Summary
This optional course provides students who consider a specialization in Neuroengineering during their Master with a very broad overview of the many practical applications in the field. It should ensure these students to be well informed when choosing their specialization.

Content
• **General Introduction & Visual system** (Blanke)
  Exercises: To virtual reality (Blanke)
• **Vision: Perception, Neurophysiology, Neuroimaging** (Herzog)
  Exercises: Computer Vision (Herzog)
• **Hodgkin-Huxley model: from Ion channels to Mathematics** (Gerstner)
  Exercises: Neuron modelling (Gerstner)
• **Large scale modelling of the brain** (Markram)
  Exercises: Blue Brain (Schürmann)
• **Systems: Audition** (BMI professor)
  Exercises: Cochlear Implants (External)
• **Systems: Somatosensation and Optogenetics** (Petersen)
  Exercises: Optogenetics (Petersen)
• **Systems: Motor** (Luthi-Carter)
  Exercises: Parkinson's and Huntington Disease, ALS (Moore)
• **Neuroprosthetics: Artificial Arms** (Blanke)
  Exercises: Neuroprosthetics (Blanke)
• **Neuroprosthetics: BCI and EEG** (Blanke)
  Exercises: Brain-Computer Interface (Millan)
• **Brain metabolism and Neuroimaging** (Magistretti)
  Exercises: Physics of Brain imaging (Gruetter)
• **MRI in humans** (Hadjikhani)
  Exercises: Diffusion Tensor Imaging (Thiran)
• **Memory** (Sandi)
  Exercises: Memory (Sandi)
• **Alzheimer Disease** (Fraering)
  Exercises: Therapeutic interventions (Fraering)
• **Language and Summary** (Blanke)
  Exercises: Aphasia (Blanke)

Resources
Ressources en bibliothèque