

GRADUATE PROGRAM "THE MOLECULAR BASIS OF HUMAN DISEASE"

**GRADUATE COURSE MBNA-101: "INTRODUCTION TO THE MOLECULAR BASIS OF HUMAN DISEASE AND TO BASIC RESEARCH METHODOLOGY"
ACADEMIC YEAR: 2014-2015**

Course code: MBNA-101

Course director: D. Kardassis

Course objectives: Introduction to the basic principles of human genetics and molecular medicine. Understanding the molecular basis of monogenic and polygenic diseases. Introduction to basic research methodology (principles and applications).

Reading material: Original papers, review articles, notes

Examination: Paper presentations, mid-term and final written exam

| Date | Room | Time | Instructor | Lecture |
|-----------------------|--------|------------------------------|------------------|--|
| 3/9/14 | 7A.0.1 | 9:00-11:30 | D. Kardassis | Studying the molecular basis of monogenic diseases: The example of Cystic Fibrosis |
| | | 12:00-13:00 | C. Tsatsanis | Guidelines for effective public presentations. Paper assignments (jointly with course MBD103) |
| 4/9/14 | 7A.0.1 | 10:00-12:00 | G. Goulielmos | Principles of Medical Genetics and Molecular Diagnostics - Linkage mapping - Complex diseases |
| 5/9/14 | 7A.0.1 | 10:00-13:00 | G. Goulielmos | Identifying genes involved in complex diseases - The genetics of autoimmune diseases: The paradigm of rheumatoid arthritis |
| 8/9/14-17/9/14 | | Graduate lab (MBD102) | | |
| 18/9/14 | 7A.0.1 | 10:00-13:00 | D. Kardassis | Studying the expression and function of eukaryotic genes |
| 19/9/14 | 7A.0.1 | 10:00-13:00 | D. Kardassis | Studying the expression and function of eukaryotic genes |
| 22/9/14 | 7A.0.1 | 9:00-11:00 | D. Sanoudou | Mid-term exam |
| | | 13:00-15:00 | | Advanced cytogenetic techniques |
| 23/9/14 | 7A.0.1 | 12:00-14:00 | D. Sanoudou | DNA and expression arrays: fabrication, use and applications |
| | | 15:00-17:00 | | The emerging technology of protein arrays |
| 24/9/14 | 7A.0.1 | 10:00-12:00 | D. Kardassis | Studying the regulation of eukaryotic gene expression |
| 25/9/14 | 7A.0.1 | 10:00-12:00 | S. Kampranis | Methods to study chromatin modifications |
| 26/9/14 | 7A.0.1 | 10:00-12:00 | E. Thymiakou | Methods for the identification of protein-protein complexes in vitro and in vivo |
| 29/9/14 | 7A.0.1 | 10:00-12:00 | N. Charizopoulou | Exploring the mouse as a model system to study human disease |
| | | 14:00-16:00 | K. Kalantidis | Mechanisms of gene regulation by miRNAs and their role the pathogenesis of disease |

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| 30/9/14 | Telec. Room | 10:00-13:00 | I. Iliopoulos | Introduction to biomedical databases Part I: How to use GenBank, EMBL, Swissprot/Uniprot. |
| 1/10/14 | Telec. Room | 10:00-13:00 | I. Iliopoulos | Introduction to biomedical databases Part II: How to use Pubmed, OMIM and BLAST |
| 2/10/14 | 7A.0.1 | 9:00-12:00 | C. Tsatsanis – D. Kardassis | Paper presentations |
| 3/10/14 | 7A.0.1 | 9:00-12:00 | C. Tsatsanis – D. Kardassis | Paper presentations |
| 4/10/14 | 7A.0.1 | 14:00-16:00 | | Final exam |

Contact information

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|-------------------------|--|---------------------------------|
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