

EECE401 Senior Design I

Department of Electrical and Computer Engineering
Howard University

Dr. Charles Kim

www.MWFTR.com/SD.html

Today's Class

- 5 Project Candidate Presentations
- Team Formation
- Resources Available
- Intel Cup 2015: Preparation and Registration
- Assignment #2 Explanation

VIP (Vertically Integrated Projects) Team 1

- Niobium Underwater Electrical Connector (Industry sponsor: Northrop Grumman)
 - Charles Kim (Fac Advisor)
 - Trey Morris (GR, ECE)
 - Mpho Musenga (GR, ECE)
 - ???
 - ???
 - ???
 - Terrinney Haley (EGPP/CHEM)
 - Hannata Kourani (EGPP/ME)
 - Akim Mahadiow (CVEN)
 - Jim Windgassen (NGC Advisor)
 - Gregory West (NGC Advisor)

Project Candidates/Teams

- Cryptographic FPGA against Hardware Trojan (**Candace Ross**)
 - Dr. Hassan Salmani (Faculty Advisor)
 - Candace Ross
- Text to ASL (**Sarad Dhungel**)
 - Dr. Mohammed Chouikha (faculty advisor)
 - Sarad Dhungel
 - Vanessa Galani (EGPP/EE)

Project Candidates/Teams

- Busboy Robot III
(formerly sponsored by IEEE Student Chapter & HKN) (**Dhuel Fisher**)
 - Dr. ??? (Faculty Advisor)
 - Dhuel Fisher
 - Renika Montgomery (EGPP/CVEN)
- Electro-Sonic Wave Master for Moogfest Circuit Bending Challenge (**Michael Robinson**)

Project Candidate/Team

- Wearable Payments (**Jared Alexander**)
 - Dr. Charles Kim (faculty advisor)
 - Tentative
 - Industry Sponsor – Capital One

Intel Cup 2015

It's time to [Register](#) your teams for Round #1

Click the link above and submit your team (s) & faculty advisor information along with a brief project description

Send your team photo via email with your team name in the subject line

Remember no duplicate team members per teams

Registration Deadline is October 13

Reach us via email at Cornellcupusa@cornell.edu with any questions.

[Intel-Cornell Cup Competition](#)

Round #1, Intel Open

Create a competition entry with your existing project from your engineering project course or capstone projects. You, the sponsoring professor(s) (advisors) will select the winning team to send to the Intel-Cornell Cup Semi-Finals.

Round #2, Intel-Cornell Cup Semi-Finals

Same format as the previous "mid-year reviews". Teams will be selected by a panel of judges to move forward to the Intel-Cornell Cup Finals.

Round #3, Intel-Cornell Cup Finals

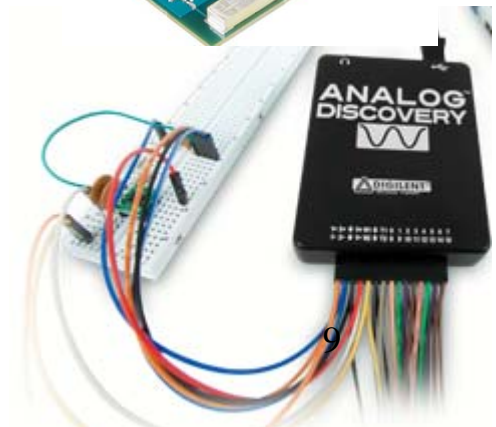
Teams will be sent to the Finals for a weekend competition to present their completed designs.

Intel Cup 2015 Participants

- By Tuesday, Sept 23
 - Do group meeting(s)
 - Decide a title
 - Write an abstract – Remember the importance of the first paragraph – this is the first paragraph
 - Pick an advisor
- On Wednesday, Sept 24
 - Register your team
- Round 1
 - Judges: Dr. Kim, a few other Profs, and former students of Intel Cup competition

Computing Resources Available

- DE2i-150 Kit (x10)
- Intel Galileo (x10)
- Arduino (x4)
- Raspberry Pi (x2)
- Basic Stamp 2 (x3)
- Intel Edison (?)
- Analog Discovery Board (xN) by Digilent Inc.
- Useful website
 - <http://www.mwftr.com/416F13.html>
 - <http://www.mwftr.com/494S14.html>
 - www.digilentinc.com



Assignment #2 – Problem Statement

- No solution required – optional
- Only “Problem statement” – what is the problem the customer says to solve?
- Individual Work

Assignment #2*: A customer comes and demands by saying: “Devise a better concept to mechanize the loading of cargo (sacks) into railroad trucks from the manual loading, by which workers take one sack from a pallet in a warehouse, carry it to the truck, and place it on another pallet on the truck. The transport of cargo from warehouse to railroad truck can be easily mechanized – perhaps by using a conveyer belt. However, portable and compact machines that can stack cargo inside a railroad truck do not exist. Forklifts that carry six sacks on a platform have difficulty maneuvering inside a truck and, therefore, cannot provide the necessary productivity.” Now, in meeting (solving) the customer need, we have to know the customer’s problem precisely. Make a problem statement which includes (1) the goal (what must be achieved) and (2) the means (what must be done, improved, or changed) to be employed. **Bring and submit a typed report to the class of Wednesday, September 24, 2014.** *This assignment is based on “The Innovation Algorithm” by Genrich Aktshuller, pp.82-83.