NATURAL SCIENCES TRIPOS, PART II

MICHAELMAS 2008 **LENT 2009** **EASTER 2009**

ASTROPHYSICS

Course organiser: Dr C. D. Mackay (email: cdm@ast.cam.ac.uk)
Course website: http://www.ast.cam.ac.uk/teaching/undergrad/courseguide.html

All lectures will be delivered in *the Raymond and Beverly Sackler Lecture Theatre, Hoyle Building, Institute of Astronomy* except * which will be held in the *Centre for Mathematical Sciences meeting rooms (MR) and † in the Pippard Lecture Theatre at the Cavendish Laboratory (West Cambridge)*.

DR D. A. RITCHIE†
Advanced Quantum Physics. M. W. Th. 9
DR M. HAEHNELT
Theory of Relativity. Tu. Th. F. 10
DR C. D. MACKAY
Topics in Astrophysics. Tu. Th. F. 11
PROF. E. P. S. SHELLARD*
Cosmology. M. W. F. 12 *MR3*
DR S. J. COOLEY*
Computational Projects. M. W. F. 2 (6 lectures) *MR2*
PROF. C. J. CLARKE
Astrophysical Fluid Dynamics. M. W. F. 9
PROF. G. F. GILMORE
Stellar Dynamics and Structure of Galaxies. M. Th. 10, W. 11
DR S. C. CHAPMAN
Structure and Evolution of Stars. Tu. W. F. 10
DR M. WINGATE*
Statistical Physics. (16 lectures) Tu. Th. 11 *MR9*

BIOCHEMISTRY
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT BIOCHEMISTRY

Course Organiser: Prof. C. J. Howe (email: ch26@mole.bio.cam.ac.uk)
Course website: http://www.bio.cam.ac.uk/teaching/partii/index

Lectures are given in the *Department of Biochemistry, Downing Site building*.

The course starts with an introductory lecture by PROF. SIR TOM BLUNDELL at 9 a.m. on M. 6 October.

Core course lectures take place at 9 a.m. and 10.30 a.m. unless stated otherwise. Option course lectures take place throughout the day in Lent Term. Detailed time-tables will be posted in the Department of Biochemistry.

Core lectures

PROF. E. D. LAUE
Aspects of protein structure: genome to proteome (Five lectures, beginning 6 Oct.
DR M. WELCH
Thermodynamics refresher for biochemists (One lecture, 10 Oct. at 2.00 p.m.)
DR D. NIETLISPACH
Chemistry refresher for biochemists (One lecture, 10 Oct. at 3.30 p.m.)
PROF. C. W. J. SMITH
Eukaryotic mRNA synthesis (Five lectures, beginning 13 Oct.)
PROF. C. J. HOWE
Gene expression in plants (Four lectures, beginning 13 Oct., at 12.00 on 13, 15 Oct.)
DR B. F. LUISI
Protein synthesis and translational control (Five lectures, beginning 20 Oct.)
DR L. PELLEGRINI
DNA recombination and repair (Four lectures, beginning 20 Oct.)
DR A. D. J. SCADDEN
RNAi and microRNAs (Three lectures, beginning 24 Oct.)
DR A. A. GRACE
Disease genes: function and manipulation (Two lectures, beginning 27 Oct.)

Options lectures

1. PROF. G. P. C. SALMOND AND OTHERS
Bacterial virulence and antimicrobial chemotherapy (Fifteen lectures)
Option Organiser: Prof. G. P. C. Salmond
2. PROF. J. O. THOMAS AND OTHERS
Proteins, nucleic acids and their interactions (Fifteen lectures)
Option Organiser: Prof. J. O. Thomas
3. DR J. HIRST AND OTHERS
Mitochondria and bioenergetics (Fifteen lectures)
Option organiser: Dr J. Hirst
4. DR P. DUPREE AND OTHERS
Plant cell and molecular biology (Fifteen lectures)
5. PROF. C. W. J. SMITH AND OTHERS
Control of gene expression in eukaryotes (Fifteen lectures in part joint with Part II Zoology.)
Option Organisers: Prof. C. W. J. Smith and Dr T. Krude
6. PROF. K. SIDDLE AND OTHERS
Medical biochemistry – Obesity & diabetes from genes to pathology (Fifteen lectures)
Option Organiser: Prof. K. Siddle
7. DR F. HOLLFELDER AND OTHERS
Enzyme mechanisms and chemical biology (Fifteen lectures)
Option Organiser: Dr F. Hollfelder
9. DR T. R. HESKETH AND OTHERS
Cancer – Oncogenes, tumour suppressor genes, apoptosis and carcinogenesis (Fifteen lectures in part joint with Option A (module 3) of Part II Pathology.)
Option Organisers: Dr T. R. Hesketh and Dr P. Edwards
10. DR F. R. LIVESEY AND OTHERS
Stem cell biology (Fifteen lectures)
Option Organiser: Dr F. R. Livesey
12. PROF. T. L. BLUNDELL AND OTHERS
Biotechnology (Fifteen lectures)
Option Organiser: Dr K. Lilley

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NATURAL SCIENCES TRIPOS, PART II (continued)

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DR T. R. HESKETH Signalling pathways in eukaryotic cells (Four lectures, beginning Oct. 29) DR P. DUPREE Protein targeting to the ER (Three lectures, beginning 29 Oct.) PROF. P. F. LEADLAY Enzyme structure and function (Five lectures beginning 3 Nov.) PROF. K. M. BRINDLE Molecular imaging (Three lectures, beginning 5 Nov.) DR A. P. JACKSON Protein sorting (Five lectures, beginning 10 Nov.) PROF. G. P. C. SALMOND Bacterial signalling systems (Four lectures, beginning 10 Nov.) PROF. J. O. THOMAS Protein-DNA interactions and gene expression (Five lectures, beginning 17 Nov.) PROF. R. W. FARNDALE Adhesive and immune receptor signalling (Four lectures, beginning 17 Nov.) DR T. J. STEVENS Bioinformatics (Four lectures, beginning 21 Nov.) DR T. J. STEPHENS Introduction to the problem-based bioinformatics project (One lecture, Nov. 24 at 10.30) DR H. R. MOTT G protein-based signalling (Two lectures, beginning 25 Nov.) PROF. T. L. BLUNDELL G protein-based signalling (Two lectures, beginning 27 Nov.) DR G. C. BROWN Mitochondria and cell death (Seven lectures, beginning 27 Nov.) DR S. H. MCLAUGHLIN Protein folding *in vivo* (three lectures, beginning 3 Dec.) **Data handling classes** 2.30–3.15, 30 Oct., 3.15–4.00, 31 Oct. 31., 2.30–3.15, 20 Nov., 3.15–4.00, 21 Nov.	13. DR D. M. CARRINGTON AND OTHERS Regulation of the eukaryotic cell cycle (Fifteen lectures) Option Organiser: Dr D. M. Carrington 14. DR A. P. KELLY AND OTHERS Molecular immunology (Fifteen lectures) Option Organiser: Dr N. J. Gay **Data handling classes** 3–3.45, 22, 23 Jan.	

BIOLOGICAL AND BIOMEDICAL SCIENCES

Course Organiser: Dr Greg Davis (email gjd@mole.bio.cam.ac.uk)
Course Website: www.bio.cam.ac.uk/sbs/facbiol/bbs/index.html

All students offer a Major Subject, a Minor Subject and a dissertation.

Major Subjects: Unless marked with a *, Major Subjects take their lectures from the corresponding NST Part II subject.

Biochemistry	(see p. 177)
Genetics	(see p. 177)
Mechanisms of Disease*	(see p. 177)
Neuroscience	(see p. 179)
Pathology	(see p. 179)
Pharmacology	(see p. 179)
Physiology, Development and Neuroscience	(see p. 180)
Plant Sciences	(see p. 180)
Psychology	(see p. 180)
Zoology	(see p. 180)

Minor Subjects: Unless marked with a *, Minor Subjects take their lectures from the related NST Part II subject.

Biology of Parasitism*	(see p. 178)
Biological Anthropology*	(Any of Papers BA1, BA2 or BA3 from Part IIB Biological Anthropology–see p. 181)
Education Studies*	(Any of the following papers from Part II of the Education Studies Tripos: Psychology of Education, Sociology of Education, Philosophy of Education, History of Education–see p. 181)
Genetics	(Any of Modules M2, M4, or M5 from NST Part II Genetics–see p. 181)
History of Medicine	(Either Paper 7 or Paper 8 from NST Part II History and Philosophy of Science–see p. 181)
History and Ethics of Medicine*	(see p. 182)
Neuroscience	(Any one of Modules N5 or N6 from NST Part II Neuroscience–see p. 182)
Social and Political Sciences*	(Either Paper Soc 10 or Paper Int 5 from Part II of the Social and Political Sciences Tripos–see p. 182)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 LENT 2009 EASTER 2009

MAJOR SUBJECTS

BIOCHEMISTRY

Course Organiser: Prof. C. J. Howe (email c.j.howe@mole.bio.cam.ac.uk)
Course Website: http://www.bioc.cam.ac.uk/teaching/partii/index.html

The Biological and Biomedical Sciences (Major Subject Biochemistry) course consists of the core lectures in the Michaelmas term from NST Part II Biochemistry, plus two options in the Lent term (see p. 176)

GENETICS

Course Organisers: Dr M. Segal and Dr C. Farr (email: partII.organisers@gen.cam.ac.uk)
Course Website: www.gen.cam.ac.uk/

The Biological and Biomedical Sciences (Major Subject Genetics) course consists of a choice of four out of the five modules offered for NST Part II Genetics (see p. 176)
Minor Subjects consist of any one of modules M2, M4 or M5.
A detailed timetable for this course will be available in the Department of Genetics.

MECHANISMS OF DISEASE: FROM PROCESS TO PATIENT

Course organisers: Dr J. H. Xuereb (e-mail: jhx1000@cam.ac.uk) and Dr. A Ibrahim (e-mail: aeik2@cam.ac.uk)

Lectures will be held at 10.30 a.m. daily in the *Lecture Theatre, First Floor, Department of Pathology, Tennis Court Road,* unless otherwise indicated.

Seminars and Case Studies will be held in the same venue at 2.00 p.m. unless otherwise indicated.

* *The Clinical School, Addenbrooke's Hospital–Seminar Room 9, Ground Floor*
** *Department of Pathology–Seminar Room (First Floor)*
*** *Department of Pathology–Greaves Room (First Floor)*

DR J. H. XUEREB
Introduction to course. Tu. 7 Oct.
PROF. A. H. WYLLIE.
Welcome by the Head of Department. (Starts at 3.00 p.m.) W. 8 Oct.
MS I. KUHN
Electronic literature searches.* group 1 (seminar) Tu. 7 Oct.
Electronic literature searches.* group 2 (seminar) F. 10 Oct.
Electronic literature searches.* group 2 (seminar) M. 13 Oct.
DR J. H. XUEREB
An introduction to dissertations.** (Seminar) (Starts at 1.30pm) M. 20 Oct.
PROF. M-Q DU
How to assess a scientific paper. (Seminar) F. 17 Oct.
DR A. IBRAHIM
Essay-based discussion.** (Seminar) Tu. 2 Dec.

Pathogen and Host Factors in Infectious Disease
DR D. KUMARARATNE
Mechanism of immunity to mycobacteria in humans. W. 8 Oct.
DR JESSICA WHITE
The spectrum of disease due to mycobacterium tuberculosis. Th. 9 Oct.
DR N. BROWN
Sepsis and the host's response to infection. (Lecture: 2.00–3.00pm) Th. 9 Oct.
DR J. SULE
Pneumonia: racing against the escalator. F. 10 Oct.
DR B. KINGSTON
Malaria. M. 13 Oct.
DR J. H. XUEREB
Phenotypic spectrum of spongiform encephalopathy. (Lecture: 2.00–3.00pm) Tu. 14 Oct.
PROF. A. MINSON
The nature of prions. Tu. 14 Oct
PROF. D. DUNNE
Schistosomiasis. Th. 16 Oct.
DR TREVOR BAGLIN
Disseminated intravascular coagulation. (Case Study) Th. 16 Oct.

Diseases of Immunity
DR B. COTTRELL
Infection and immunity in inflammatory bowel disease. (Lecture: 10.00–11.00am) M. 20 Oct.
DR J. H. XUEREB
Writing up the dissertation.** (Seminar) Tu. 3 Feb.
DR J. H. XUEREB
Essay-based discussion.** (Seminar) M. 9 Feb.
DR A. IBRAHIM
Essay based discussion.** (Seminar). M. 2 Mar.

Endocrine and metabolic disease
DR A. CHAUDHRY
The kidney as endocrine organ. Tu. 13 Jan.
PROF. J. COMPSTON
Bone cell physiology. W. 14 Jan.
DR J. H. XUEREB
Paget's disease. (Case study) W. 14 Jan.
PROF. J. COMPSTON
Pathology of metabolic bone disease. Th. 15 Jan.
DR D. SAVAGE
How insulin works and how it goes wrong. F. 16 Jan.
DR J. H. XUEREB
Fasting hypoglycaemia. (Case study) F. 16 Jan.
DR A. CHAUDHRY
Mechanisms of renal damage in diabetes mellitus. M. 19 Jan.
DR A. CHAUDHRY
Pathophysiology of progressive renal disease. Tu. 20 Jan.
DR J. H. XUEREB
Renal colic. (Case study) Tu. 20 Jan.
DR A. COLL
Understanding human obesity. W. 21 Jan.
DR J. BRADLEY
End-stage renal failure. (Case study) W. 21 Jan.
PROF. K. CHATTERJEE
Principles of nuclear hormone action. Th. 22 Jan.
DR J. H. XUEREB
Clinico-anatomical correlation of pituitary adenoma. (Case study) Th. 22 Jan.
PROF. K. CHATTERJEE
Nuclear receptors in human disease. F. 23 Jan.
PROF. K. CHATTERJEE
Cushing's syndrome. (Case study) F. 23 Jan.
PROF. V. P. COLLINS
Mitochondrial encephalomyopathies. M. 26 Jan.
DR J. H. XUEREB
Essay-based discussion.** (Seminar) F. 1 May.

Transplantation
PROF. A. BRADLEY
Clinical background to transplantation. Tu. 21 April.
PROF. A. BRADLEY
Allograft rejection. W. 22 Apr.
DR C. TAYLOR
Histocompatibility. Th. 23 Apr.
PROF. A. BRADLEY
Immunosuppression. F. 24 Apr.
PROF. A. BRADLEY
Xenotransplantation. M. 27 Apr.
DR E. BOLTON
Transplantation tolerance. Tu. 28 Apr.
DR A. CHAUDHRY
Kidney graft for complications of diabetes mellitus. (Case study). W. 29 Apr.
DR S. CHANDRAN
Neural repairs and stem cells-I. Th. 30 Apr.
DR S. CHANDRAN
Neural repairs and stem cells-II. F. 1 May.

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DR B. COTTRELL
Inflammatory bowel disease. (Case study: 11.30–1.00pm). M. 20 Oct.
DR S. STEWART
Respiratory tract hypersensitivity. Tu. 21 Oct.
DR R. ROSS RUSSELL
Asthma and its consequences. (Case study) Tu. 21 Oct.
DR M. GURNELL
Autoimmunity in the thyroid gland. W. 22 Oct. (starts at 10.00am)
DR J. H. XUEREB
Inflammation in the CNS. Th. 23 Oct.
DR J. H. XUEREB
Aetiology and pathogenesis of demyelinating diseases. F. 24 Oct.
DR J. H. XUEREB
Clinico-anatomical correlation in multiple sclerosis. (Case study) Tu. 28 Oct.
DR M. CLATWORTHY
Systemic lupus erythematosus I. W. 29 Oct.
DR J. H. XUEREB
Glomerulonephritis. (Case study) W. 29 Oct.
DR M. CLATWORTHY
Systemic lupus erythematosus II. Th. 30 Oct.
DR M. CLATWORTHY
Polyarteritis and other microscopical arteritides. F. 31 Oct.
DR R. TOOZE
Lymphoma: an immunological perspective I. M. 3 Nov.
DR R. TOOZE
Lymphoma: an immunological perspective II. (Lecture: 2.00–3.00pm) M. 3 Nov.
PROF. J. H. GASTON
The role of HLA antigens in the pathogenesis of arthritis. Tu. 4 Nov.
PROF. J. H. GASTON
T Lymphocytes in joint inflammation. (Lecture: 2.00–3.00pm) Tu. 4 Nov.
DR J. H. XUEREB
Polyarthritis. (Case study: 10.30–12.00) Th. 6 Nov.
DR J. H. XUEREB
Acute monoarthritis. (Case study) Th. 6 Nov.
PROF. J. H. GASTON
Cytokines in arthritis: potential therapeutic targets. F. 7 Nov.
PROF. J. H. GASTON
Infectious agents and arthritis: Lyme disease and Reactive arthritis. (Lecture: 2.00–3.00pm). F. 7 Nov.
DR D. KUMARARATNE.
Immunodeficiency-molecular mechanisms I. M. 10 Nov.
DR M. FARRINGTON AND DR T. WREGHITT
Infection in the immunocompromised host. (Case study) M. 10 Nov.
DR D. KUMARARATNE.
Immunodeficiency: molecular mechanisms II. Tu. 11 Nov.

Diseases of red blood cells and platelets
DR W. OUWEHAND
Immune-mediated disorders of erythrocytes and platelets I. Th. 13 Nov.
DR W. OUWEHAND
Immune-mediated disorders of erythrocytes and platelets II. (Lecture: 2.00–3.00pm) Th. 13 Nov.
DR T FOUKANELI
Inherited haemolytic anaemias. F. 14 Nov.
DR J. H. XUEREB
Megaloblastic anaemia. (Case study) F. 14 Nov.

Diseases of white blood cells
DR A. WARREN
Leukaemia I: transcriptional regulation of haemapoiesis. Tu. 18 Nov.
DR J. CRAIG
Pathogenesis and management of leukaemia. (Case study: starts 2.30pm) Tu. 18 Nov.
DR A. WARREN
Leukaemia II: molecular pathology. W. 19 Nov.
DR G. FOLLOWS
Multiple myeloma. F. 21 Nov.
DR J. CRAIG
Myeloma and renal failure. (Case study) F. 21 Nov.
DR D. O'DONOVAN
Peroxisomal disorders. Tu. 27 Jan.
DR J. H. XUEREB
Carcinoid syndrome. (Case study) Tu. 27 Jan.
PROF. T. COX
The Lysosome–a gateway to treatment. W. 28 Jan.

Gestational, Paediatric and Inherited Diseases
DR S. CHARNOCK-JONES
Placental vascular morphogenesis. M. 2 Feb.
DR S. CHARNOCK-JONES
Pathogenesis of pre-eclampsia. Tu. 3 Feb.
DR S. CHARNOCK JONES
Gestational trophoblastic tumours. W. 4 Feb.
DR K. ONG
Fetal and early infant development. Th. 5 Feb.
DR A. WHITEHEAD
Pathophysiology of disease in the premature baby. F. 6 Feb.
DR C. ACERINI
Growth disorders of childhood. M. 9 Feb.
PROF. I. HUGHES
Disorders of sex development. Tu. 10 Feb.
DR E. REID
Hereditary spastic paraplegia. W. 11 Feb.
DR R. ILES
Molecular and cell biology of cystic fibrosis. Th. 12 Feb.
DR D. O'DONOVAN
Biology and pathology of muscular dystrophy. F. 13 Feb.

Cardiorespiratory disease
DR M. GRIFFITHS
Chronic airways narrowing and alveolar wall destruction. M. 23 Feb.
DR J. H. XUEREB
Restrictive lung disease. (Case study) M. 23 Jan.
DR J. RUDD
Atherosclerosis. (Lecture: 2.00–3.00pm) Tu. 24 Feb.
PROF. M. BENNETT
Pathobiology of intervention in coronary artery Disease. W. 25 Feb.
PROF. M. BENNETT
Coronary artery disease. (Case study: starts at 11.45am) W. 25 Feb.
DR M. GODDARD
Ischaemic cardiomyopathy. (Lecture: 11.00–12.00pm) Th. 26 Feb.
DR J. H. XUEREB
Infectious endocarditis–Part I. (Case study) Th. 26 Feb.
DR M. GODDARD
Pathophysiology of pulmonary microvasculature. F. 27 Feb.
DR J. H. XUEREB
Infectious endocarditis–Part II. (Case study) F. 27 Feb.

Disorders of the skin
DR J. STERLING
Normal and abnormal skin structure. M. 2 Mar.
DR J. STERLING
Skin as a renewable organ. Tu. 3 Mar.
DR J. STERLING
Skin as organ of immunity. (Lecture: 2.00–3.00pm) Tu. 3 Mar.
DR N. BURROWS
Ehlers-Danlos syndrome.
(Case study: starts at 10.30am) W. 4 Mar.
DR J. STERLING
Disorders of the skin immune system. Th. 5 Mar.
DR J. STERLING
Bullous skin disease. (Case study) Th. 5 Mar.

Neurodegeneration
DR J. H. XUEREB
Alzheimer's disease. F. 6 Mar.

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Common Cancers

DR A. IBRAHIM
Epigenetics in carcinogenesis. M. 24 Nov.
DR C. BACON
Tumor immunology. (Lecture: 2.00–3.00pm) M. 24 Nov.
DR E. CAMERON
Helicobacter infection, gastric ulceration and malignancy. Tu. 25 Nov.
DR E. CAMERON
Reflux, Barrett's oesophagus and oesophageal carcinoma. (Case study) Tu. 25 Nov.
DR D. RASSL
Lung cancer. W. 26 Nov.
DR R. RINTOUL
Lambert-Eaton syndrome. (Case study) W. 26 Nov.
DR M. ARENDS
Familial predisposition to cancer: colorectal cancer. Th. 27 Nov.
DR J. H. XUEREB
Pancoast's syndrome. (Case study) Th. 27 Nov.
DR J. WOODWARD
Coeliac disease: malabsorption and malignancy. F. 28 Nov.
DR J. WOODWARD
Steatorrhoea. (Case study) F. 28 Nov.
DR H. SIMPSON
Thyroid cancer. M. 1 Dec.
DR M. GURNELL
Approach to the problem of an enlarged thyroid gland. (Case study) M. 1 Dec.
DR M. ARENDS
Infection and cancer: molecular biology of cervical cancer. Tu. 2 Dec.
PROF. V. P. COLLINS
Cerebral gliomas: the pathway and molecular biology. W. 3 Dec.
DR J. H. XUEREB
Cerebral oedema and intracranial pressure. (Case study) W. 3 Dec.
DR N. COLEMAN
Biology of some childhood neoplasms. (Lecture: 2.00–3.00pm) Th. 4 Dec.
PROF. C. CALDAS
Molecular biology of breast cancer. F. 5 Dec.
DR A. CLUROE, DR S. BARTER, DR J. BENSON AND DR M. MOODY
A lump in the breast: a multidisciplinary approach to

DR J. H. XUEREB
Non-Alzheimer tauopathies. (Lecture: 2.00–3.00) F. 6 Mar.
DR R. DAVIES
Tau-related dementia syndromes. (Case study). M. 9 Mar.
DR J. H. XUEREB
Motor neuron disease & Parkinson's disease. M. 9 Mar.
DR R. BARKER
Movement disorders. (Case study). Tu. 10 Mar.

Hepatobiliary disease

DR S. DAVIES
Cirrhosis of the liver. W. 11 Mar.
DR S. DAVIES AND MR R. PRASEEDOM
Jaundice. (Case study). W. 11 Mar.
DR S. DAVIES
Portal hypertension and live failure. Th. 12 Mar.
DR S. DAVIES AND DR M. ALLISON
Viral hepatitis. (Case study). Th. 12 Mar.

NEUROSCIENCE

Course organiser: Dr John Rogers (email: jhr11@cam.ac.uk)
Course Website: www.pdn.cam.ac.uk/teaching/
General enquiries: Paul Frost and Vicky Johnson (Room E4, Physiology), or: pdn-part2-admin@lists.cam.ac.uk

The Biological and Biomedical Sciences (Major Subject Neuroscience) course consists of any four of the eight modules offered for Part II Neuroscience. (see p. 189).

Detailed timetables will be posted in the Department

PATHOLOGY

Course Organiser: Dr A. Kelly (email: apk23@cam.ac.uk)
Course Website: www.path.cam.ac.uk/ugrad/third-year.html

All lectures will be given in the *Department of Pathology* unless otherwise stated.

The Biological and Biomedical Sciences (Major Subject Pathology) course consists of a choice of two out of the five modules of NST Part II Pathology (see p. 191).
(however, a combination of modules A and E is prohibited).

PHARMACOLOGY

Course Organiser: Prof. Colin Taylor (email: cwt1000@cam.ac.uk)
Course Website: www.phar.cam.ac.uk/teaching/tea_part2.html

The Biological and Biomedical Sciences (Major Subject Pharmacology) course consists of the same lectures as for NST Single Subject Pharmacology (see p. 192).

NATURAL SCIENCES TRIPOS, PART II (continued)

PHYSIOLOGY, DEVELOPMENT AND NEUROSCIENCE

Course organiser: Dr John Rogers (email: jhr11@cam.ac.uk)
General enquiries: Paul Frost & Vicky Johnson (Room E4, Physiology), or: pdn-part2–admin@lists.cam.ac.uk
Course Website: www.pdn.cam.ac.uk/teaching/

The Biological and Biomedical Sciences (Major Subject Physiology, Development and Neuroscience) course consists of a series of workshops, lectures and seminars around a framework of modules. The combinations offered are: Development and Reproductive Biology: P3, P4, P6, P7. Integrative Physiology: P1, P3, P7, P8. (see p. 195, 196)

Detailed timetables will be posted in the Department

PLANT SCIENCES

Course Organiser: Dr John Carr (email: jpc1005@cam.ac.uk)
Course Website: www.plantsci.cam.ac.uk/teaching/psii/index.html

All lectures take place in *the Tom ap Rees Lecture Theatre, Department of Plant Sciences* unless otherwise stated.

The Biological and Biomedical Sciences (Major Subject Plant Sciences) course consists of lectures from modules from NST Part II Plant Sciences. Students can offer either Cellular Plant Sciences (modules M1, M4, L1 and L2), or Ecological Plant Sciences (modules M3 and either M1 or Zoology M3; and L2, Zoology. L2). (see pp. 199)

PSYCHOLOGY

Course Organiser: Prof. Tony Dickinson (email: ad15@cam.ac.uk)
Course Website: www.psychol.cam.ac.uk/pages/undgrad.html#Courseb

Lectures will be held in the *Lecture Theatre, Department of Experimental Psychology* unless otherwise stated.

The Biological and Biomedical Sciences (Major Subject Psychology) course consists of the same lectures as for NST Part II Psychology (see p. 200)

ZOOLOGY

Course Organiser: Dr N. Mundy: (email: nim21@cam.ac.uk)
Course Website : www.zoo.cam.ac.uk/degree/2zoology/index.html

Lectures will be given in the *Department of Zoology* unless otherwise stated.

The Biological and Biomedical Sciences (Major Subject Zoology) course offers six Major Subjects, made up of modules offered in NST Part II Single Subject Zoology (see p. 201) and some modules offered in NST Part II Plants Sciences (see p. 199) and NST Part II Genetics (see p. 184) and NST Part II PDN (see p. 193). The following combinations are available:

Cells and Development: Choice of two modules from M6, M7 or M8 and a choice of two modules from L5, L6 or L7
Behaviour: Modules M4, M5, L2 and L3.
Vertebrate Biology: Two modules chosen from M1, M3 or M5, and L1 and L3.
Ecology and Conservation: Two modules from M2, M3 or M5 and L2 and L3.
Ecology and Genetics: Two modules chosen from M2, M3 or M5, and two chosen from L2, L3 or the Genetics module M5 (Evolutionary Genetics).
Ecology and Plant Sciences: Two modules from M2 and M3, or Plant Sciences M3 (Dynamics, History and Future of Vegetation) and L2, L3.

NATURAL SCIENCES TRIPOS, PART II (continued)

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MINOR SUBJECTS

BIOLOGY OF PARASITISM

Course Organiser: Dr S. Lloyd (email: ssl1000@hermes.cam.ac.uk)
Course Website: http://www.bio.cam.ac.uk/sbs/facbiol/bbs/bop.html

All lectures take place in *the Department of Pathology* on M. W. Th. 4 unless otherwise stated.

Lecture 1. Overview of developments. Basic morphology and life cycles
Lectures 2–6. Adaptations for transmission. Structural and behavioural modifications including host recognition by free-living stages (trematodes, nematodes, arthropods)
Lectures 7–9. Recognition of and development of *Plasmodium*, *Leishmania* and *Trypanosoma* in intermediate hosts
Lecture 10, 11. Innate invertebrate responses to parasites
Lectures 12–16. Seasonal epidemiology of fasciolosis, gastro-intestinal nematodes and ticks and the associated diseases (liver pathology, anaemia, disease transmission, including endemic stability of infections)
Lectures 17–24. Zoonoses (*Taenia, Echinococcus, Trichinella, Toxocara, Giardia, Cryptosporidium,*
Lectures 24–26. Zoonoses (*Taenia, Echinococcus, Trichinella, Toxocara, Giardia, Cryptosporidium, Fasciola,* fish-borne trematodes and arthropods)
Lectures 27–31. Chemotherapy and resistance to acaricides, insecticides and anthelmintics
Lecture 32–35. Alternate methods of control, including bioinsecticides and biological control

BIOLOGICAL ANTHROPOLOGY

Course Organiser: Professor Nick Mascie-Taylor (email: nmt1@cam.ac.uk)
Course Website: http://www.bio.cam.ac.uk/sbs/facbiol/bbs/BioAnthWeblink.pdf

The Biological and Biomedical Sciences (Minor Subject Biological Anthropology) courses consist of any one of the following three papers, which form part of Part IIB Biological Anthropology: Paper BA1: The Human Animal, Paper BA2: The Human Journey, or Paper BA3: The Human Lifespan (see p. 216)

EDUCATION STUDIES

Course Organiser: Dr J. Whitehead (email: jmw3@cam.ac.uk)
Further information can be obtained at http://www.educ.cam.ac.uk/ugrad/edstud.html

The Biological and Biomedical Sciences (Minor Subject Education) courses consist of any one of the following papers from Part II of the Education Studies Tripos:
Psychology of Education, Sociology of Education, Philosophy of Education, History of Education (see p. 238)

GENETICS

Course Organisers: Dr M. Segal and Dr C. Farr (email: partII.organisers@gen.cam.ac.uk)
Course Website : www.gen.cam.ac.uk/

The Biological and Biomedical Sciences (Minor Subject Genetics) courses consist of any one of modules M2, M4 or M5 offered for NST Part II Genetics (see p. 184)
A detailed timetable for this course will be available in the Department of Genetics.

HISTORY OF MEDICINE

Course Organiser: Dr N. Hopwood (email: ndh12@cam.ac.uk)

Students can choose one of the following two papers, which form part of NST Part II History and Philosophy of Science
Paper 7: Medicine from Antiquity to the Enlightenment or Paper 8: Modern Medicine and Biomedical Sciences (see p. 187)

Students taking the BBS one-paper subjects in History of Medicine should come to the Part II induction meeting on Wednesday 8 October at 11am in Seminar Room 2, Department of History and Philosophy of Science, Free School Lane.

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008	LENT 2009	EASTER 2009

HISTORY AND ETHICS OF MEDICINE

Course Organiser: Dr K. Brosnan (e-mail: kb407@cam.ac.uk).
Further information can be obtained at www.hps.cam.ac.uk/students/

Lectures are held in *Mill Lane Lecture Room 2*.

DR K. BROSNAN, DR S. JOHN AND OTHERS Medical Ethics. Tu. 4 (weeks 1–8)	The same continued. Tu. 4 (weeks 1–4)	
PROF. J. FORRESTER, DR V. HEGGIE AND DR L. KASSELL History of Medicine. M. 4 (weeks 1–8)	The same continued. M. 4 (weeks 1–4)	

NEUROSCIENCE

Course organiser: Dr John Rogers (email: jhr11@cam.ac.uk)
General enquiries: Paul Frost and Vicky Johnson (Room E4, Physiology), or: pdn-part2-admin@lists.cam.ac.uk
Course Website: www.pdn.cam.ac.uk/teaching/

The Biological and Biomedical Sciences (Minor Subject Neuroscience) courses consist of any one of modules N5, N6. (see p. 189)
Detailed timetables will be posted in the Department.

SOCIAL AND POLITICAL SCIENCES

Course Website: http://www.sps.cam.ac.uk/current/undergraduate/index.html

The Biological and Biomedical Sciences (Minor Subject Social and Political Sciences) courses consist of either of the following two papers, which form part of Social and Political Sciences Tripos Part II.

Course Organiser: Dr D. Weinberg (email: dtw23@cam.ac.uk)
Paper Soc 10: Medicine, Body, and Society (see p. 124)

Course Organiser: Dr Jude Browne (email: jmb63@cam.ac.uk)
Paper Int 5: The Family (see p. 124)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 LENT 2009 EASTER 2009

CHEMISTRY (OPTION A AND OPTION B)
PHYSICAL SCIENCES: HALF SUBJECT CHEMISTRY

Course Organiser: Dr J. H. Keeler (email: jhk10@cam.ac.uk)
Course Website: www-teach.ch.cam.ac.uk

All lectures will be given in the *Department of Chemistry, Lensfield Road.*

Students must register for the course in the *Department of Chemistry, Lensfield Road*, between 0900 and 1300 or 1400 and 1600 on Tu. 7 Oct.

A booklet containing details of the times of the lecture courses will be given out on registration. Others interested in the lecture courses can obtain a copy of this booklet on application to the Course Organiser. This information is also available from the website, www-teach.ch.cam.ac.uk

All students must attend an introductory talk concerning the practical course at 1200 on W. 8 Oct. in *the Pfizer Lecture Theatre.*

All lectures will be given in the *Department of Chemistry, Lensfield Road* unless otherwise stated.

EXPERIMENTAL AND THEORETICAL PHYSICS
PHYSICAL SCIENCES: HALF SUBJECT EXPERIMENTAL AND THEORETICAL PHYSICS

Departmental Contact: Dr R. Padman: (email: II-physics@phy.cam.ac.uk)
Course Website: www.phy.cam.ac.uk/teaching/

Students offering **Option A** must take all 4 **Core courses** in the Michaelmas Term, 2 of the **Options courses** in the Lent and Easter Terms, and **Computational Physics**. They must in addition take either **Physics in Action** or **Physics Education** or both, and a suitable selection from **Theoretical Options** and **Other Further Work**.

Students offering **Option B** must take all 4 **Core courses** in the Michaelmas Term, 3 of the **Options courses** in the Lent and Easter Terms, and **Computational Physics**. They must in addition take 3 courses from **Physics Education**, **Theoretical Options** and **Other Further Work**.

The material of the **Theoretical Options** is examined at the start of the term following that in which each block, TP1 and TP2, is given.

All students are recommended to attend the **Non-examinable courses** Concepts in Physics and Current Research Work in the Cavendish Laboratory.

Students taking Half Subject Experimental and Theoretical Physics as part of Part II Physical Sciences will take any 2 of the **Core courses** in the Michaelmas term and any one of the **Options courses** in the Lent and Easter terms. Candidates also take 2 units of further work selected from **Theoretical Options, Physics in Action**, **Physics Education** and **Other Further Work**. A prior knowledge of Physics equivalent to the material covered in Part IB Physics A and Part IB Physics B will be assumed.

The course will begin with a meeting on the first Wednesday of Full Term (8 Oct.) at 9.30 a.m. in the *Pippard Lecture Theatre*.

Lectures are given at the *Cavendish Laboratory (West Cambridge),* in the *Pippard Lecture Theatre* unless otherwise stated.

Core Courses

PROF. E. M. TERENTJEV
Thermal and Statistical Physics. (Eighteen lectures) W. 11 (First two weeks only) Tu. F. 9

PROF. D. A. RITCHIE
Advanced Quantum Physics. M. W. Th. 9

DR H. P. HUGHES
Optics and Electrodynamics. M. W. 10

DR M. HAEHNELT
Relativity Tu. Th. F. 10 *Sackler Lecture Theatre, IoA*

Computational Physics

Non-examinable courses

DR C. D. MACKAY
Topics in Astrophysics. Tu. Th. F. 11 *Sackler Lecture Theatre, IoA*

Theoretical Options

PROF. B. R. WEBBER AND DR C. H. W. BARNES
Theoretical Physics TP1. M. W. 12–1 (Twelve lectures beginning 13 Oct.); Tu. 2–4 (Four classes, 14 Oct., 28 Oct., 11 Nov., 25 Nov.)

Physics in Action

Options Courses

DR M. GROSCHE
Quantum Condensed Matter Physics. Tu. Th. 10

PROF. C. J. CLARKE
Astrophysical Fluids. M. W. F. 9 *Sackler Lecture Theatre, IoA*

PROF. D. R. WARD AND DR C. G. LESTER
Particle and Nuclear Physics. M. W. 11

DR P. CICUTA
Soft Condensed Matter and Biophysics. T. Th. 9

DR J. S. RICHER AND OTHERS
Computational Physics. M. W. 12 (First eight lectures)

PROF. P. B. LITTLEWOOD
Concepts in Physics. M. W. 12 (Eight lectures beginning 16 Feb.)

THE STAFF OF THE CAVENDISH LABORATORY
Current Research Work in the Cavendish Laboratory (not examinable). See Part III Experimental and Theoretical Physics (p. 000)

PROF. M. C. PAYNE AND PROF. W. J. STIRLING
Theoretical Physics TP2. Tu. Th. 12–1 (Twelve lectures, beginning 22 Jan.); Tu. 2–4 (Four classes, 27 Jan., 10 Feb., 24 Feb., 10 Mar.)

DR J. S. RICHER AND PROF. A. M. DONALD
Physics in Action. F. 11.30 *Mott Seminar Room*
Group Project Work. F. 2–4 *Ryle Seminar Room*

Options Courses (continued)

DR M. GROSCHE
The same continued. Tu. W. F. 10 (First six lectures)

PROF. D. R. WARD AND DR C. G. LESTER
The same continued. M. W. F. 9 (First six lectures)

DR P. CICUTA
The same continued. M. 10. Tu. Th. 9 (First six lectures)

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008	LENT 2009	EASTER 2009
Physics Education DR L. JARDINE-WRIGHT AND OTHERS Physics Education.	DR L. JARDINE-WRIGHT AND OTHERS The same continued.	
Other Further Work DR D. F. BUSCHER AND OTHERS Experiment E1. PROF. R. J. NEEDS AND OTHERS Research Review. DR D. F. BUSCHER Long Vacation Project. *Laboratory Hours.* The experimetal laboratories are open M.–F. 11–5.45	DR D. F. BUSCHER AND OTHERS Experiment E2. PROF. R. J. NEEDS AND OTHERS The same continued.	

GENETICS
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR AND MINOR SUBJECT GENETICS

Course Organisers: Dr M. Segal and Dr C. Farr (email: partII.organisers@gen.cam.ac.uk)
Course Website: www.gen.cam.ac.uk/

All lectures take place in the *Part II Lecture Room (G6), Department of Genetics,* on M. Tu. W. Th. F., unless otherwise stated.

A detailed timetable for this course will be available in the Department of Genetics.

M1: Chromosomes, the Cell Cycle and Cancer PROF. M. ASHBURNER, PROF. D. GLOVER, DR C. FARR, DR J. RAFF AND DR M. SEGAL (Twenty-four lectures, beginning 9 Oct.)	**M5: Evolutionary Genetics** PROF. M. MAJERUS, DR F. JIGGINS, DR D MACDONALD AND DR R. WARE (Twenty-four lectures, beginning 14 Jan.)	
M2: Plant and Microbial Genetics DR D. SUMMERS, DR P. OLIVER, DR J. ARCHER AND DR I. FURNER (Twenty-four lectures, beginning 9 Oct.)		
M3: Developmental Genetics PROF. A. MARTINEZ-ARIAS, PROF. D. ST JOHNSTON, DR M. SEGAL AND DR J. AHRINGER (Twelve lectures, beginning 17 Nov.)	**M3: Developmental Genetics** The same continued. (Twelve lectures, beginning 14 Jan.)	
M4: Human Genetics, Genomics and Systems Biology PROF. M. ASHBURNER, DR D. MACDONALD, DR C. FARR, DR S. RUSSELL AND DR G. MICKLEM (Twelve lectures, beginning 14 Nov.)	**M4: Human Genetics, Genomics and Systems Biology** The same continued. (Twelve lectures, beginning 2 Feb.)	
Long Reading Weekend. 7 Nov. – 10 Nov.	**Reading Week**. 9 Feb. – 13 Feb.	**Revision supervisions** (Five group sessions, dates to be announced)

GEOLOGICAL SCIENCES AND MINERAL SCIENCES
PHYSICAL SCIENCES: HALF SUBJECT GEOLOGICAL SCIENCES AND MINERAL SCIENCES

Coursework website: (https://camtools.caret.cam.ac.uk/)

Students offering Option A (leading to the three year degree – Part IIA) must take two core courses in the Michaelmas Term and two options in the Lent and Easter Terms. They must in addition attend the Skills course S1 in the Michaelmas Term.

Students offering Option B (leading to Part IIB and to the four year degree – Part III) must take two core courses in the Michaelmas Term and three options in the Lent and Easter Terms. They must in addition attend the Skills course S1 in the Michaelmas Term.

Core C1 Geophysics PROF. J. A. JACKSON, DR F. TILMANN AND PROF. D. P. MCKENZIE Convenor: Prof. J. A. Jackson Lectures. Tu. Th. 9 *Harker Room* **Practicals**. Tu. Th. 10–12 *Petrology Laboratory*	**Option 6 Continental Tectonics and Mountains** PROF. J. A. JACKSON AND PROF. D. MACKENZIE Convenor: Prof. J. A. Jackson Lectures. Tu. Th. 2 *Tilley Room* **Practicals**. Tu. Th. 3–4.30 *Petrology Laboratory*	The same continued. (Eight revision sessions)
Core C2 Petrology and Geochemistry DR T. J. B. HOLLAND, DR A. GALY AND DR S. GIBSON Convenor: Dr T. J. B. Holland Lectures. Tu. F. 2 *Harker Room* **Practicals**. Tu. F 3–5 *Petrology Laboratory*	**Option 7 Oceanic and Continental Margins** PROF. R. S. WHITE, DR F. TILMANN, DR J. MACLENNAN AND DR J. HAINES Convenor: Prof. R. S. White Lectures. W. F. 9 *Harker Room* **Practicals**. W. F. 10–11.30 *Petrology Laboratory*	The same continued. (Eight revision sessions)
Core C3 Sedimentology and Palaeontology DR N. HOVIUS, DR K. MCNAMARA AND DR E. HARPER Convenor: Dr N. Hovius Lectures. W. F. 9 *Harker Room* **Practicals**. W. F. 10–12 *Palaeontology/Petrology Laboratories*	**Option 8 Magmatic Processes** DR S. GIBSON, DR M. HOLNESS AND PROF. A. WOODS Convenor: Dr S. Gibson Lectures. M. W. 2 *Harker Room* **Practicals**. M. W. 3–4.30 *Petrology Laboratory*	The same continued. (Eight revision sessions)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008	LENT 2009	EASTER 2009
Core C4 Mineralogy DR I. FARNAN, DR R. J. HARRISON AND A. N. OTHER Convenor: Dr. R. J. Harrison Lectures. M. 9 W. 2 *Harker 2* **Practicals**. M. 10–12, W. 3–5 *IB Mineralogy Laboratory*	**Option 9 Quaternary Oceans and Climate Change** PROF. H. ELDERFIELD, PROF. D. HODELL, DR A. PIOTROWSKI AND DR L. SKINNER Convenor: Prof. H. Elderfield Lectures. Tu. Th. 9 *Harker Room* **Practicals**. Tu. Th. 10–11.30 *Petrology Laboratory*	The same continued. (Eight revision sessions)
Core C5 Mineral Physics PROF. E. ARTACHO, PROF. M. T. DOVE AND MR P. WELCHE Convenor: Prof. M. T. Dove Lectures. W. 9, F. 2 *Harker 2* **Practicals**. W. 10–12, F. 3–5 *IB Minerals Laboratory*	**Option 10 Ancient Ecosystems** DR N. J. BUTTERFIELD AND PROF. S. CONWAY MORRIS, DR A. TURCHYN AND A. N. OTHER Convenor: Dr N. J. Butterfield Lectures. M. 9, F. 2 *Harker Room* **Practicals**. M. 10–11 F. 3–4.30 *Palaeontology Laboratory*	The same continued. (Eight revision sessions)
Skills Course S1 DR N. H. WOODCOCK Convenor: Dr N. H. Woodcock M. Tu. W. Th. F. 12–1 and M. Th. 2–5. *Harker Room and Computer Room* (first two weeks)	**Option M4 Mechanical Behaviour of Minerals** PROF. S. A. T. REDFERN, DR M. DARAKTCHIEV AND DR A. WALKER Convenor: Prof. S. A. T. Redfern Lectures. M. 9, F. 2 *Harker 2* **Practicals**. M. 10–11, F. 3–4.30 *1B Minerals Laboratory*	The same continued. (Eight revision sessions)
Field Course to Greece 5–13 Dec 2008 or 9–17 Dec 2008 PROF. J. A. JACKSON AND DR N. HOVIUS		
Option M6 Diffraction, Electron Microscopy and Microanalysis DR C. PETRONE, DR J. COLE, DR C. J. HOWARD, AND A. N. OTHER Convenor: Prof. M.T. Dove Lectures. Th. 2, F. 9 *Harker 2* **Practicals**. Th. 3–4.30, F. 10–11.30 *IB Minerals Laboratory*	**Option M5 Computational Methods in Crystal Physics** PROF. E. ARTACHO, DR K. TRACHENKO, AND A. N. OTHER Convenor: Prof. E. Artacho Lectures: W. F. 9 *Harker 2* **Practicals**. W. F. 10–11.30 IB *Harker 2*	The same continued. (Eight revision sessions)

HISTORY AND PHILOSOPHY OF SCIENCE

Course Organiser: Dr L. Kassell (email: ltk21@cam.ac.uk)
A detailed timetable and course handbook are available from the Department and at www.hps.cam.ac.uk/timetable

Dr Kassell would like to see all Part II students taking HPS on Wednesday 8 Oct. at 11 a.m. in Seminar Room 2, Department of History and Philosophy of Science. All classes and seminars will be held in the History and Philosophy of Science Seminar Rooms, Free School Lane unless otherwise stated.

Primary Source Seminars
It is essential that students attend four seminars, three from the papers they are taking and one other.

Paper 1: DR L. TAUB, DR L. TOTELIN AND DR T. REES
[Pseudo-Aristotle] *Problems*, in *The Complete Works of Aristotle*, ed. J. Barnes (Princeton, 1984), vol. 2: 1319–1527. F. 4 (weeks 1–4)

Paper 2: MR N. REEVES, DR P. FARA AND MR R. GASKELL
Sir James Pringle, *Six discourses delivered on the occasion of six annual assignments of Sir Godfrey Copley's Medal* (1783). W. 4 (weeks 1–4)

Paper 3: PROF. J. SECORD AND DR P. WHITE
Charles Darwin's correspondence (12–15 selected letters) on the Darwin Correspondence Project website: www.darwinproject.ac.uk. Tu. 12 (weeks 1–4)

Paper 4: DR T. LEWENS AND DR P. DICKEN
Bas van Fraassen, *The Scientific Image* (1980), chapter 2. Th. 10 (weeks 1–4)

Paper 5: DR A. BROADBENT
Bloor, D. (1982) 'Durkheim and Mauss Revisited: Classification and the Sociology of Knowledge', *Studies in History and Philosophy of Science* 13(4): 267–297. Tu. 4 (weeks 1–4)

Paper 6: PROF. J. FORRESTER
Sigmund Freud, Four Short Papers: 'Negation' (SE 19: 233–40); 'A note upon the "Mystic Writing-Pad"' (SE 19: 225–232); 'Fetishism' (SE 21: 147–158); 'Two lies told by children' (SE 12: 303–310). W. 2 (weeks 1–4)

Paper 7: DR L. KASSELL
Helkiah Crooke, *Microcosmographia* (1615), Book 4. F. 12 (weeks 1–4)

Paper 8: DR V. HEGGIE
The Report of the Inter-Departmental Committee on Physical Deterioration, Vol. 1 (HMSO, 1904). Tu. 2 (weeks 1–4)

Paper 9: PROF. N. JARDINE AND MS H. MACDONALD
C. P. Snow, *The Two Cultures and the Scientific Revolution* (1959) and F. R. Leavis, *Two Cultures? The Significance of C.P. Snow* (1962). M. 10 (weeks 1–4)

Dissertation Seminars
Tu. W. 4 (weeks 3–6)
It is essential that students attend at least two of these seminars.

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008	LENT 2009	EASTER 2009
(Paper 1) Classical Traditions in the Sciences		
Course Organisers: Dr E. Robson (email: er264@cam.ac.uk) and Dr L. Taub (email: lct1001@cam.ac.uk)		
DR L. TAUB, DR L. TOTELIN AND DR T. REES Primary Source. F. 4 (weeks 1–4)	DR E. ROBSON Patronage and Science in the Middle East. W. 11 (weeks 1–8)	
DR E. ROBSON, PROF. N. JARDINE AND PROF. R. MCKITTERICK Introduction. F. 11 (weeks 1–4) *(Essential. No supervisions.)*	PROF. SIR GEOFFREY LLOYD Greek and Chinese Science. M. 3 (weeks 1–4)	
DR L. TAUB AND DR C. EAGLETON Instruments, Books and Collections. F. 11 (weeks 5–8)	DR N. EL-BIZRI AND DR S. MALIK Arabic Science. M. 3 (weeks 5–8)	
DR L. TAUB Ancient Mediterranean Science. Tu. 11 (weeks 1–8)	DR A. CUNNINGHAM Sects and Nature. Th. 3 (weeks 1–4)	
(Paper 2) Natural Philosophies: Renaissance to Enlightenment		
Course Organiser: Mr N. Reeves (email: nr218@cam.ac.uk)		
MR N. REEVES, DR P. FARA AND MR R. GASKELL Primary Source. W. 4 (weeks 1–4)	PROF. N. JARDINE, DR E. SPARY AND DR P. WHITE Natural Histories. M. 11 (weeks 1–8)	
DR L. KASSELL Occult Philosophy. W. 11 (weeks 1–8)	DR C. EAGLETON Instruments, Models and Tools. F. 4 (weeks 1–4)	
MR N. REEVES, DR P. FARA, MR R. GASKELL AND DR S. WEEKS Natural Philosophy and Exact Sciences. Tu. 3 (weeks 1–8)	MR N. REEVES, DR P. FARA, MR R. GASKELL AND DR S. WEEKS The same continued. F. 10 (weeks 1–4)	
	DR C. CULLEN Science and Cross-Cultural Encounter in China: From Matteo Ricci to the Macartney Embassy. F. 10 (weeks 5–8)	
(Paper 3) Science, Industry and Empire		
Course Organiser: Prof. J. Secord (email: jas1010@cam.ac.uk)		
PROF. J. SECORD AND DR P. WHITE Primary Source. Tu. 12 (weeks 1–4)	PROF. J. SECORD Science and Empire. Tu. 11 (weeks 1–8)	
PROF. J. SECORD Science, Industry and Empire: An Introduction. F. 2 (weeks 1–4)	DR P. WHITE The Experimental Novel. M. 10 (weeks 1–4)	
DR R. BARNETT Evolution, Time and Progress. W. 10 (weeks 1–8)	DR E. ROBSON Empire, Science and Biblical Archaeology. M. 10 (weeks 5–8)	
DR N. HOPWOOD, DR V. HEGGIE, MR N. REEVES AND PROF. J. SECORD Laboratories, Disciplines and Exhibitions. F. 2 (weeks 5–8); Tu. 12 (weeks 5–8)	DR S. QURESHI Science and Race. W. 10 (weeks 5–8)	
(Paper 4) Metaphysics, Epistemology and the Sciences		
Course Organisers: Dr T. Lewens (e-mail: tml1000@cam.ac.uk) and Dr S. Bangu		
DR T. LEWENS AND DR P. DICKEN Primary Source. Th. 10 (weeks 1–4)	DR T. LEWENS, DR K. BROSNAN AND DR U. STEGMANN Philosophy of Biology. Tu. 10 (weeks 1–8)	
DR A. BROADBENT Causation, Explanation and Law. W. 12 (weeks 1–8)	PROF. J. FORRESTER Thinking in Cases. Th. 11 (weeks 1–4)	
DR T. LEWENS AND DR S. BANGU Induction and the Sciences. M. 11 (weeks 1–8)	DR S. BANGU Philosophy of Mathematics. Th. 11 (weeks 5–8)	
DR S. BANGU Philosophy of Physics. Th. 10 (weeks 5–8)	MS C. MCLEISH The Language of Scientific Theories. M. 2 (weeks 1–4)	
(Paper 5) Science and Technology Studies		
Course Organiser: Dr A. Broadbent (email: abb24@cam.ac.uk)		
DR A. BROADBENT Primary Source. Tu. 4 (weeks 1–4)	DR E. ROBSON The Material Culture of Mathematics. Th. 12 (weeks 1–8)	
DR N. HOPWOOD AND DR R. BARNETT Reproductive Technologies. F. 3 (weeks 1–8)	DR A. NATHOO AND PROF. J. SECORD Science Communication. W. 12 (weeks 1–8)	
DR A. BOSTANCI Sociology of Scientific Knowledge. M. 3 (weeks 1–8)	MS A. BREITENBACH AND DR S. JOHN Environmental Ethics and Science Policy. F. 3 (weeks 1–4)	
	DR T. LEWENS AND OTHERS Bioethics. F. 3 (weeks 5–8)	

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008	LENT 2009	EASTER 2009
(Paper 6) History and Philosophy of Mind Course Organiser: Prof. J. Forrester (email: jpf11@cam.ac.uk) PROF. J. FORRESTER Primary Source. W. 2 (weeks 1–4) PROF. J. FORRESTER Freud, Psychoanalysis and the Twentieth Century. Th. 11 (weeks 1–8); W. 2 (weeks 5–8) DR D. THOM Eugenics and Psychology in the UK, 1869–1971. M. 2 (weeks 5–8) DR A. BROADBENT Mind, Knowledge and Meaning. F. 10 (weeks 1–8)	DR G. BERRIOS History of Psychopathology and Psychiatry. W. 2 (weeks 1–4) DR M. SPREVAK Thought and Computation. W. 2 (weeks 5–8) DR A. AHMED Personal Identity and Consciousness. F. 11 (weeks 1–8)	
(Paper 7) Medicine from Antiquity to the Enlightenment Course Organiser: Dr L. Kassell (email: ltk21@cam.ac.uk) DR L. KASSELL Primary Source. F. 12 (weeks 1–4) DR R. FLEMMING, PROF. SIR GEOFFREY LLOYD AND DR L. TOTELIN Medicine and Society in Greco-Roman Antiquity. F. 12 (weeks 5–8) DR L. KASSELL, DR R. RALLEY, DR H. POWELL AND DR E. BRENNER Medicine and Society, 1100–1700. Th. 3 (weeks 1–8)	DR R. FLEMMING, PROF. SIR GEOFFREY LLOYD AND DR L. TOTELIN The same continued. F. 12 (weeks 1–8) DR L. KASSELL, DR R. RALLEY, DR H. POWELL AND DR E. BRENNER The same continued. F. 2 (weeks 1–8) DR E. ROBSON Mesopotamian Medicine. Tu. 2 (weeks 1–4) MR P. JONES Medicine and Communication, 1375–1640. Th. 2 (weeks 1–4) DR L. KASSELL How to Live Forever. Th. 2 (weeks 5–8)	
(Paper 8) Modern Medicine and Biomedical Sciences Course Organiser: Dr N. Hopwood (email: ndh12@cam.ac.uk) DR V. HEGGIE Primary Source. Tu. 2 (weeks 1–4) DR N. HOPWOOD, DR R. BARNETT AND DR V. HEGGIE Making Modern Medicine. M. 12 (weeks 1–5); Tu. 2 (weeks 5–6); Th. 2 (weeks 1–5) DR R. BARNETT, DR V. HEGGIE AND DR N. HOPWOOD Medicine in the Twentieth Century. M. 12 (weeks 6–8); Tu. 2 (weeks 7–8); Th. 2 (weeks 6–8)	DR R. BARNETT Birth and the Hospital. M. 12 (weeks 1–4) PROF. J. FORRESTER History of Psychiatry. M. 12 (weeks 5–8) DR A. NATHOO History and Politics of Global Health. Tu. 12 (weeks 1–4) DR V. HEGGIE Sport, Medicine and the Heart. Tu. 12 (weeks 5–8)	
(Paper 9) Images of the Sciences Course Organiser: Prof. N. Jardine (email: nj103@cam.ac.uk) PROF. N. JARDINE AND MS H. MACDONALD Primary Source. M. 10 (weeks 1–4) PROF. N. JARDINE, PROF. J. FORRESTER AND DR T. LEWENS Ideologies of Science. Tu. 10 (weeks 1–8); M. 10 (weeks 5–8) DR M. FRASCA-SPADA AND DR S. JOHN Sources of Knowledge: Locke, Berkeley and Hume. Th. 12 (weeks 1–8)	DR M. FRASCA-SPADA, PROF. N. JARDINE AND DR A. BREITNEBACH Sources of Knowledge: Kant. Th. 10 (weeks 1–8) PROF. N. JARDINE AND DR C. CHIMISSO Histories of Science and their Uses. Tu. 3 (weeks 1–8) DR P. FARA People and Pictures. W. 10 (weeks 1–4)	

Attention is drawn to courses announced by other authorities. Students are particularly advised to attend other relevant courses in the Faculties of History, Philosophy, and Social and Political Sciences.

DR N. WRIGHT Latin for Beginners. M. Tu. Th. F. 5 (*Faculty of Classics*) DR P. BURSILL-HALL Topics in the History of Mathematics: Ancients to the Renaissance. W. F. 4 (*Room 9, Centre for Mathematical Sciences*) DR R. BOAST, DR M. BRAVO AND DR R. DOUBLEDAY Geographies of Science. Times to be announced (*Small Lecture Theatre, Department of Geography*)	DR N. WRIGHT The same continued. DR P. BURSILL-HALL Topics in the History of Mathematics: Renaissance to the Nineteenth Century. W. F. 4 (*Room 9, Centre for Mathematical Sciences*) DR J. MARENBON Avicenna and Aquinas on the Soul. M. 12 (*Faculty of Philosophy*) DR C. BOURNE Concepts of Probability. Th. 10 (weeks 5–8) (*Faculty of Philosophy*)	DR N. WRIGHT The same continued.

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 **LENT 2009** **EASTER 2009**

MATERIALS SCIENCE AND METALLURGY

Course Organiser: Dr S. M. Best (email: PartII@msm.cam.ac.uk)
Course Website: www.msm.cam.ac.uk/teaching/PtIIAB/

A detailed timetable is available on the Department course website, as above.

All lectures will be given in the *Seminar Room (T001)*.

DR J. A. ELLIOTT
C1 Introduction to Materials Modelling. (Six lectures)
DR K. M. KNOWLES
C3 Mathematical Methods. (Six lectures)
PROF. P. A. MIDGLEY
C4 Tensor Properties. (Twelve lectures)
PROF. H. K. D. BHADESHIA
C6 Crystallography. (Nine lectures)
DR J. A. LITTLE
C8 Chemical Stability. (Nine lectures)
PROF. A. H. WINDLE
C10 Structure and Properties of Polymers. (Twelve lectures)
DR C. RAE
C15 Fracture, Fatigue and Deformation. (Twelve lectures)

Speakers from Industry
Details available from the Department website.

Visit to Industry
Details available from the Department website.

Examples Classes
Timetable available on the Department website.

Practical Classes
Details available from the Department website.

Management and Language Options
Details available from the Department website.

DR P. D. BRISTOWE
C5 Physical Properties. (Twelve lectures)
PROF. A. L. GREER
C7 Kinetics. (Nine lectures)
DR J. A. LITTLE
C9 Alloys (Nine lectures)
DR K. M. KNOWLES
C12 Plasticity and Deformation Processing. (Nine lectures)
DR S. M. BEST
C13 Ceramics. (Nine lectures)
DR R. E. CAMERON
C14 Polymer Processing. (Six lectures)
PROF. T. W. CLYNE
C16 Composite Materials. (Twelve lectures)
DR R. V. KUMAR
C17 Heat and Mass Transfer. (Six lectures)

Speakers from Industry
Details available from the Department website.

Visit to Industry
Details available from the Department website.

Examples Classes
Timetable available on the Department website.

Practical Classes and Project
Details available from the Department website.

Management and Language Options
Details available from the Department website.

DR E. R. WALLACH
C2 Selection of Materials. (Six lectures)
DR S. M. BEST
C11 Surfaces and Interfaces. (Six lectures)
DR S. M. BEST
C18 Biomaterials. (Six lectures)

Examples Classes
Timetable available on the Department website.

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 LENT 2009 EASTER 2009

NEUROSCIENCE
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR AND MINOR SUBJECT NEUROSCIENCE

Course Organiser: Dr John Rogers, (email: jhr11@cam.ac.uk)
Course website: http://www.bio.cam.ac.uk/teaching/neuroscience/index.html

The course consists of a series of workshops, lectures and seminars around a framework of modules.
Detailed timetables will be posted in the Department.

Module N1: Developmental Neurobiology
M. 9, Th. 9, F. 10
Module Organisers: Prof. R. J. Keynes (rjk10@cam.ac.uk) & Dr J. H. Rogers (jhr11@cam.ac.uk)
Venue: TBA

PROF. M. BATE
Neurogenesis and patterning (Five lectures, 9, 10, 13, 16, 17 Oct.)
DR K. E. LEWIS
Development of spinal cord (Two lectures, 20, 23 Oct.)
DR G. M. W. COOK AND PROF. C. E. HOLT
Axon guidance (Four lectures, 24, 27, 30, 31 Oct.)
DR M. LANDGRAF
Synapse formation (Three lectures, 3, 6, 7 Nov.)
DR J. H. ROGERS
Synapse elimination and neurotrophic factors (Two lectures, 10, 13 Nov.)
DR R. LIVESEY
Development of cerebral cortex (Two lectures, 14, 17 Nov.)
PROF. W. A. HARRIS
Topographic map formation and tuning (Three lectures, 20, 21, 24 Nov.)
PROF. E. B. KEVERNE
Genetics and evolution of brain development (Three lectures, 27, 28 Nov., 1 Dec.)

Module N2: Molecular Neuroscience
M. 10, W. 9, F. 9
Module Organiser: Dr J. Morton (ajm41@cam.ac.uk)
Venue: TBA

DR R. D. MURRELL-LAGNADO
Voltage-gated ion channels (Five lectures, 10, 13, 15, 17, 20 Oct.)
DR S. CHAWLA
Regulation of gene transcription (Two lectures, 22, 24 Oct.)
DR B. BILLUPS
Glutamatergic transmission (Five lectures, 27, 29, 31 Oct., 2, 5 Nov.)
DR S. B. HLADKY
Cys-loop family of ligand-gated ion channels (Three lectures, 7, 10, 12 Nov.)
PROF. C. W. TAYLOR
Ca^{2+} signalling (Three lectures, 14, 17, 19 Nov.)
DR L. LAGNADO
Synaptic mechanisms (Four lectures, 21, 24, 26, 28 Nov.)
DR F. MARSHALL
Drug discovery (Two lectures, 1, 3 Dec.)

Module N5: Neural Degeneration and Regeneration
M. 9, W. 9, Th. 9
Module Organiser: Dr J. H. Rogers (jhr11@cam.ac.uk)
Venue: TBA

DR J. MORTON
Neurodegenerative diseases (Four lectures, 15, 19, 21, 22 Jan.) *Shared with Pt2 Pharmacology, in Pharmacology lecture theatre*
DR R. TASKER
Damage to neurons: Ischaemia, excitotoxicity, and stroke (Four lectures, 26, 28, 29 Jan., 2 Feb.)
DR G. GARCIA-ALIAS
Spinal cord injury (Two lectures, 4, 5 Feb.)
DR J. H. ROGERS
Regeneration of axons (Four lectures, 9, 11, 12, 16 Feb.)
DR R. BARKER
Brain repair and neural grafting (Four lectures, 18, 19, 23, 25 Feb.)
DR S. POLLARD
Neural stem cells and adult neurogenesis (Three lectures, 26 Feb., 2, 4 Mar.)
PROF. R. FRANKLIN
Glial degeneration and repair (Three lectures, 5, 9, 11 Mar.)

Module N6: Central Mechanisms of Sensation and Behaviour
Tu. 9, Tu. 11, Th.10
Module Organiser: Dr R. H. S. Carpenter (rhsc1@cam.ac.uk)
Venue: TBA

DR D. J. TOLHURST
Higher processing of visual information (Four lectures, Tu. 11 (13 Jan.); Th. 10 (15 Jan.); Tu. 11 (20 Jan.); Th. 10 (22 Jan.))
DR R. D. PATTERSON
Central processing of auditory information (Four lectures, Tu. 9 & 11 (27 Jan.); Th. 10 (29 Jan.); Tu. 9 (3 Feb.))
PROF. S. LAUGHLIN
Neural mechanisms of sensory and motor integration (Four lectures, Tu. 11 (3 Feb.); Th. 10 (5 Feb.); Tu. 9 & 11 (10 Feb.))
PROF. D. WOLPERT
Computational sensorimotor control (Three lectures, Th. 10 (12 Feb.); Tu. 9 & 11 (17 Feb.))
DR R. H. S. CARPENTER
Neurobiology of decision (Three lectures, Th. 10 (19 Feb.); Tu. 9 & 11 (24 Feb.))
PROF. W. SCHULTZ
Neurobiology of reward (Three lectures, Th. 10 (26 Feb.); Tu. 9 & 11 (3 Mar.))
DR A. C. ROBERTS
Neural basis of emotion, and its regulation (Three lectures, Th. 10 (5 Mar.); Tu. 9 & 11 (10 Mar.))
DR R. H. S. CARPENTER AND PROF. W. SCHULTZ
NeuroDebate (One workshop, F. 2–5 (6 Mar.))

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 | LENT 2009 | EASTER 2009

Module N3: Control of Action
Tu. 9, Tu. 11, F. 11
Module Organiser: Dr S. A. Edgley (sae1000@cam.ac.uk)
Venue: TBA

DR S. A. EDGLEY
Overview and intro to cerebellum (One lecture, Tu. 11 (7 Oct.))
DR S. A. EDGLEY
Cerebellum (Four lectures, F. 11 (10 Oct.); Tu. 9 and 11 (14 Oct.); F. 11 (17 Oct.))
PROF. R. N. LEMON
Corticospinal system (Four lectures, Tu. 9 and 11 (21, 28 Oct.))
DR H. R. MATTHEWS
Long latency reflexes (Four lectures, F. 11 (24, 31 Oct.); Tu. 9 and 11 (4 Nov.))
DR R. H. S. CARPENTER
Introduction to oculomotor control (One lecture, F. 11 (7 Nov.))
PROF. J. C. ROTHWELL
Basal ganglia (Four lectures, Tu. 9 and 11 (11, 25 Nov.))
DR S. A. EDGLEY
Cerebellum–problem solving discussion (One lecture, F. 11 (14 Nov.))
DR R. H. S. CARPENTER
Occulomtor control (Four lectures, Tu. 9 and 11 (18 Nov.); F. 11 (21, 28 Nov.))
DR R. H. S. CARPENTER
Oculomotor control–problem solving (One lecture, Tu. 9 (2 Dec.))

Module N4: Sensory Transduction
M. 12, W. 10, Th. 10
Module Organiser: Dr H. R. Matthews (hrm1@cam.ac.uk)
Venue: TBA

DR H. R. MATTHEWS
Vertebrate phototransduction (Five lectures, 9, 13, 15, 16, 20 Oct.)
DR R. PADINJAT
Invertebrate phototransduction (Four lectures, 22, 23, 27, 29 Oct.)
DR S. M. ROGERS
Insect hearing (Two lectures, 30 Oct., 3 Nov.)
DR H. R. MATTHEWS
Muscle spindles (Two lectures, 5, 6 Nov.)
PROF. P. MCNAUGHTON
Pain (Four lectures, 10, 12, 13, 17 Nov.)
PROF. A. C. CRAWFORD
Peripheral auditory system (Four lectures, 19, 20, 24, 26 Nov.)
DR H. R. MATTHEWS
Olfactory transduction (Three lectures, 27 Nov., 1, 3 Dec.)

Module N7: Local Circuits and Neural Networks
M. 11, W. 10, F. 9
Module Organiser: Dr D. J. Parker (djp27@cam.ac.uk)
Venue: TBA

DR D. J. PARKER
Principles of network function/spinal cord networks (Four lectures, 16, 19, 21, 23 Jan.)
DR K. E. LEWIS
Molecular approaches to network organisation and function (Two lectures, 26, 28 Jan.)
PROF. S. LAUGHLIN
The design of local circuits (Four lectures, 30 Jan., 2, 4, 6 Feb.)
DR B. HEDWIG
Local circuit mechanisms in invertebrate model systems (Three lectures, 9, 11, 13 Feb.)
DR D. BURDAKOV
Hypothalamic networks (Three lectures, 16, 18, 20 Feb.)
DR I. M. WINTER
Brainstem auditory networks (Four lectures, 23, 25, 27 Feb., 2 Mar.)
DR H. P. C. ROBINSON
Cortical networks (Four lectures, 4, 6, 9, 11 Mar.)

Module N8: Learning, Memory and Cognition
M. 10, Tu. 10, F.10
Module Organiser: Dr T. Bussey (tjb1000@cam.ac.uk)
Venue: TBA

DR T. BUSSEY, DR L. SAKSIDA
Memory, Amnesia, Animal and Computational Models (Six lectures)
DR J. LEE
Mechanisms of Cellular-level Consolidation and Reconsolidation (Three lectures)
DR T. BUSSEY
Emotional Memory (Two lectures)
DR T. BUSSEY, DR L. SAKSIDA, DR B. J. MCCABE
Learning and Memory in Simple Systems (Four lectures)
DR J. LEE, DR J. SIMONS, DR L. CLARK
Higher Cognitive Functions (Nine lectures)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 **LENT 2009** **EASTER 2009**

PATHOLOGY
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT PATHOLOGY

Course Organiser: Dr A. Kelly (email: apk23@cam.ac.uk)
Course Website: www.path.cam.ac.uk

All lectures will be given in the Department of Pathology *unless otherwise stated.*

Introductory lecture
All options. W. 3 (One lecture, 8 Oct.) *It is important that all students attend the introductory lecture*

Option A: Cellular and Genetic Pathology Tu. Th. Sa. 9
Option Organiser: Dr C. A. Sargent (email: cas1001@cam.ac.uk) Tel: 33700)

DR I. FURNER, DR D. GRIFFEN, DR S. BLOTT, DR C. SARGENT, DR D. RUBINSTEIN, DR D. R. SARGAN, DR A. MURREL, DR A. PHILPOTT AND DR M. HURLES
N.B. Some lectures are held at 11.30 or 12 noon
Part I: Genes, Genomes and Disease.

DR P. ELLIS, DR A. SHARKEY
Part II: Molecular Genetics and Pathology of Reproduction.

DR P. EDWARDS, PROF. A. H. WYLLIE, PROF. M.-Q. DU, PROF. V. P. COLLINS, DR A. BANNISTER, , DR H. LAMAN, DR R. HEKETH, DR SHIVJI, DR S. TURNER, DR P. JONES, DR C. WATSON AND PROF. M. A. STANLEY
Part III: Defects in Cellular Growth and Differentiation: Cancer.

DR S. CHARNOCK-JONES
Part IV: Angiogenesis.

Option B: Immunology Tu. Th. 5, Sa. 10.15
Option Organiser: Dr N. Holmes (email: na106@cam.ac.uk) Tel: 33871)

PROF. J. TROWSDALE, DR A. KELLY, PROF. P. LEHNER, DR C. KIRTON, DR H. REYBURN, PROF. A. COOKE, DR C. BRYANT, DR M. CLARK, DR L. MARTENSEN-BOPP, PROF. K. G. C. SMITH, DR N. HOLMES, PROF. D. T. FEARON AND DR H. SCHNEIDER

DR N. HOLMES, DR H. REYBURN, PROF. A. MOFFETT, DR B. A. BLACKLAWS, DR J. BONAME, DR F. RANDOW, DR P. MASTROENI, DR D. B. PALMER, DR E. A. GREEN AND PROF. G. BUTCHER

DR M. CLARK AND PROF. J. S. H. GASTON

Option C: Microbial and Parasitic Disease M. W. F. 9
Option Organiser: Dr I. B. Kingston (email: ibk1000@mole.bio.cam.ac.uk) Tel: 33330)

DR G. FRASER, DR R. HAYWARD, AND PROF. V. KORONAKIS
Bacterial Disease and Pathogenicity.

DR D. BROWN, PROF. V. KORONAKIS, AND DR P. MASTROENI
Combating Bacterial Disease.

DR N. BROWN AND PROF. A. M. LEVER
Fungal Infections.

DR I. B. KINGSTON, DR J. AJIOKA, DR M. SHIRLEY, DR C. PEACOCK AND DR M. FIELD
Major Protozoal Diseases.

DR M. FIELD, PROF. D. DUNNE, DR I. B. KINGSTON, DR Q. BICKLE AND DR E. MICHAEL
Major Helminth Diseases.

DR M. BOOTH
Epidemiology.

DR I. B. KINGSTON AND DR H. DE KONING
Parasite Vaccines and Chemotherapy.

DR G. FRASER AND DR I. B. KINGSTON
Journal Research Seminars (12–1)

DR I. B. KINGSTON AND DR J. W. AJIOKA
Journal Research Seminars (10–1)

Project Seminars Dates to be confirmed

Option D: Virology M. W. F. 5
Option Organiser: Dr T. D. K. Brown (email: tdkb@hermes.cam.ac.uk) Tel: 36917)

DR S. WYNNE, DR T. D. K. BROWN, DR I. BRIERLEY, DR P. DIGARD, DR J. SINCLAIR, DR J. GRAY AND DR S. EFSTATHIOU

DR G. TURNER, DR B. A. BLACKLAWS, DR J. BONAME, DR S. EFSTATHIOU, DR P. BORROW, DR T. D. K. BROWN, DR P. DIGARD, PROF. A. C. MINSON, DR J. C. STERLING, PROF. G. K. DARBY, DR H. BROWNE, DR P. D. MINOR, DR DR J. AJIOKA, DR J. GOG AND DR P. STEVENSON

DR T. D. K. BROWN, DR P. DIGARD AND DR S. EFSTATHIOU

Option E: Dynamics of Infectious Disease Tu. Th. 9, Th. 10
Venue: Rm. FW26 Computer Laboratory, William Gates Building
Option Organiser: Dr L. S. Tiley (email: lst21@cam.ac.uk) Tel: 39554

DR I. BROWN, DR T. FOOKS, DR A. GRANT, DR D. KING, DR J. MCCAULEY, PROF. D. MASKELL, DR T. J. MCKINLEY DR J. MUMFORD, DR O. RESTIF, DR C. RUSSELL, DR L. TILEY AND DR J. WOOD

DR B. BLACKLAWS, DR R. CLIFTON-HADLEY, DR A. DAVISON, DR T. DREW, DR H. FIELD, DR E. GRANT, DR S. GUBBINS, PROF. J. HEENEY, DR G. HEWISON, PROF. T. HUMPHREY, DR R. KAO, DR P. MELLOR, DR P. MASTROENI, DR O. PYBUS, DR O. RESTIF, PROF. J. SLATER, DR K. SMITH AND DR L. TILEY

DR R. BUJDOSO, DR D. GREEN, DR A THACKERY, DR L. TILEY AND DR J. GOOD

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 **LENT 2009** **EASTER 2009**

PHARMACOLOGY
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT PHARMACOLOGY

Course Organiser: Prof. C. W. Taylor (cwt1000@cam.ac.uk)
Course Website: www.phar.cam.ac.uk/teaching/tea_part2.html

The introductory session for students will be at 9 a.m., Wednesday, 8 Oct. in the *Lecture Theatre, Department of Pharmacology*. It is expected to last all morning with a break for coffee.

Lectures will be given in the *Lecture Theatre, Department of Pharmacology*.

Systems Pharmacology

DR L. J. MACVINISH
Pharmacology of Transporting Epithelia. (Four lectures, 9–16 Oct.) M. Tu. Th. 9

DR L. J. MACVINISH
Study Skills (10 Oct. F. 10)

DR M. A. BARRAND
Drug Delivery at the Blood Brain Barrier. (Three lectures, 20–24 Oct.) M. 9, W. F. 10

DR Z. SARNYAI
Pharmacology of Psychiatric Disorders. (Six lectures, 28 Oct.–13 Nov.) Tu. Th. 9

DR C. R. HILEY
Cardiovascular Pharmacology. (Six lectures, 10–21 Nov.) M. 9, W. F. 10

PROF. V. K. K. CHATTERJEE
Drugs, Receptors and DNA. (Two lectures, 18– 20 Nov.) Tu. Th. 9.

DR M. A. BARRAND
Mechanisms of Drug Resistance. (Four lectures, 25 Nov.–4 Dec.) Tu. Th. 10

Molecular and Cellular Pharmacology

DR R. D. MURRELL-LAGNADO
Voltage-gated Ion channels. (Five lectures, 10–20 Oct.) M. 10, W. F. 9

DR S. CHAWLA
Regulation of Gene Transcription. (Two lectures, 22–24 Oct.) W. F. 9

DR B. BILLUPS
Glutamatergic Transmission. (Five lectures, 27 Oct.–5 Nov.) M. 10, W. F. 9

DR S. B. HLADKY
Cys-Loop Family of Ligand-gated Ion Channels. (Three lectures, 7–12 Nov.) M.10, W. F. 9

PROF. C. W. TAYLOR
Ca^{2+} Signalling (Three lectures, 14–19 Nov.) M. 10, W. F. 9

DR L. LAGNADO
Synaptic Mechanisms (Four lectures, 21–28 Nov.) M. 10, W. F. 9

DR F. MARSHALL
Drug Discovery (Two lectures, 1–3 Dec.) M. 10, W. 9

DR F. GRIBBLE
Pancreatic Islet and Gut Hormones. (Three Lectures, 15–22 Jan.) Tu. 9, Th. 10

DR A. J. MORTON
Neurodegenerative Diseases. (Six lectures, 15–28 Jan.). M. W. Th. 9

DR R. M. HENDERSON
Cholesterol and Diabetes. (Six lectures, 26 Jan.–6 Feb.) M. W. 10, F. 9

DR D. BURDAKOV
Sleep and Appetite. (Four lectures, 27 Jan.–5 Feb.) Tu. 10, Th. 9.

DR L. HEISLER
Neurocircuitry Regulating Satiety. (Four lectures, 10–19 Feb.) Tu. Th. 9.

DR T-P. FAN
Pharmacology of Inflammation and Angiogenesis (Six lectures, 24 Feb.–12 Mar.) Tu. Th. 9

PROF. D. M. F. COOPER
Signalling by Cyclic AMP. (Five lectures, 14–23 Jan.) W. 14 and F. 16 at 9, M. 19 and W. 21 at 10, F. 23 at 9.

DR L. RODERICK
Calcium Signalling and the Heart. (Two lectures) 5 Feb. Th. 9, 10 Feb. Tu. 10

PROF. C. W. TAYLOR
G proteins and G-protein Coupled Receptors. (Four lectures, 6–13 Feb.) M. W. 9, F. 10

PROF. P. MCNAUGHTON
Nociception. (Four lectures, 9–16 Feb.) M. W. 10, F. 9

PROF. R. F. IRVINE
Inositide Signalling. (Five lectures, 18–27 Feb.) 18 Feb. W. 10, M. W. F. 9

DR H. VAN VEEN
Molecular Aspects of Multidrug Transport. (Five lectures, 2–11 Mar.) M. W. F. 9

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 **LENT 2009** **EASTER 2009**

PHYSIOLOGY, DEVELOPMENT AND NEUROSCIENCE

BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR AND MINOR SUBJECT PHYSIOLOGY, DEVELOPMENT AND NEUROSCIENCE

Course Organiser: Dr S. O. Sage (email: sos10@cus.cam.ac.uk) (Michaelmas Term(and
Dr R. J. Adams (kja46@cam.ac.uk) (Lent and Easter Term)
Course Website: www.pdn.cam.ac.uk/teaching/

The course consists of a series of workshops, lectures and seminars around a framework of modules.
Detailed timetables will be posted in the Department.

Module N1: Developmental Neurobiology
M. 9, Th. 9, F. 10
Module Organisers: Prof. R. J. Keynes (rjk10@cam.ac.uk) and Dr J. H. Rogers (jhr11@cam.ac.uk)
Venue: TBA

PROF. M. BATE
Neurogenesis and patterning (Five lectures, 9, 10, 13, 16, 17 Oct.)
DR K. E. LEWIS
Development of spinal cord (Two lectures, 20, 23 Oct.)
DR G. M. W. COOK AND PROF. C. E. HOLT
Axon guidance (Four lectures, 24, 27, 30, 31 Oct.)
DR M. LANDGRAF
Synapse formation (Three lectures, 3, 6, 7 Nov.)
DR J. H. ROGERS
Synapse elimination and neurotrophic factors (Two lectures, 10, 13 Nov.)
DR R. LIVESEY
Development of cerebral cortex (Two lectures, 14, 17 Nov.)
PROF. W. A. HARRIS
Topographic map formation and tuning (Three lectures, 20, 21, 24 Nov.)
PROF. E. B. KEVERNE
Genetics and evolution of brain development (Three lectures, 27, 28 Nov., 1 Dec.)

Module N2: Molecular Neuroscience
M. 10, W. 9, F. 9
Module Organiser: Dr J. Morton (ajm41@cam.ac.uk)
Venue: TBA

DR R. D. MURRELL-LAGNADO
Voltage-gated ion channels (Five lectures, 10, 13, 15, 17, 20 Oct.)
DR S. CHAWLA
Regulation of gene transcription (Two lectures, 22, 24 Oct.)
DR B. BILLUPS
Glutamatergic transmission (Five lectures, 27, 29, 31 Oct., 2, 5 Nov.)
DR S. B. HLADKY
Cys-loop family of ligand-gated ion channels (Three lectures, 7, 10, 12 Nov.)
PROF. C. W. TAYLOR
Ca^{2+} signalling (Three lectures, 14, 17, 19 Nov.)
DR L. LAGNADO
Synaptic mechanisms (Four lectures, 21, 24, 26, 28 Nov.)
DR F. MARSHALL
Drug discovery (Two lectures, 1, 3 Dec.)

Module N5: Neural Degeneration and Regeneration
M. 9, W. 9, Th. 9
Module Organiser: Dr J. H. Rogers (jhr11@cam.ac.uk)
Venue: TBA

DR J. MORTON
Neurodegenerative diseases (Four lectures, 15, 19, 21, 22 Jan.) *Shared with Pt2 Pharmacology, in Pharmacology lecture theatre*
DR R. TASKER
Damage to neurons: Ischaemia, excitotoxicity, and stroke (Four lectures, 26, 28, 29 Jan., 2 Feb.)
DR G. GARCIA-ALIAS
Spinal cord injury (Two lectures, 4, 5 Feb.)
DR J. H. ROGERS
Regeneration of axons (Four lectures, 9, 11, 12, 16 Feb.)
DR R. BARKER
Brain repair and neural grafting (Four lectures, 18, 19, 23, 25 Feb.)
DR S. POLLARD
Neural stem cells and adult neurogenesis (Three lectures, 26 Feb., 2, 4 Mar.)
PROF. R. FRANKLIN
Glial degeneration and repair (Three lectures, 5, 9, 11 Mar.)

Module N6: Central Mechanisms of Sensation and Behaviour
Tu. 9, Tu. 11, Th. 10
Module Organiser: Dr R. H. S. Carpenter (rhsc1@cam.ac.uk)
Venue: TBA

DR D. J. TOLHURST
Higher processing of visual information (Four lectures, Tu. 11 (13 Jan.); Th. 10 (15 Jan.); Tu. 11 (20 Jan.); Th. 10 (22 Jan.))
DR R. D. PATTERSON
Central processing of auditory information (Four lectures, Tu. 9 & 11 (27 Jan.); Th. 10 (29 Jan.); Tu. 9 (3 Feb.))
PROF. S. LAUGHLIN
Neural mechanisms of sensory and motor integration (Four lectures, Tu. 11 (3 Feb.); Th. 10 (5 Feb.); Tu. 9 & 11 (10 Feb.))
PROF. D. WOLPERT
Computational sensorimotor control (Three lectures, Th. 10 (12 Feb.); Tu. 9 & 11 (17 Feb.))
DR R. H. S. CARPENTER
Neurobiology of decision (Three lectures, Th. 10 (19 Feb.); Tu. 9 & 11 (24 Feb.))
PROF. W. SCHULTZ
Neurobiology of reward (Three lectures, Th. 10 (26 Feb.); Tu. 9 & 11 (3 Mar.))
DR A. C. ROBERTS
Neural basis of emotion, and its regulation (Three lectures, Th. 10 (5 Mar.); Tu. 9 & 11 (10 Mar.))
DR R. H. S. CARPENTER AND PROF. W. SCHULTZ
NeuroDebate (One workshop, F. 2–5 (6 Mar.))

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 | LENT 2009 | EASTER 2009

Module N3: Control of Action
Tu. 9, Tu. 11, F. 11
Module Organiser: Dr S. A. Edgley (sae1000@cam.ac.uk)
Venue: TBA

DR S. A. EDGLEY
Overview and intro to cerebellum (One lecture, Tu. 11 (7 Oct.))
DR S. A. EDGLEY
Cerebellum (Four lectures, F. 11 (10 Oct.); Tu. 9 and 11 (14 Oct.); F. 11 (17 Oct.))
PROF. R. N. LEMON
Corticospinal system (Four lectures, Tu. 9 and 11 (21, 28 Oct.))
DR H. R. MATTHEWS
Long latency reflexes (Four lectures, F. 11 (24, 31 Oct.); Tu. 9 and 11 (4 Nov.))
DR R. H. S. CARPENTER
Introduction to oculomotor control (One lecture, F. 11 (7 Nov.))
PROF. J. C. ROTHWELL
Basal ganglia (Four lectures, Tu. 9 and 11 (11, 25 Nov.))
DR S. A. EDGLEY
Cerebellum–problem solving discussion (One lecture, F. 11 (14 Nov.))
DR R. H. S. CARPENTER
Occulomtor control (Four lectures, Tu. 9 and 11 (18 Nov.); F.11 (21, 28 Nov.))
DR R. H. S. CARPENTER
Oculomotor control–problem solving (One lecture, Tu. 9 (2 Dec.))

Module N4: Sensory Transduction
M. 12, W. 10, Th. 10
Module Organiser: Dr H. R. Matthews (hrm1@cam.ac.uk)
Venue: TBA

DR H. R. MATTHEWS
Vertebrate phototransduction (Five lectures, 9, 13, 15, 16, 20 Oct.)
DR R. PADINJAT
Invertebrate phototransduction (Four lectures, 22, 23, 27, 29 Oct.)
DR S. M. ROGERS
Insect hearing (Two lectures, 30 Oct., 3 Nov.)
DR H. R. MATTHEWS
Muscle spindles (Two lectures, 5, 6 Nov.)
PROF. P. MCNAUGHTON
Pain (Four lectures, 10, 12, 13, 17 Nov.)
PROF. A. C. CRAWFORD
Peripheral auditory system (Four lectures, 19, 20, 24, 26 Nov.)
DR H. R. MATTHEWS
Olfactory transduction (Three lectures, 27 Nov., 1, 3 Dec.)

Module N7: Local Circuits and Neural Networks
M. 11, W. 10, F. 9
Module Organiser: Dr D. J. Parker (djp27@cam.ac.uk)
Venue: TBA

DR D. J. PARKER
Principles of network function/spinal cord networks (Four lectures, 16, 19, 21, 23 Jan.)
DR K. E. LEWIS
Molecular approaches to network organisation and function (Two lectures, 26, 28 Jan.)
PROF. S. LAUGHLIN
The design of local circuits (Four lectures, 30 Jan., 2, 4, 6 Feb.)
DR B. HEDWIG
Local circuit mechanisms in invertebrate model systems (Three lectures, 9, 11, 13 Feb.)
DR D. BURDAKOV
Hypothalamic networks (Three lectures, 16, 18, 20 Feb.)
DR I. M. WINTER
Brainstem auditory networks (Four lectures, 23, 25, 27 Feb., 2 Mar.)
DR H. P. C. ROBINSON
Cortical networks (Four lectures, 4, 6, 9, 11 Mar.)

Module N8: Learning, Memory and Cognition
M. 10, Tu. 10, F. 10
Module Organiser: Dr T. Bussey (tjb1000@cam.ac.uk)
Venue: TBA

DR T. BUSSEY, DR L. SAKSIDA
Memory, Amnesia, Animal and Computational Models (Six lectures)
DR J. LEE
Mechanisms of Cellular-level Consolidation and Reconsolidation (Three lectures)
DR T. BUSSEY
Emotional Memory (Two lectures)
DR T. BUSSEY, DR L. SAKSIDA, DR B. J. MCCABE
Learning and Memory in Simple Systems (Four lectures)
DR J. LEE, DR J. SIMONS, DR L. CLARK
Higher Cognitive Functions (Nine lectures)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 | LENT 2009 | EASTER 2009

Module P1: Cellular Physiology
M. 11, Tu. 10, W. 9
Module Organiser: Dr C. J. Schwiening (cjs30@cam.ac.uk)
Venue: TBA

DR V. L. LEW
Cellular calcium (Two lectures)
MR A. HARPER AND DR S. O. SAGE
Calcium signalling (Five lectures)
PROF. C.L-H. HUANG
Voltage gated calcium channels (One lecture)
DR M. J. MASON
Patch clamping (One lecture)
DR R. WHITE
Molecular techniques (One lecture)
PROF. R. C. THOMAS
Cellular pH (Three lectures)
DR O. LARINA
pH (Two lectures)
PROF. C.L-H. HUANG
Excitation-contraction coupling (Two lectures)
DR M. J. MASON
Fluorescence measurements of Ca^{2+} (Two lectures)
DR H. P. C. ROBINSON
Synaptic mechanisms (Two lectures)
DR D. J. PARKER
Synaptic and metaplasticity (Three lectures)
DR J. FRASER
Cellular modelling (Two lectures)

Module P2: Early development and Assisted Reproductive Technologies
M. 2, Tu. 11, F. 9
Module Organiser: Prof. M. H. Johnson (mhj21@cam.ac.uk)
Venue: TBA

PROF. M. H. JOHNSON
Fecundity, fertility and sub-fertility (One seminar, 13 Oct.)
PROF. M. H. JOHNSON
The IVF/ICSI treatment cycle: what's involved? (Two lectures, 14, 17 Oct.)
PROF. M. H. JOHNSON
Fertilisation and early development. The mouse as a model system–cell biology (One lecture, 20 Oct.)
DR K. ELDER
How does the human embryo differ from the mouse and what makes a good one? (Two lectures, 21, 24 Oct.)
DR A. BRUCE
The mouse as a model system–molecular biology (Two lectures, 27, 28 Oct.)
PROF. M. H. JOHNSON
Journal club (One journal club, 31 Oct.)
PROF. P. BRAUDE
Preimplantation genetic diagnosis–science and ethics collide (One lecture, 3 Nov.)
DR A. SHARKEY
Mechanisms of implantation (Two lectures, 4, 7 Nov.)
DR A. SHARKEY
New treatments for infertility. New approaches to contraception (One lecture, 10 Nov.)
DR J. NICHOLLS
Embryonic stem cells–what are they? How do they relate to embryos? How do we generate them? (Two lectures, 11, 14 Nov.)
DR V. ENGLISH
Law, ethics and reproduction (One lecture, 17 Nov.)
PROF. M. H. JOHNSON
A paper on embryos with a mixed animal:human genetic composition (One journal club, 18 Nov.)
PROF. M. H. JOHNSON
Why state interference in reproduction? (One lecture, 21 Nov.)
MS Z. GURTIN-BROADBENT
Patients' perspectives on assisted reproduction (One lecture, 24 Nov.)

Module P6: Development: Cell Differentiation and Organogenesis
M. 5, Tu. 2, W. 5, F. 5
Module Organisers: Dr H. A. Baylis (hab@mole.bio.cam.ac.uk) and Dr N. Brown (nb117@mole.bio.cam.ac.uk)
(Interdepartmental Course with Zoology)
Venue: TBA

DR H. BAYLIS, DR N. BROWN AND PROF. S. BRAY
Introduction: setting out the questions (One lecture, 16 Jan.)
PROF. A. SURANI
Stem cells, germ cells and sex determination (Four lectures, 19, 21, 23, 26 Jan.)
DR H. BAYLIS, DR N. BROWN AND PROF. S. BRAY
Introduction to P6 Journal Clubs (One lecture, 20 Jan.)
PROF. A. SURANI
Journal Club: Stem cells, germ cells and sex determination (One journal club, 27 Jan.)
PROF. S. BRAY
Limb development (Four lectures, 28, 30 Jan., 2, 4 Feb.)
PROF. S. BRAY
Journal Club: Limb development (One journal club, 3 Feb.)
DR H. BAYLIS
Gene regulatory networks and differentiation (Four lectures, 6, 9, 11, 13 Feb.)
DR N. BROWN AND DR K. ROEPER
Epithelial polarity and tubulogenesis (Four lectures, 16, 18, 20, 23 Feb.)
DR H. BAYLIS
Journal Club: Gene regulatory networks and differentiation (One journal club, 17 Feb.)
DR N. BROWN AND DR K. ROEPER
Journal Club: Epithelial polarity and tubulogenesis (One journal club, 24 Feb.)
DR P. SCHOFIELD AND DR B. DENHOLM
Development of internal organs (Four lectures, 25, 27 Feb., 2, 4 Mar.)
DR P. SCHOFIELD AND DR B. DENHOLM
Journal Club: Development of internal organs (One journal club, 3 Mar.)
DR M. AGATHOCLEOUS AND PROF. W. A. HARRIS
Growth control and cancer (Three lectures, 6, 9, 11 Mar.)
DR M. AGATHOCLEOUS AND PROF. W. A. HARRIS
Journal Club: Growth control and cancer (One journal club, 10 Mar.)

Module P7: Genomics and the Future of Medicine
M. 10, Th. 2, F. 10
Module Organiser: Prof. A. Ferguson-Smith (afsmith@mole.bio.cam.ac.uk)
Venue: TBA

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 | LENT 2009 | EASTER 2009

Module P3: Fetal and Placental Physiology
M. 12, Th. 10, F. 12
Module Organiser: Dr D. A. Giussani (dag26@cam.ac.uk)
Venue: TBA

PROF. G. BURTON
Placental development and function (Three lectures, 9, 10, 13 Oct.)
DR M. CONSTANCIA
Role of imprinting in feto-placental development (Two lectures, 16, 17 Oct.)
DR S. K. L. ELLINGTON
Early development: effects of oxygen and glucose (Three lectures, 20, 23, 24 Oct.)
PROF. A. L. FOWDEN
Growth and metabolism of the fetus (Four lectures, 27, 30, 31 Oct., 3 Nov.)
DR J. K. JELLYMAN
Development of fetal organs: heart/lungs/kidney (Three lectures, 6, 7, 10 Nov.)
DR E. J. CAMM
Development of fetal organs: brain (One lecture, 13 Nov.)
PROF. A. L. FOWDEN
Development of fetal organs: adrenal (One lecture, 14 Nov.)
DR A. J. FORHEAD
Development of fetal organs: thyroid (One lecture, 17 Nov.)
DR D. A. GIUSSANI
Cardiovascular function (Three lectures, 20, 21, 24 Nov.)
DR A. J. FORHEAD
Fetal maturation in preparation for birth (One lecture, 27 Nov.)
DR D. A. GIUSSANI
Mechanisms of parturition (One lecture, 28 Nov.)
DR D. A. GIUSSANI
Fetal and postnatal breathing (One lecture, 1 Dec.)
DR A. J. FORHEAD AND DR S. E. OZANNE
Intrauterine programming of adult pathophysiology (Two lectures, 4, 5 Dec.)

Module P4: Development: Patterning the Embryo
M. 11, Tu. 12, W. 2, F.11
Module Organiser: Dr R. J. Adams (rja46@cam.ac.uk)
(Interdepartmental Course with Zoology)
Venue: TBA

DR R. WHITE AND DR I. PALACIOS
Introduction: setting up the problems (One lecture, 10 Oct.)
DR I. PALACIOS AND DR R. J. ADAMS
Model organisms and experimental approaches (One lecture, 13 Oct.)
DR N. BROWN
How cells become different from one another (Four lectures, 14, 17, 20, 21 Oct.)
DR R. WHITE AND DR I. PALACIOS
Introduction to journal club (One journal club, 15 Oct.)
DR N. BROWN
Journal club (One journal club, 22 Oct.)
DR I. PALACIOS, DR H. BAYLIS AND DR M. ZERNICKA-GOETZ
Egg polarity and body axes (Six lectures, 24, 27, 28, 31 Oct., 3, 4 Nov.)
DR I. PALACIOS, DR H. BAYLIS AND DR M. ZERNICKA-GOETZ
Journal club (One journal club, 5 Nov.)
PROF. J. C. SMITH, DR R. J. ADAMS, DR B. SANSON AND DR M. ZERNICKA-GOETZ
Gastrulation (Six lectures, 7, 10, 11, 14, 17, 18 Nov.)
PROF. J. C. SMITH, DR R. J. ADAMS, DR B. SANSON AND DR M. ZERNICKA-GOETZ
Journal club (Two journal clubs, 12, 19 Nov.)
DR R. WHITE, DR M. VERMEREN AND DR B. SANSON
Dividing up the embryo (segmentation) and segment identity (Six lectures, 21, 24, 25, 28 Nov., 1, 2 Dec.)
DR R. WHITE, DR M. VERMEREN AND DR B. SANSON
Journal club (One journal club, 26 Nov.)
DR N. BROWN, DR I. PALACIOS AND DR R. J. ADAMS
Fun finale (One journal club, 2 Dec.)

Module P8: Systems and Clinical Physiology
M. 11, W. 11, F. 11
Module Organiser: Dr R. J. Barnes (rjb4@cam.ac.uk)
Venue: TBA

DR R. J. BARNES
Cardiovascular system in exercise (Four lectures, 16, 19, 21, 23 Jan.)
DR I. SABIR
Cardiac arrhythmia (Two lectures, M.11 (26 Feb.); M. 2 (26 Feb.))
DR A. MURRAY
Genetics and energetics of heart failure (Two lectures, 28, 30 Jan.)
DR N. W. MORRELL
Pulmonary circulation (Two lectures, 2, 4 Feb.)
DR A. GETGOOD
Cartilage physiology (Two lectures, 6, 13 Feb.)
PROF. J. COMPSTON
Bone physiology (Two lectures, 9, 11 Feb.)
PROF. D. B. DUNGER
Diabetes mellitus (Two lectures, 16, 18 Feb.)
DR G. S. H. YEO
Genetics of obesity (Three lectures, 20, 23 25 Feb.)
DR J. ROCHFORD
Adipogenesis and lipodystrophy (Two lectures, 27 Feb., 2 Mar.)
DR J. BRADLEY
Chronic renal failure (Two lectures, 4, 6 Mar.)
DR J. FIRTH
Acute renal failure (Two lectures, 9, 11 Mar.)

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008	LENT 2009	EASTER 2009

Module P9: Cell Assembly and Interactions
M. 5, W. 5, Th.2, F. 5
Module Organisers: Dr H. A. Baylis (hab@mole.bio.cam.ac.uk) and Dr N. Brown (nb117@mole.bio.cam.ac.uk)
(Interdepartmental Course with Zoology)
Venue: TBA

DR H. BAYLIS AND DR N. BROWN
Introduction (One lecture, 10 Oct.)
M. ROBINSON
Coated vesicles and traffic through the Golgi (Three lectures, 13, 15, 17 Oct.)
TBC
Introduction to journal clubs (One journal club, 15 Oct. 2–4) *Joint with P4*
PROF. P. LUZIO
Post-Golgi traffic (Three lectures, 20, 22, 24 Oct.)
M. ROBINSON
Trafficking (One journal club, 23 Oct.)
DR R. WHITE
Nuclear architecture (Two lectures, 27, 29 Oct.)
DR R. WHITE
Nuclear architecture (One journal club, 30 Oct.
DR H. BAYLIS
Cell signalling (Four lectures, 31 Oct., 3, 5, 7 Nov.)
DR H. BAYLIS
Cell signalling (One journal club, 6 Nov.)
J-P. VINCENT
Vesicular trafficking and intercellular signalling (Two lectures, 10, 12 Nov.)
DR H. BAYLIS
The polarized cell (Two lectures, 14, 17 Nov.)
DR N. BROWN
Adhesion and junctions (Three lectures, 19, 21, 24 Nov.)
DR R. J. ADAMS
Cytoskeleton and cell movement (Three lectures, 26, 28 Nov., 1 Dec.)
DR N. BROWN
Adhesion and junctions (One journal club, 27 Nov.)
DR H. BAYLIS AND DR N. BROWN
Integrative finale (One lecture, 3 Dec.)
DR R. J. ADAMS
Cytoskeleton and cell movement (One journal club, 4 Dec.)

Module N9: Research Skills in Neuroscience
W. 3, Th. 3
Module Organiser: Dr A. C. Roberts (acr4@cam.ac.uk)
Venue: TBA

DR A. C. ROBERTS
Introduction to module (One lecture, 9 Oct.)
DR G. M. W. COOK AND PROF. A. BRAND
Workshop 1: Wiring the brain: how growing axons find their targets (Two workshops, 15, 16 Oct.)
DR G. M. W. COOK AND PROF. A. BRAND
Journal club/Supervision for workshop 1 (One workshop, 22 Oct.)
DR D. J. PARKER AND PROF. W. A. HARRIS
Workshop 2: Network formation and function (Two workshops, 5, 6 Nov.)
DR D. J. PARKER AND PROF. W. A. HARRIS
Journal club/Supervision for workshop 2 (One workshop, 12 Nov.)
DR D. J. TOLHURST AND DR S. A. EDGLEY
Workshop 3: Spike coding (Two workshops, 26, 27 Nov.)

Module N9: Research Skills in Neuroscience
Tu. 3, W. 3
Module Organiser: Dr A. C. Roberts (acr4@cam.ac.uk)
Venue: TBA

DR D. J. TOLHURST AND DR S. A. EDGLEY
Journal club/Supervision for workshop 3 (One workshop, 14 Jan.)
DR A. C. ROBERTS AND PROF. W. SCHULTZ
Workshop 4: The cognitive brain (Two workshops, 27, 28 Jan.)
DR A. C. ROBERTS AND PROF. W. SCHULTZ
Journal club/Supervision for workshop 4 (One workshop, 3 Feb.)
DR H. F. CLARKE AND M-S. MAN
Workshop 5: Neurochemistry of the mind (Two workshops, 3, 4 Mar.)
DR H. F. CLARKE AND M.-S. MAN
Journal club/Supervision for workshop 5 (One workshop, 10 Mar.)

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 LENT 2009 EASTER 2009

PLANT SCIENCES
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT PLANT SCIENCES

Course Organiser: Dr John Carr (email: jpc1005@cam.ac.uk)
Module Organisers appear below. email: firstname.surname@plantsci.cam.ac.uk unless otherwise specified
Course Website: www.plantsci.cam.ac.uk/teaching/psii/

All lectures take place in *the Seminar Room, Department of Plant Sciences* unless otherwise stated.

The Biological and Biomedical Sciences (Major Subject Plant Sciences) course consists of lectures from the modules below. Students can offer either Cellular Plant Sciences (modules M1, M4, L1 and L4), or Ecological Plant Sciences (modules M3 and either M1 or Zoology M3; and L2, Zoology L2).

Module M1: Frontiers in Plant-Microbe Interactions
Module organiser: Dr John Carr
DR H. ZIEBELL, DR J. P. CARR, PROF. D. J. BAULCOMBE AND PROF. J. BROON
M. W. F. 12 (Twenty-four lectures, 10 Oct.–3 Dec.)

Module M2: Plant Metabolism
Module organiser: Prof. John Gray
DR J. M. HIBBERD, PROF. J. NAPIER, DR P. DUPREE, PROF. J. C. GRAY AND DR A. N. OTHER
M. W. F. 10 (Twenty-four lectures, 10 Oct.–3 Dec.)

Module M3: Dynamics, History and Future of Vegetation
Module organiser: Prof. Howard Griffiths
PROF. H. GRIFFITHS, DR D. A. COOMES, DR E. V. J. TANNER AND PROF. O. RACKHAM
M. F. 9 Tu. 10 (Twenty-four lectures, 10 Oct.–2 Dec.)

Module M4: Plant Signalling Networks
Module organiser: Dr Alex Webb
DR J. M. DAVIES, DR D. E. HANKE AND DR A. A. R. WEBB
Tu. W. Th. 9 (Twenty-four lectures, 9 Oct.–3 Dec.)

Module L1: Development of Plants and Fungi
Module organiser: Dr Jim Haseloff
DR J. HASELOFF, PROF. L. DOLAN, DR D. E. HANKE AND A. N. OTHER
M. W. F. 9 (Twenty-four lectures, 16 Jan.–11 Mar.)

Module L2: Plant Responses to the Environment
Module organiser: Dr Ed Tanner
DR E. V. J. TANNER, PROF. H. GRIFFITHS, DR J. M. HIBBERD AND DR D. PURVES
M. W. F. 10 (Twenty-four lectures, 16 Jan.–11 Mar.)

Module L3: Plant Genes and Organelles
Module organiser: Prof. John Gray
DR A. N. OTHER, DR C. HOWE, PROF. J. C. GRAY, DR K. LILLEY AND DR P. DUPREE
Tu. Th. 10, W 11 (Twenty-four lectures, 15 Jan.–11 Mar.)

Module L4: Frontiers in Microbial Physiology and Ecology
Module organiser: Prof. Howard Griffiths
DR K. JOHNSTONE, DR J. BALK, PROF. H. GRIFFITHS AND DR B. SCHARB-RIDLEY
M. W. F. 12 (Twenty-four lectures, 16 Jan.–11 Mar.)

The modules below may also be offered in Part II Plant Sciences (Part II Zoology modules). All lectures to take place in the Main Lecture Theatre.

Aquatic Ecology
Interdepartmental Module
Module organiser: Dr D. Aldridge
DR D. ALDRIDGE, DR M. BROOKE, DR R. BARNES AND PROF. A. CLARKE
M. W. F. 11 (Twenty-four lectures, 10 Oct.–3 Dec.)

Population Biology
Interdepartmental Module
Module organiser: Dr A. Manica
DR A. MANICA, DR C. RUSSELL, DR D. SMITH, DR D. COOMES, DR W. AMOS AND DR R. JOHNSTONE
M. W. F. 5 (Twenty-four lectures, 10 Oct.–3 Dec.)

Conservation Biology
Interdepartmental Module
Module organiser: Prof. A. Balmford
DR M. BROOKE, DR I. HODGE, DR W. AMOS, DR R. GREEN, DR E. TANNER, DR J. O'SULLIVAN AND PROF. A. BALMFORD
M. W. F. 4 (Twenty-four lectures, 16 Jan.–11 Mar.)

Behavioural Ecology
Department of Zoology
Module organiser: Dr R. A. Johnstone
PROF. N. B. DAVIES, DR R. JOHNSTONE, DR R. KILNER, PROF. T. H. CLUTTON-BROCK AND DR W. FOSTER
Tu. Th. Sa. 10 (Twenty-four lectures, 16 Jan.–11 Mar.)

The following non-examined module is compulsory in Part II Plant Sciences:

Statistics for Part II Biologists
DR B. J. MCCABE
(6 Oct.) M. 9 and 2, M. Tu. W. Th. F. 2 (Ten lectures, 6–16 Oct.) *Main Lecture Theatre, Department of Zoology*
Please note early start of course.

Practical work
(Ten classes) M. W. F. 10–12 or 3–5 (6, 8, 10 Oct.); M.W. F. 3–5 (13, 15, 17, 20 Oct.) *The Titan Teaching Rooms, New Museums Site*
Please note early start of course.

NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2007 **LENT 2008** **EASTER 2008**

PSYCHOLOGY
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT PSYCHOLOGY

Course Organiser: Professor A. Dickinson (email: ad15@cam.ac.uk)

Lectures will be held in the *Lecture Theatre, Department of Experimental Psychology* unless otherwise stated.

PROF. T. W. ROBBINS
General Introduction. Th. 5 (One lecture, 9 Oct.)
DR M. R. F. AITKEN
Statistics. W. F. 2 (Six lectures, 15–31 Oct.)
Practical Classes. M. 2–4 (Three classes, 20 Oct.–3 Nov.), *Physiology Lecture Theatre 3*
Analysis of Variance. M. F. 2 (Four lectures, 21 Nov.–1 Dec.)
Practical Classes. W. 2–4 (Two classes, 26 Nov., 3 Dec.) *Physiology Lecture Theatre 3*

Module A1: Visual Perception and Cognition
DR G. J. DAVIS
M. 9 (Eight lectures, 13 Oct.–1 Dec.)
PROF. J. D. MOLLON
Tu. 5 (Eight lectures, 14 Oct.–2 Dec.)

Module A2: Auditory and Speech Perception
PROF. B. C. J. MOORE
W. Th. 9 (Sixteen lectures, 15 Oct.–4 Dec.)

Module A3: Comparative Psychology of Learning and Cognition
PROF. N. S. CLAYTON
M. Th. 12, F. 9 (Thirteen lectures, 10 Oct.–1 Dec.)
PROF. A. DICKINSON
Th. 12, F. 9 (Eleven lectures, 16 Oct.–4 Dec.)

Module B1: Motivation and Psychopathology
PROF. B. J. EVERITT AND PROF. T. W. ROBBINS
M. 10, W. 11 (Fourteen lectures, 13 Oct.–1 Dec.)

Module C1: Developmental Psychology
PROF. D. BOWLER
F. 10 (Eight lectures, 10 Oct.–28 Nov.)

Module C2: Atypical Psychology
DR K. C. PLAISTED
W. 10 (Four lectures, 15 Oct.–5 Nov.)
DR G. FAIRCHILD
F. 12 (Four lectures, 14 Nov.–5 Dec.)
PROF. S. BARON-COHEN
Tu. 12 (Eight lectures, 14 Oct.–2 Dec.)
DR L. BROSAN
W. 5 (Four lectures, 12 Nov.–3 Dec.)

Module C4: Individual Differences
PROF. N. J. MACKINTOSH
Tu. Th. 10 (Ten lectures, 14 Oct.–18 Nov.)
DR K. C. PLAISTED
M. 11 (Four lectures, 13 Oct.–3 Nov.)
DR L. CLARK
M. 11 (Four lectures, 10 Nov.–1 Dec.)

PROF. M. P. HAGGARD
Data Analysis and Interpretation. Th. 2 (Two classes, 15–22 Jan.)
PROF. M. P. HAGGARD
Qualitative Methods and their Application. Tu. 4 (Four classes, 13 Jan.–3 Feb.)
DR M. R. F. AITKEN
Experimental Design. Th. 2–4 (One class, 12 Mar.)

Module A1: Visual Perception and Cognition
PROF. J. D. MOLLON
M. 9 (Eight lectures, 12 Jan.–2 Feb., 16 Feb.–9 Mar.)

Module A2: auditory and speech perception
DR J. I. ALCÁNTARA
W. 9 (Eight lectures, 14 Jan.–4 Feb., 18 Feb.–11 Mar.)

Module A4: Human Memory and Decisions
DR M. R. F. AITKEN ET AL.
M. W. 11, Tu. 12 (Twenty-four lectures, 12 Jan.–4 Feb., 16 Feb.–11 Mar.)

Module B1: Motivation and Psychopathology
PROF. B. J. EVERITT
W. 10 (Six lectures, 21 Jan.–4 Feb., 18 Feb.–4 Mar.)
DR P. FLETCHER
Th. 5 (Four lectures, 19 Feb.–12 Mar.)

Module B2: Memory and Higher Functions
DR C. ROMBERG ET AL.
M. Tu. F. 10 (Twenty-four lectures, 16 Jan.–10 Mar.) *Physiology Main Lecture Theatre*

Modules B1 and B2
PROF. T. W. ROBBINS AND PROF. A DICKINSON
Tu. 2–4 (Eight seminars, 20 Jan.–10 Mar.)

Module B3: Language
DR M. MIOZZO ET AL.
M. 12, 5, Th. 9 (Twenty Three lectures, 12 Jan.–5 Feb., 16 Feb.–5 Mar.)

Module C1: Developmental Psychology, Social Psychology and Individual Differences
DR J. STEVENSON-HINDE AND PROF. R. HINDE
Tu. W. 5 (Eight lectures, 13 Jan.–4 Feb.)
DR I. DUMONTHEIL
F. 11 (Eight lectures, 16 Jan.–6 Feb., 20 Feb.–13 Mar.)

Module C2: Atypical Psychology
DR E. WEISBLATT
Tu. 5 (Four seminars, 17 Feb.–10 Mar.)

Module C4: Individual Differences
PROF. J. D. MOLLON
F. 9 (Four lectures, 16 Jan.–6 Feb.)

Attention is drawn to lectures organised by the Faculty of Social and Political Sciences for the Paper Psy 1 (Social Psychology) given for Parts IIA and IIB of the Social and Political Sciences Tripos, Tu. 2 and W. 12 throughout the Michaelmas Term; and M. 2 and W. 12 throughout the Lent Term.

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NATURAL SCIENCES TRIPOS, PART II (continued)

MICHAELMAS 2008 **LENT 2009** **EASTER 2009**

ZOOLOGY
BIOLOGICAL AND BIOMEDICAL SCIENCES: MAJOR SUBJECT ZOOLOGY

Course Organiser: Dr N. Mundy (email: nim21@cam.ac.uk)
Course Website: www.zoo.cam.ac.uk/degree/2zoology/index.html

Lectures will be given in the *Department of Zoology, Part II Lecture Theatre* unless otherwise stated.

M1 Topics in Vertebrate Evolution
Module organiser: Prof. J. A. Clack
PROF. J. CLACK, DR R. SANSOM, DR Z. JOHANSON, DR A. R. MILNER, DR L. NOÈ, PROF. S. E. EVANS, DR R. BUTLER AND DR D. M. UNWIN
M. W. F. 10 (Twenty-four lectures, beginning 10 Oct.)

M2 Aquatic Ecology
Module organiser: Dr D. Aldridge
DR D. ALDRIDGE, DR M. BROOKE, DR R. BARNES AND PROF. A. CLARKE
M. W. F. 11 (Twenty-four lectures, beginning 10 Oct.)

M3 Population Biology
Module organiser: Dr A. Manica
DR A. MANICA, DR C. RUSSELL, PROF. D. SMITH, DR D. COOMES, PROF. W. AMOS AND DR R. JOHNSTONE
M. W. F. 5 (Twenty-four lectures, beginning 10 Oct.)

M4 Neural Mechanisms of Behaviour
Module organiser: Dr S. Rogers
PROF. M. BURROWS, PROF. S. B. LAUGHLIN, DR S. ROGERS, DR B. MCCABE, PROF. E. B. KEVERNE AND PROF. C. M. BATE
Tu. Th. Sa. 11 (Twenty-four lectures, beginning 9 Oct.)

M5 Behaviour
Module organiser: Prof. E. B. Keverne
DR B. MCCABE, PROF. E. B. KEVERNE, DR N. EMERY, DR N. MUNDY AND PROF. P. BATESON
Tu. Th. 9, Sa. 10 (Twenty-four lectures, beginning 9 Oct.)

M6 Cell Assembly and Interactions
(Interdepartmental course with PDN)
Module organisers: Dr H. Baylis and Dr N. Brown
DR H. BAYLIS, DR N. BROWN, PROF. M. ROBINSON, PROF. P. LUZIO, DR R. WHITE, DR J-P. VINCENT AND DR R. ADAMS
M. W. F. 4 (Twenty-four lectures plus six journal clubs beginning 10 Oct.)

M7 Control of Cell Growth and Genome Stability
Module organiser: Prof. S. P. Jackson
DR J. PINES, PROF. S. P. JACKSON, DR K. DRY, DR J. RAFF, DR M. JACKMAN, DR T. KRUDE, DR G. DE LA CUEVA MÉNDEZ, DR A. KAIDI, DR S. POLO AND DR T. LITTLEWOOD
M. W. F. 9 (Twenty-four lectures, beginning 10 Oct.)

M8 Development: Patterning an embryo
(Interdepartmental course with PDN)
Module organisers: Dr I. Palacios and Dr R. Adams
DR R. WHITE, DR N. BROWN, PROF. P SIMPSON, DR H. SKAER, DR R. ADAMS, DR B. SANSON, DR I. PALACIOS, DR H. BAYLIS, DR M. ZERNICKA-GOETZ, PROF. J. SMITH AND DR R. KEYNES
M. 11, Tu. 12, F. 11 (Twenty-four lectures, with six seminars beginning 10 Oct.)

L1 Mammalian Evolution and Faunal History
Module organiser: Dr R. Asher
DR R. C. PREECE, DR T. KEMP, DR R. ASHER AND DR E. WESTON
M. W. F. 10 (Twenty-four lectures, beginning 16 Jan.)

L2 Conservation Biology
Module organiser: Prof. A. Balmford
DR M. BROOKE, DR I. HODGE, PROF. W. AMOS, PROF. W. SUTHERLAND, DR A. ROGERS, DR D. COOMES, DR R. GREEN, DR E. TANNER, DR J. O'SULLIVAN AND PROF. A. BALMFORD
M. W. F. 4 (Twenty-four lectures, beginning 16 Jan.)
All lectures to take place in the Main Lecture Theatre.

L3 Behavioural Ecology
Module organiser: Dr R. A. Johnstone
PROF. N. B. DAVIES, DR R. JOHNSTONE, DR R. KILNER, PROF. T. H. CLUTTON-BROCK AND DR W. FOSTER
Tu. Th. Sa. 10 (Twenty-four lectures, beginning 15 Jan.)
All lectures to take place in the Main Lecture Theatre.

L5 Genes, Genomes and Animal Evolution
Module organiser: Prof. M. Akam
PROF. W. AMOS, DR G. WALKER, DR N. MUNDY, DR J. JAEGER, PROF. P. SIMPSON AND DR C. JIGGINS
M. W. F. 11 (Twenty-four lectures, beginning 16 Jan.)

L6 Development: Cell differentiation and organogenesis
(Interdepartmental course with PDN)
Module organisers: Dr H. Baylis and Dr N. Brown
DR H. BAYLIS, DR N. BROWN, DR S. BRAY, PROF. A. SURANI, DR K. ROEPER, DR P. SCHOFIELD, DR B. DENHOLM, DR M. AGATHOCLEOUS AND PROF. W. HARRIS
M. W. F. 5
(Twenty-four lectures plus six journal clubs beginning 16 Jan.)

L7 Control of Gene Expression
Module organiser: Dr T. Krude
DR T. KRUDE, DR A. KIRMIZIS, DR A. BANNISTER, DR P. HURD, DR J. MATA, DR D. SCADDEN, DR H. BAYLIS, PROF. C. SMITH, DR I. PALACIOS AND DR N. STANDART
M. W. F. 9 (Twenty-four lectures, beginning 16 Jan.)
First nine lectures in the *Department of Zoology*; the following fifteen lectures take place in the *Department of Biochemistry*

Human Biology
Module organiser: Prof. T. H. Clutton-Brock
PROF. R. FOLEY, PROF. W. SUTHERLAND, PROF. A. P. BALMFORD, DR N. MUNDY, DR R. JOHNSTONE AND DR R. ASHER
M. W. F. 10 (Six lectures, beginning 24 Apr.)