

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Electrical Engineering - NOC: Introductory Neuroscience and Neuro-Instrumentation

Subject Co-ordinator - Prof. Mahesh Jayachandra

Co-ordinating Institute - IISc - Bangalore

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Cellular (Microscopic) Structure of the Central Nervous System (CNS)
Lecture 2 - Anatomical (Macroscopic) structure of the CNS
Lecture 3 - Introduction to Cleanroom and IC Fabrication Techniques
Lecture 4 - Introduction to EEG applications for Hearing Loss
Lecture 5 - Electrophysiological Recordings
Lecture 6 - Neocortical Circuits
Lecture 7 - The resting Membrane Potential
Lecture 8 - Applications of MEMS Fabrication Technologies
Lecture 9 - Fundamentals of biopotentials and applications
Lecture 10 - Fundamentals of EEG and applications
Lecture 11 - The Action Potential (1)
Lecture 12 - The Action Potential (2)
Lecture 13 - Axonology, Neuronal Biophysics (1)
Lecture 14 - Axonology, Neuronal Biophysics (2)
Lecture 15 - Experimental Setup for EEG Recording
Lecture 16 - Introduction to Cleanroom Protocols and Demonstration of Gowning Procedure
Lecture 17 - Electromagnetic Stimulation of the Brain (1)
Lecture 18 - Electromagnetic Stimulation of the Brain (2)
Lecture 19 - Introduction to Event Related Potentials
Lecture 20 - Introduction to 3D Printing
Lecture 21 - 3D Printing
Lecture 22 - Introduction to Event Related Potentials (2)
Lecture 23 - Different Event Related Potentials (1)
Lecture 24 - Different Event Related Potentials (2)
Lecture 25 - Introduction to Silicone Wafer Processing Techniques
Lecture 26 - Basics of Silicone Dioxide
Lecture 27 - Inverse Problem, EEG source localization (1)
Lecture 28 - Inverse Problem, EEG source localization (2)
Lecture 29 - Introduction to Brain Computer Interfaces

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- Lecture 30 - Signal Conditioning Circuit for EEG Bioamplifiers
- Lecture 31 - Basics of BCI Experimentation
- Lecture 32 - Different Brain Computer Interfaces
- Lecture 33 - Introduction to EEGLAB, ERPLAB and AEP Demonstration (1)
- Lecture 34 - Introduction to EEGLAB, ERPLAB and AEP Demonstration (2)
- Lecture 35 - Introduction to Photolithography
- Lecture 36 - Basics of BCI Experimentation
- Lecture 37 - MMN Demonstration with EEGLAB and ERPLAB (1)
- Lecture 38 - MMN Demonstration with EEGLAB and ERPLAB (2)
- Lecture 39 - Introduction to Photolithography (2)
- Lecture 40 - Basics of Instrumentation Amplifier and Online Simulation
- Lecture 41 - Basics of BCI Experimentation
- Lecture 42 - P300 Demonstration with EEGLAB/ERPLAB (1)
- Lecture 43 - P300 Demonstration with EEGLAB/ERPLAB (2)
- Lecture 44 - Wavelet Analysis with VEP (1)
- Lecture 45 - Details of Lithography, E-beam Lithography and Mask Aligner
- Lecture 46 - Basics of BCI Experimentation
- Lecture 47 - Wavelet Analysis with VEP (2)
- Lecture 48 - Demonstration
- Lecture 49 - Demonstration
- Lecture 50 - Photoresist (SU-8) and soft lithography
- Lecture 51 - Physical Vapour Deposition
- Lecture 52 - Introduction to Epilepsy and Classification
- Lecture 53 - Epileptogenesis
- Lecture 54 - Demonstration
- Lecture 55 - Demonstration
- Lecture 56 - Demonstration
- Lecture 57 - Demonstration
- Lecture 58 - Physical Vapour Deposition
- Lecture 59 - Physical Vapour Deposition
- Lecture 60 - Recent Trends
- Lecture 61 - Demonstration
- Lecture 62 - Basics of EEG, ERP and acquisition
- Lecture 63 - Photolithography with example
- Lecture 64 - Stress Tissue Analysis using COMSOL Multiphysics
- Lecture 65 - Recent Trends