

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

NPTEL Video Course - Biotechnology - NOC:Design for Biosecurity

Subject Co-ordinator - Prof. Mainak Das

Co-ordinating Institute - IIT - Kanpur

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

- Lecture 1 - Introduction to Biosecurity and Course Overview
- Lecture 2 - Allelopathic Interferences and Case Study
- Lecture 3 - U.N.W.H.I.M.A.A.I
- Lecture 4 - Livestock Biosecurity and its Preventive Measures
- Lecture 5 - Bioterrorist Agents and Modes of Attack
- Lecture 6 - History of Bioterrorism : Black Death
- Lecture 7 - Bioweapons Used in Warfare and Biological Weapon and Toxin Convention (BWC)
- Lecture 8 - Ebola and Marburg Virology in context to Biosensor Development
- Lecture 9 - Bacillus Anthrax Bacteriology in context to Biosensor Development
- Lecture 10 - Anthrax Types and Preventive Measures
- Lecture 11 - Unraveling the Ingenious Bacillus Anthracis Attack and Case Study for Anthrax Sensor
- Lecture 12 - Components for Designing Biosensors
- Lecture 13 - Principle of Quartz Crystal Microbalance (QCM)
- Lecture 14 - Sauerbrey Equation and QCM-D
- Lecture 15 - Principle, Setup and Applications of E-QCM-D
- Lecture 16 - Use of AFM Tool for Sensing - Part 1
- Lecture 17 - AFM for Bio-sensing - Part 2
- Lecture 18 - AFM and Recap Raman and IR Spectroscopy
- Lecture 19 - Applications of Raman
- Lecture 20 - AFM Cum Electrochemistry Workstation
- Lecture 21 - Monoclonal Antibody
- Lecture 22 - Monoclonal Antibody Production
- Lecture 23 - MAB Production Via Hybridomas
- Lecture 24 - Recognition Elements scFvs
- Lecture 25 - SPR : Surface Plasmon Resonance
- Lecture 26 - Design and Fabrication of Lateral-Flow Immunoassays
- Lecture 27 - Sandwich (Non-Competitive) Assays
- Lecture 28 - Botulism Toxin
- Lecture 29 - Botox Therapy

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- Lecture 30 - Developing Biosensor for Botulinum Toxin
- Lecture 31 - Story of Insulin
- Lecture 32 - Setting the Stage for the Discovery of Insulin
- Lecture 33 - Insulin Controversy
- Lecture 34 - Insulin Chemistry
- Lecture 35 - Insulin as Weapon of Murder
- Lecture 36 - Electrochemical Biosensors
- Lecture 37 - Electrode System in the Glucose Sensor
- Lecture 38 - World of Electrochemical Biosensors
- Lecture 39 - Glucose Sensor - Part 1
- Lecture 40 - Glucose Sensor - Part 2
- Lecture 41 - Non Enzymatic Glucose Sensor - Part 1
- Lecture 42 - Non Enzymatic Glucose Sensor - Part 2
- Lecture 43 - Summarizing Glucose Sensing - Part 1
- Lecture 44 - Summarizing Glucose Sensing - Part 2
- Lecture 45 - Summarizing Glucose Sensing - Part 3
- Lecture 46 - Far-Infrared Spectroscopy
- Lecture 47 - Metabolic Heat Conformation
- Lecture 48 - Electromagnetic Sensing
- Lecture 49 - World of Biohybrid Biosensors
- Lecture 50 - Whole Cell Biosensor
- Lecture 51 - Action Potential - Part 1
- Lecture 52 - Action Potential - Part 2
- Lecture 53 - Action Potential - Part 3
- Lecture 54 - Action Potential - Part 4
- Lecture 55 - Action Potential - Part 5
- Lecture 56 - Cell Based Biosensors - Part 1
- Lecture 57 - Cell Based Biosensors - Part 2
- Lecture 58 - Cell Based Biosensors - Part 3
- Lecture 59 - Cell Based Biosensors - Part 4
- Lecture 60 - Cell Based Biosensors - Part 5