - Mutual respect
  - Communication
  - Shared responsibility
  - Teaching each other
  - Leadership

- Allow undergraduate students to stretch their imagination and express their creativity
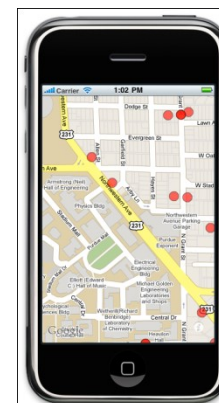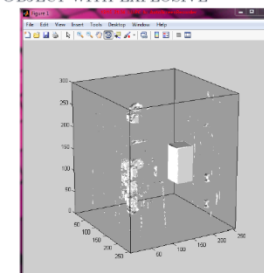
Typical elements of the VIP experience

- Weekly review meetings with the faculty advisor and/or graduate student mentor
- Weekly homework assignments to learn background for project during early part of semester
- Mixture of hardware and software experiences with real applications
- Each group gives a presentation on their project
  - What were the goals?
  - What did they accomplish?
  - How does it work?
  - What are the problems?
  - What do they plan to do next?
- Participation in the Undergraduate Research Conference
- Final project presentations and review

VIP Projects for Spring 2019

- ADEPT-m Device Characteristics
- ADEPT-m GUI Development
- Aerial Robotics
- AI-Based Automation in the Classroom (AAC) - Eligible for ECE Senior Design
- Autonomous Aerial Vehicle (AAV)
- Autonomous Land Vehicle (ALV)
- CATME2
- Continuous Analysis of Many CAMeras
- Data Analytics for Smart Cities
- Deep Reinforcement Learning based Optimal Control of Complex Systems
- Drone Video
- Earth History Visualization
- Earth Remote Sensing with Signals of Opportunity
- Efficient Transfer Machine Learning
- EMC / Signal Integrity
- Forest Inventory Analysis
- Imaging and Printing Solutions to Real-World Problems based on Image Processing
- Imaging Processing and Analysis (IPA) - Eligible for ECE Senior Design
- Indoor Positioning System
- SoCET - Eligible for ECE Senior Design
- Video Analytics for Understanding Human Behavior
- Visual and Data Analytics

Expectations

- Lectures:
  - Participate in activities/discussion
  - Not on laptop/phone unless the activity requires it
  - Bring laptop
  - Bring your iClicker (we have paper forms today, but will not in the future
- Team:
  - Your team advisor(s) will provide an "Expectations" document that will detail their expectations for the team
- Syllabus

Grading Criteria

Grade	Description
A	Overall, the student's accomplishments and effort, documentation, and teamwork and interactions are excellent. All of the seven (7) requirements have been satisfied.
B	Overall, the student's accomplishments and effort, documentation, and teamwork and interactions are good. Six (6) of the seven (7) requirements have been satisfied.
C	Overall, the student's accomplishments and effort, documentation, and teamwork and interactions are adequate. Five (5) of the seven (7) requirements have been satisfied.
D	Overall, the student's accomplishments and effort, documentation, and teamwork and interactions are marginal. More than two of the seven (7) requirements are missing.
F	Overall, the student's accomplishments and effort, documentation, and teamwork and interactions are unacceptable. More than three of the seven (7) requirements are missing.

Evaluation Criteria

Accomplishments and effort:
__ Quantity of project accomplishments
__ Quality of project accomplishments
__ Completion of team assignments
__ Initiative
__ Learning needed for the project
__ **Overall**

Documentation:
__ Individual documentation
__ Contributions to team documentation
__ Contributions to team poster
__ Use of appropriate tools (e.g., Git)
__ **Overall**

Teamwork and Interactions:
__ Team/sub-team meeting attendance (_/_)
__ On-time attendance
__ Team/sub-team meeting participation
__ Contributes useful ideas
__ Recognizes others' ideas
__ Focuses effort on achieving goals
__ Involves others in efforts
__ Assists others with their efforts
__ Manages time and tasks well
__ Leadership skills
__ Written communication skills
__ Oral communication skills
__ PD participation/attendance (__/10)
__ **Overall**

Seven (7) Requirements

1. Maintain a design notebook (individual documentation), either paper or electronic as required by your advisor

2. Contribute as appropriate to project documentation

3. Complete mid-semester individual performance evaluation by Monday, February 18th at 5 pm in Blackboard.

4. Complete final individual performance evaluation by Friday, April 26th at 5 pm in Blackboard.

Continued

Seven (7) Requirements, continued

5. Complete mid-semester (due Monday, February 18th at 5 pm) and final peer evaluation of team members (due Friday, April 26th at 5 pm)

6. Complete final Purdue course evaluation and submit screen shot of completion to Blackboard (due April 26th at 5 pm).

7. Participate in at least ten (10) Professional Development (PD) opportunities, including the three (3) required activities (1. intro lecture; 2. paper or abstract submission; 3. Oral or poster presentation), and ensure attendance is recorded in Blackboard or PD form is submitted via email by Friday, April 26th at 5 pm.

Grading Criteria

Grade	Description
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Other Information

- Card access to EE 013 will be updated on Fridays in January (Jan 11, Jan 19, Jan 26th)
- Two Blackboard sections
    - Lecture: general course announcements and resources
    - Lab:
        - Your VIP team specific info/assignments
- PD attendance
    - Will be posted in your lab Blackboard section.
    - Any errors need to be reported to the course staff within 2 weeks of the session.
    - Forms for alternate PD opportunities can be submitted via Blackboard within 72 hours of the qualifying event

Rules for Use of the VIP Suite

- It is **ONLY** for use by VIP students, and **ONLY** for VIP-related activities!

- It is **NOT** to be used as the personal study space for VIP students!

- **No** food or drink is allowed! (Water in closed container)

- **No** opening the windows in the back meeting rooms!

- **PLEASE** keep the room neat at all times. Keep the table surfaces **CLEAN**. Pick up any litter that you drop.

- **PLEASE** report all infractions of these rules that you observe to a VIP staff person.

A focus of many of the Professional Development (PD) sessions:

Purdue Undergraduate Research Conference

- **Expect that all students participate in either Oral or Poster Presentation**
  - Thursday, April 4, 2019: Oral Presentations, 1-4pm, STEW 214ABCD
  - Tuesday, April 9, 2019: Poster Symposium, 9-11:30am & 1-3:30pm, PMU Ballrooms
- Deadline to apply:
  - Oral presentations, February 4, 2019: 3 – 5 page paper
  - Poster Symposium, March 1, 2019: abstract

Planning your PD

Review the PD session opportunities, and identify a plan to meet the 10 PD requirement.

- What sessions help you be successful on your VIP team/project?

- Does your team have special opportunities (e.g., company site visit)?

- What sessions help you prepare for the Undergraduate Research Conference?

- What weeks do you have exams and/or conflicts and can't participate? Or a topic you are not interested in---then do not come that week!