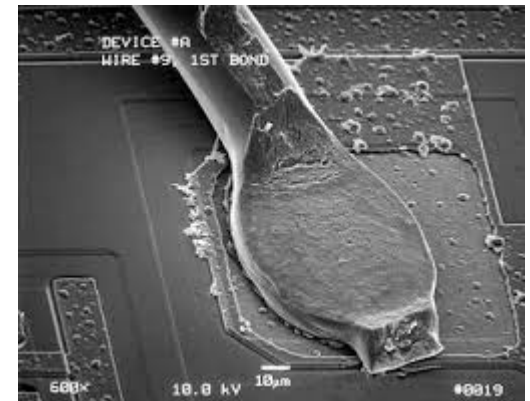


UiO : **Fysisk institutt**

Det matematisk-naturvitenskapelige fakultet

FYS4260/FYS9260: Microsystems and  
Electronics Packaging and Interconnect

# Standards for project report

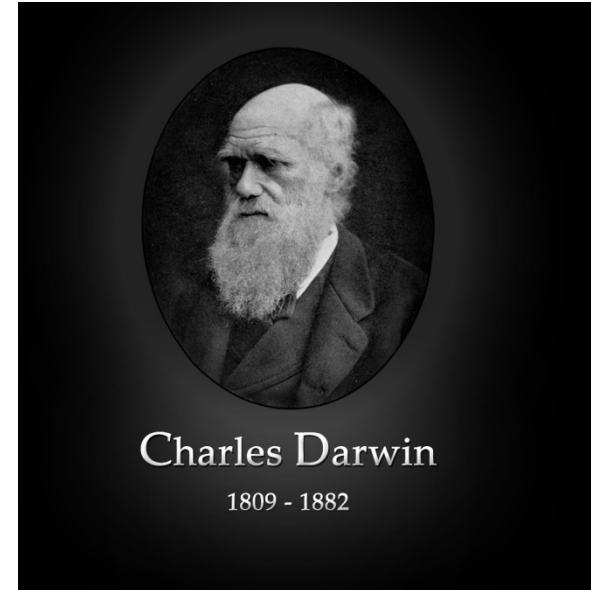


# Project report

- Project work (PCB produced + Report + Plenary presentation) accounts for 20% of overall course grade
- Each student prepares individual reports.
- Target audience for Report and plenary presentation:  
Your fellow course students
  - You can assume that the audience is familiar with electronics packaging and construction. Not necessary to define basic terms and concepts
- The following guidance is advisory. Scientific reporting principles is targeted, but you may feel free to deviate from the outline if you think this helps adding clarity
- Reports are to be submitted to [kurs-fys4260@fys.uio.no](mailto:kurs-fys4260@fys.uio.no) by Friday May 5th 2018 at 16:00 CET.

# The “Gold Standard” for the Content for a Paper in Natural Sciences (IMRAD)

- Abstract
- Introduction
- Material and Methods
- Results
- Discussions
- Conclusions
- Acknowledgements
- References
  - Acknowledgements sometimes obsolete and skipped.
  - Except “Abstract” and References”, the heading titles can be modified to more specific titles, for instance using “Process Technology” instead of “Materials and Methods”, but the principal content of each chapter should be kept
- Nicknamed “**IMRAD**”: **I**ntroduction, **M**ethods **a**nd **D**iscussion



# Title

- Short, concise and descriptive text outlining what is the content of the report
- OK: *My experiences developing a head phone amplifier circuit*
- Better: *Design, development and testing of a head phone amplifier circuit implemented using SMT components*

# Abstract

Short summary of your work explaining in a single paragraph:

- What you have done?
- Why did you do it? (Or maybe: what did you want to obtain)?
- What are the results?

# Introduction

- Describe what you have intended to make
  - The text you have made in your specification document can form a nice basis for the introduction.
- Motivation
  - If you have selected your own PCB, it is interesting to provide a brief motivation
  - If you have selected one of the proposed tasks, you do not have to give any motivation (the "learn PCB construction" and the "I want to pass the course" are obvious).
- Describe target objectives and key requirements you want(ed) to realize.
  - No details required here – you can list detailed requirements and their verification in the results section later

# Methods and materials

- Describe briefly methods and tools you have applied, for example:
  - CAD tools
  - Simulations - describe briefly what type of simulations you have done – if you have done any
  - You do not have to go into detail on PCB manufacturing process (subcontractor work)
  - Assembly process
  - Testing plans and procedures

Take some photographs during the PCB assembly. These are valuable to include in the report

## Results

- Simulation results – if these have helped you in your overall design
- **Image and description of the PCB produced.** Details in appendix
- Test and verification results
  - Here you enter the list of target system requirements, give an account of how they were tested, and what were the test results. The table used in the specification document can be a good format.



# Discussion

- How did the PCB produced perform with respect to target requirements (confer Introduction)?
- **Learning points and other observations**
  - Prioritize this point – this is probably one of the most interesting sections for your fellow students: What worked well, what went wrong, and how could the work have been done differently? The presentation of the various learning points and experiences will be focused in particular in the oral presentation scheduled.

# Conclusions

- Brief (one paragraph) statement on
  - What you did
  - What are significant results, conclusions and learning points

# Appendix

In a mandatory appendix:

- Complete schematics
- PCB layout