

# Algorithms in Signal Processors, 2014

Project course ETI121

Teacher: Dr. Mikael Swartling

# Algorithms in Signal Processors

- Implementation of an algorithm on a DSP platform
- Project course = requires hard work
- Groups of 3 or 4 students
- Report and presentation
- Very useful and important knowledge!!



# Course content

- Development of algorithm
- C implementation and debugging
- Check your own work
- Collaboration with others
- Project and time management
- Demonstration
- Code Composer Studio and Latex

# Course plan

- Seminars (only first two weeks, **mandatory**)
  - Sem 1: Monday Jan 20/27 at 13.15-15.00, E2311
  - Sem 2: Wednesday Jan 22/29 at 10.15-12.00, E1145
- First group meeting (**mandatory**)
  - Tues 28/1 at 08-12
- Report due: Friday March 5, 2014
- Oral Presentations/Demonstrations: March 7, 2014 (preliminary)

# Project - Proposals

- Pitch Estimation
- Speech Recognition
- Speech Localization
- Acoustic Noise Reduction
- Surround Sound
- Event Detection (eg. Clap/whistle detection)
- Guitar Tuner
- Beamforming
- Echo cancellation
- Signal Separation
- Reverberation

# Projects

- The Projects are done in groups of 3-4 students
- Mail you preferences to [mikael.swartling@eit.lth.se](mailto:mikael.swartling@eit.lth.se), latest on Monday the 27:th of Jan. Please indicate;
  - Projects in order of preference
  - Suggested group members