UCLA EE Principles of Nanoelectronics

Project Assignment

(due in the last class on Wednesday 3/13/2013)

For this project, the class will be divided into teams of three students. The team roaster will be uploaded to the EE128 website on Tuesday 02/19/2013.

What you should do:
*By Friday **02/22/2013** 12pm (Noon) each student should email me on ee128.ucla@gmail.com with confirmation that she/he has established communication with ALL her/his groupmates.*
Students who don not respond to their groupmates' emails by this deadline will not be considered the part of their team, and will consequently get zero points on the Project.

Each team should find and collaboratively study an article with a topic in nanoelectronics. Examples of the topics are listed below (not limited to):

- Resonant Tunneling Diodes
- Single Electron Transistors
- CNT- based devices
- Graphene-based devices
- Spin FET
- Quantum dots

You may choose only paper from **peer-reviewed journals** not older than **2003**.

The results of the study should be arranged in a written report length of which should be between 4 and 6 pages. The report should include the following:

1) Introduction/Motivation
2a) Fabrication (for experimental papers) / theoretical approach (theoretical papers)
2b) The physical principle of operation
2c) Key result/contributions of the paper
3) Discussion: **Your** opinion about advantages and disadvantages, any of your creative ideas where and how this could be used.

What you should do:
***1)** Each team should email me the PDF of their selected article on ee128.ucla@gmail.com. In the email subject include "EE 128 Project – Team_#," and I'll respond to you shortly. If somebody else has selected the same article before you, you will need to find another article.*
The deadline for emailing me with your selected article is 1pm Saturday 03/02/2012.

***2)** As you receive the approval, you may start working on the report. The reports must be **submitted by the deadline – the last class on Wednesday 3/13/203**.Bring to the class your report with the printout of the journal paper stapled together.*

Every team member is expected to contribute to its team's report. Only then the team member's name can appear as one of the (co)authors of the report. It is the same rule as for publishing in peer-reviewed journals – if you haven't contributed you cannot be signed as a co-author. The grade for a report will be the same for all the authors of the report. Therefore, if you have not contributed to the report and your name doesn't appear on the report, you will get zero credit for the report.

Work together with your teammates, learn from each other, also you can consult outside your team. Research papers are hard to understand and I don't expect you to know everything in your paper of choice. But try to understand as much as you can and explain it in your report in a way that is understandable to an average undergraduate student in electrical engineering.