



## Announcement

### Biophysics of Hearing and Seeing

Prof. Hoerber

#### Description

The course on Biophysics of Hearing and Seeing will provide a basic understanding of these senses with respect to their anatomy and physiology. In comparison with recent technical developments of optical and acoustic sensor systems, the physical principals to characterize the performance of these senses will be introduced.

#### Content

- Evolution of seeing
- New developments in imaging and image processing techniques
- Anatomy and Physiology of the Eye
- Comparison between natural and artificial systems
- Introduction to Acoustic
- Anatomy and Physiology of the Ear
- Comparison between natural and artificial systems

#### Prerequisites

None

#### Literature

Anatomy and Physiology of Eye, 2<sup>nd</sup> Edition 1.12.2008

A.K. Khurana, CBS publishers & Distributors

ISBN: 8123912677

Eye and Brain, The Physiology of Seeing, 5<sup>th</sup> Edition 30.10.1997

Richard L. Gregory, Oxford University Press

ISBN: 0198524120

The Evolution of the Eye, 8.10.2015

Georg Glaeser und Hannes F. Paulus, Springer

ISBN: 3319174754

Essential Principles of Image Sensors, 12.8.2014

Takao Kuroda, Apple Academic Press

ISBN: 1482220056

Hearing. Anatomy, Physiology and Disorders of the Auditory System

Aage R. Moller, Plural Publishing, 1.10.2011

ISBN: 1597564273

Fundamentals of Hearing

William Yost, Academic Press, 2.10.2006

ISBN: 0123704731

#### Additional information

Lecture with exercises, 4 ECTS credits

#### Date / Duration / Location

Wednesday, 5.7., 17-19

Friday, 7.7., 14-16

Monday, 10.7., 17-19

Wednesday, 12.7., 17-19

Friday, 14.7., 14-16

Monday, 17.7., 17-19

Wednesday, 19.7., 17-19

Oral presentations of the participating students in August.

#### Lecturer

Prof. Hoerber, Senior Professor