## ASTROPHYSICS

Course Website: [http://www.ast.cam.ac.uk/teaching/undergrad/partiii/partiiicourseguide03.html](http://www.ast.cam.ac.uk/teaching/undergrad/partiii/partiiicourseguide03.html)

All lectures will be held in the Centre for Mathematical Sciences meeting rooms (MR), Clarkson Road except * which will be held at the Institute of Astronomy, Madingley Road and † in the Pippard Lecture Theatre (P) or Small Lecture Theatre (S) in the Cavendish Laboratory (West Cambridge).

<table>
<thead>
<tr>
<th>Lecturer/Organiser</th>
<th>Title</th>
<th>Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>DR N. W. EVANS</td>
<td>Astrophysical Dynamics</td>
<td>M. W. F. 9</td>
<td>MR14</td>
</tr>
<tr>
<td>DR O. RRNN</td>
<td>General Relativity</td>
<td>M. W. F. 10</td>
<td>MR3</td>
</tr>
<tr>
<td>DR F. K. PRIESTLEY &amp; PROF. A. DEUSS†</td>
<td>Physics of the Earth as a Planet</td>
<td>M. W. F. 10</td>
<td>(P)</td>
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<tr>
<td>DR A. CHALLINOR &amp; PROF. A. C. DAVIS</td>
<td>Cosmology</td>
<td>M. W. F. 11</td>
<td>MR9</td>
</tr>
<tr>
<td>PROF. M. A. THOMSON†</td>
<td>Particle Physics</td>
<td>Tu. Th. 10</td>
<td>(S)</td>
</tr>
<tr>
<td>DR G. I. OGILVIE</td>
<td>Astrophysical Fluid Dynamics</td>
<td>Tu. Th. 11</td>
<td>MR11</td>
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<tr>
<td>DR J. S. SANDERS*</td>
<td>Introduction to Unix and Computing</td>
<td>Tu. Th. 11</td>
<td>(S)</td>
</tr>
<tr>
<td>PROF. R. C. KENNICUTT</td>
<td>Galaxies</td>
<td>M. W. F. 9</td>
<td>MR15</td>
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<tr>
<td>PROF. M. PETTINI</td>
<td>Physical Cosmology</td>
<td>M. W. F. 10</td>
<td>MR15</td>
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<tr>
<td>DR H. S. REALL</td>
<td>Black Holes</td>
<td>M. W. F. 11</td>
<td>MR9</td>
</tr>
<tr>
<td>PROF. E. P. S. SHELLARD</td>
<td>Advanced Cosmology</td>
<td>Tu. Th. 9</td>
<td>MR4</td>
</tr>
<tr>
<td>PROF. M. R. E. PROCTOR &amp; DR L. J. SILVERS</td>
<td>Stellar and Planetary Magnetic Fields</td>
<td>Tu. Th. 10</td>
<td>MR11</td>
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<tr>
<td>PROF. J. E. PRINGLE</td>
<td>Accretion Discs</td>
<td>Tu. Th. 11</td>
<td>MR11</td>
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</tbody>
</table>

## BIOCHEMISTRY

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

Lectures are given in the Department of Biochemistry.

The course starts with an introductory lecture by Prof. Howe at 9 a.m. on M. 6 Oct. in the Lecture Theatre in the Sanger Building, Department of Biochemistry, Old Addenbrooke’s Site.

Research Techniques lectures will be held in the Lecture Theatre in the Sanger Building, Department of Biochemistry, Old Addenbrooke’s site. Detailed timetables will be posted in the Department of Biochemistry.

Option course lectures take place throughout the day in Lent Term and are held in the Hopkins Building, Department of Biochemistry, Downing site. Detailed timetables will be posted in the Department of Biochemistry.

### Research project support

**DEPARTMENTAL STAFF**


**Research Technique Lectures Tu. Th. 5**

**DEPARTMENTAL STAFF AND OTHERS**

- Molecular Biology. (Five lectures)
- Bioinformatics overview. (One lecture)
- Protein Expression and Purification. (Four lectures)
- Analytical Techniques in Protein and Peptide Characterization. (Three lectures)
- Structure Determination by NMR and X-ray Crystallography. (Four lectures)

**Research Project Symposium**

**PROF. C. J. HOWE AND DR T. R. HESKETH (Joint chairs)**

Presentation of interim reports. 8–9 Dec.

### Options lectures

1. **PROF. G. P. C. SALMOND AND OTHERS**
   - Bacterial virulence and antimicrobial chemotherapy. (Fifteen lectures)
   - Option Organiser: Prof. G. P. C. Salmon

2. **PROF. J. O. THOMAS**
   - Mitochondria and bioenergetics. (Fifteen lectures)
   - Option Organiser: Dr. J. Hirst
### Natural Sciences Tripos, Part III (continued)

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<th>MICHAELMAS 2008</th>
<th>LENT 2009</th>
<th>EASTER 2009</th>
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<tr>
<td><strong>4. DR. P. DUPREE AND OTHERS</strong>&lt;br&gt;Plant cell and molecular biology (Fifteen lectures)</td>
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<tr>
<td><strong>5. PROF. C. W. J. SMITH AND OTHERS</strong>&lt;br&gt;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</td>
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<tr>
<td><strong>6. PROF. K. SIDDE AND OTHERS</strong>&lt;br&gt;Medical biochemistry – Obesity and diabetes from genes to pathology (Fifteen lectures) Option Organiser: Prof. K. Siddle</td>
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<td><strong>7. DR. F. HOLLFELDER AND OTHERS</strong>&lt;br&gt;Enzyme mechanisms and chemical biology (Fifteen lectures) Option Organiser: Dr F. Hollfelder</td>
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<tr>
<td><strong>9. DR. T. R. HESKETH AND OTHERS</strong>&lt;br&gt;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</td>
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<tr>
<td><strong>10. DR. F. R. LIVESEY AND OTHERS</strong>&lt;br&gt;Stem cell biology (Fifteen lectures) Option Organiser: Dr F. R. Livesey</td>
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<tr>
<td><strong>12. PROF. T. L. BLUNDELL AND OTHERS</strong>&lt;br&gt;Biotechnology (Fifteen lectures) Option Organiser: Dr K. Lilley</td>
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### Chemistry

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

Students must register for the course in the *Department of Chemistry, Lensfield Road*, between 0900 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 on the website, www-teach.ch.cam.ac.uk

All students must attend an introductory talk concerning the course at 10 a.m. on W. 8 Oct. in the *Wolfson Lecture Theatre*.

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

PROF. H. SIRRINGHAUS (P)
Advanced Quantum Condensed Matter Physics. T. Th. S. 11

PROF. U. STEINER (S)
Soft Matter. Tu. Th. S. 10

DR P. ALEXANDER, PROF. A. C. FABIAN AND PROF. A. N. LASENBY (S)
Astrophysics and Cosmology. M. W. F. 9

PROF. M. A. THOMSON (S)
Particle Physics. M. W. F. 11

DR K. F. PRIESTLEY, PROF. D. MCKENZIE AND DR A. DEUSS (S)
Physics of the Earth as a Planet. M. W. F. 10

PROF. P. B. LITTLEWOOD (S)
Quantum Condensed Matter Field Theory. Tu. Th. S. 12

DR K. F. PRIESTLEY, PROF. D. MCKENZIE AND DR A. DEUSS (S)
Atomic and Optical Physics. M. W. F. 12

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**Minor Options**

Twelve-lecture courses beginning in the second week of term.

PROF. D. J. C. MACKAY (P)
Information Theory, Pattern Recognition and Neural Networks. M. W. 2 (beginning 26 Jan.)

DR C. G. LESTER (S)
The Frontiers of Particle Physics. M. F. 9 (beginning 23 Jan.)

DR J. COLE (M)
The Frontiers of Experimental Condensed Matter Physics. M. F. 9 (beginning 23 Jan.)

PROF. G. G. LONZARICH (M)
Superconductivity and Quantum Coherence. T. Th. 11 (beginning 22 Jan.)

DR C. H. W. BARNES (S)
Quantum Information. M. F. 10 (beginning 23 Jan.)

PROF. B. D. SIMONS (M)
Phase Transitions and Collective Phenomena. Tu. Th. 12 (beginning 22 Jan.)

DR R. D. E. SAUNDERS (S)
The Frontiers of Observational Astrophysics. W. F. 11 (beginning 23 Jan.)

DR R. E. ANSORGE AND OTHERS (S)
Medical Physics. Tu. Th. 2 (beginning 22 Jan.)

DR J. F. GUCK (S)
Biological Physics. M. W. 12 (beginning 26 Jan.)

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Quantum Field Theory

The following course from Part III Mathematics (p. 143) may be offered for examination.

PROF. A. C. DAVIS
Quantum Field Theory. Tu. Th. S. 9 (CMS MR2)
## NATURAL SCIENCES TRIPOS, PART III (continued)

### MICHAELMAS 2008

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<tr>
<th>Course</th>
<th>Details</th>
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<tr>
<td>Advanced Quantum Field Theory</td>
<td>The following course from Part III Mathematics (p. 144) may be offered for examination in place of two minor options. PROF. N. DOREY Advanced Quantum Field Theory. Tu. Th. S. 11 (CMS MR3)</td>
</tr>
<tr>
<td>Nuclear Power Engineering</td>
<td>The following course from Part IIB Engineering (p. 128) may be offered for examination in place of one minor option. DR G. T. PARKS (venue to be confirmed) Nuclear Power Engineering. M. 12, W. 9 (beginning 19 Jan.)</td>
</tr>
<tr>
<td>Non-examinable courses</td>
<td>DR J. N. BUTTERFIELD (s) Philosophy of Physics. F. 12 (Four lectures beginning 16 Jan.) DR R. C. JENNINGS (s) Ethics of Physics. F. 12 (Four lectures beginning 13 Feb.) THE STAFF OF THE CAVENDISH LABORATORY Current Research Work in the Cavendish Laboratory. Open Days for students reading Part II or Part III. Physics W. 2-5 The Open Days will start with introductory talks at 2 p.m. in the Cavendish Laboratory. Research in the TCM Group (4 Feb. 2.15 in TCM Seminar Room)</td>
</tr>
<tr>
<td>Further Work</td>
<td>PROF. P. B. LITTLEWOOD AND OTHERS The same continued. DR S. VYAKARNAM AND OTHERS (Mill Lane Lecture Theatre 6) Entrepreneurship. M. Th. 4 (beginning 19 Jan.)</td>
</tr>
<tr>
<td>Project Work</td>
<td>DR R. PADMAN AND OTHERS The same continued. DR R. PADMAN AND OTHERS The same continued.</td>
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Seminar Course
A series of seminars will be run during the Michaelmas Term. Tu. 5 Tilley Lecture Theatre; Th. 5 Harker Room

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

The same continued. (Eight revision sessions)

Option 6 Continental Tectonics and Mountains
PROF. J. A. JACKSON AND PROF. D. MCKENZIE
Convenor: Prof. J. A. Jackson
Lectures. Tu. Th. 2 Tilley Lecture Theatre.
Practicals. Tu. Th. 3–4.30 Petrology Laboratory

The same continued. (Eight revision sessions)

Option 7 Oceanic and Continental Margins
PROF. R. S. WHITE, DR. F. TILMANN, DR. J. MCLENNAN 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)

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)

Option 9 Quaternary Oceans and Climate Change (IDP2)
PROF. H. ELDERFIELD AND OTHERS
Convenor: Prof. H. Elderfield
Lectures. Tu. Th. 10 Tilley Lecture Theatre.
Practicals. Tu. Th. 11–12 and Other Petrology Laboratory

The same continued. (Eight revision sessions)

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 2
Practicals. M. 10–11 F. 3–4.30 Palaeontology Laboratory

The same continued. (Eight revision sessions)

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 IB Minerals Laboratory

The same continued. (Eight revision sessions)

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)

Students attend the seminar course in the Michaelmas Term and take three options in the Lent and Easter Term.
A detailed timetable is available on the Department website, as above.

All lectures will be given in the *Austin Lecture Room*. 