



NanoHUB.org at UTPA

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UTPA classification



- ❖ Hispanic Serving Institution (87% Hispanic, 59% female student, population 18,000).
- ❖ A non-Ph.D. granting institute, second in the nation in the number of bachelor's degrees awarded to Hispanics.
- ❖ Border location; distinctly international flavor; attract many of the international students.
- ❖ A diverse, globally-engaged U.S. scientific and engineering workforce
- ❖ Graduates 30 students/ year; BSEE degree; two thirds go into industry
- ❖ UTPA is ranked No. 32 in the top 100 list for “America’s Best Public Colleges” category. (Forbes 2009)
- ❖ A greater shortage of educational and training opportunities for engineering students who want to enter this fascinating nanotechnology field



Use of nanoHUB.org



❖ Teaching

Undergraduate course:

ELEE/CMPE 4375: Introduction to VLSI

ELEE 4328: Solid State Device

Graduate course:

ELEE 6375: VLSI System Design

ELEE 6328: Advanced Solid State Devices

❖ Research

CNTFET Characterization

Engineering Educational Research

❖ Outreach:

Student organization IEEE, SWE, SHPE

Presentation

Expectation



- Visualization effect (teaching)
- Physical interpretation of the equations (UG)
- On line (live) talk (Students can interact; related to syllabus)
- Example from real life : retention
- Educational proposal collaboration
- Educational research paper, review, feedback

Limitation



- Teaching: (ABET)
- Undergraduate engineering courses (lower level)
- Only Elective courses
- Research:
 - Features/options are limited
 - Temperature dependant characteristics
 - Advisory Board for educational research



Outcome

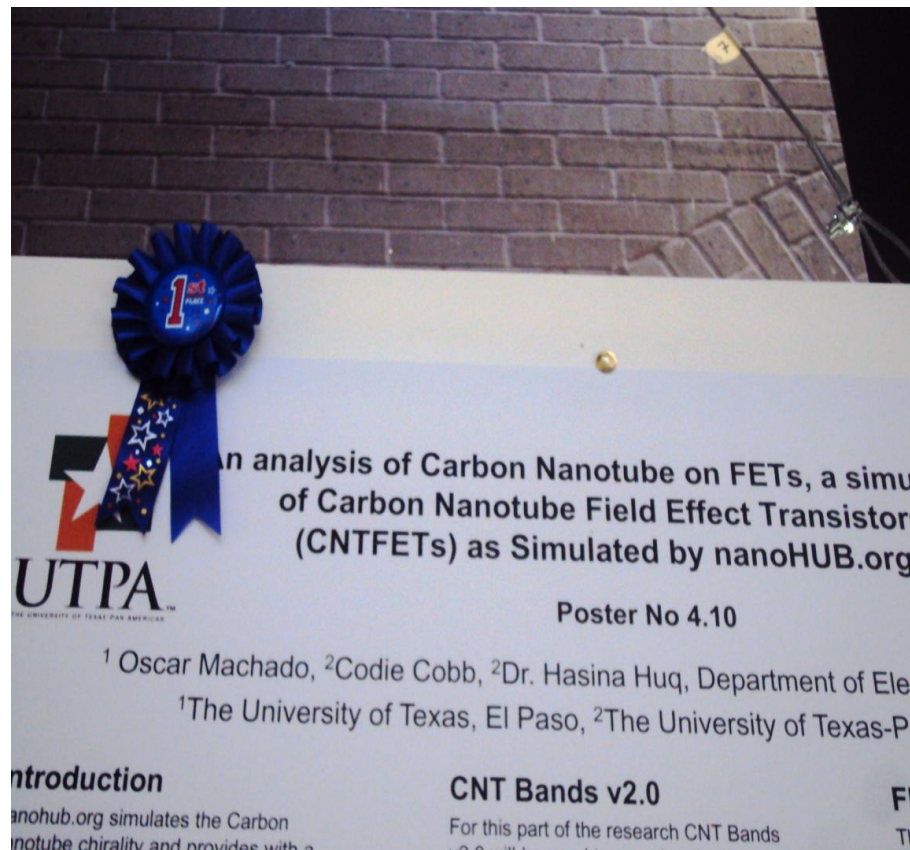


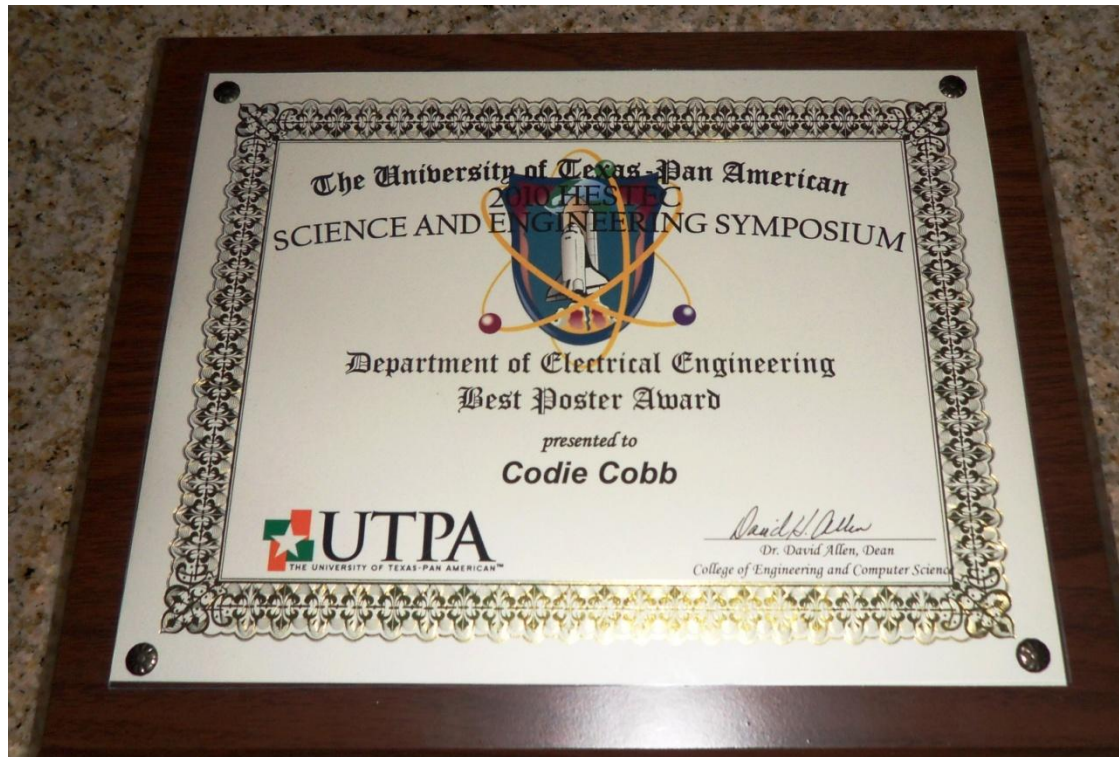
- Abstract accepted for
- ✓ ASEE 2011 Annual Conference & Exposition (American Society for Engineering Education) (blind peer reviewed)
- ✓ IEEE Education conference 2011 (peer reviewed)
- ✓ TUES proposal submitted (not funded but rating good/very good)
- ✓ In house Publication HESTEC 2010

OUTCOME



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