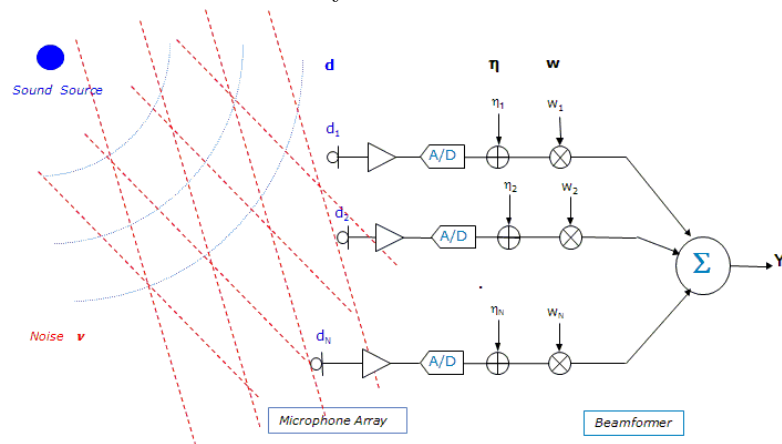


Semester / Thesis:

## Tram Noise Measurement By Means Of Distributed Sensors For Using In Non-Stationary Beamformers

**Motivation and Informal Description:** Beamforming is a multi-channel signal processing technique which can be used to attenuate the background noise while focusing on the main sound source. It is obvious that as an input, it needs the multi-channel signal obtained from several sensors (here microphone array). However, the performance of beamforming techniques degrade in the presence of the non-stationary noises.

Recently, we developed a framework, to deal with non-stationary noises. To test this framework, some data from non-stationary signals like Tram noises are necessary. In this project, we mainly focus on recording the non-stationary Tram noise by means of distributed microphones (Namely microphones should be located in



a room but far from each others) and use this data to test the non-stationary beamformers.

**Requirements:** Some knowledge in linear algebra and stochastic random processes is useful.

Interested? Please have a look at <http://www.tec.ethz.ch/research.html> and contact us for more details!

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