

SENATE

Minutes of Meeting held on 18 June 2014

Present: The Provost, Professor James Stirling (Chair); Professors Anandalingam, Autio, Cilliers, Gibson, Gooderham, Higham (representing Professor Kelleher), Humphris, Magee, Matar, McGregor, Richardson, Smith, Thompson, Welton, Wright; Associate Professor Miraldo; Drs Bradley, Buluwela, Gounaris, McCoy; Mr Andrew Tebbutt; Mr Goldsmith, Ms Kempston (Student Representatives); with Mr Pateman (Academic Registrar), Ms Baker (Senior Assistant Registrar) and Mr Wilkinson (Management Trainee).

Apologies: Professors Dallman, Gardner, Kelleher, Riboli; Drs Archer, Fobelets, McPhail.

In attendance: Mr Neilson

1879 Minutes

The Minutes of the meeting of the Senate held on 14 May 2014 were confirmed.

1880 Matters Arising

Minute 1870: Office of the Independent Adjudicator and Completion of Procedures Letters

Noted: That a verbal report would be made when additional information became available.

1881 Provost's Business

Received: A Report from the Provost (**Paper Senate/2013/78**).

(1) Kavli Prize

Reported: That Professor Sir John Pendry FRS had been awarded the 2014 Kavli Prize in Nanoscience. Professor Pendry had received the prize in honour of his contributions to nano-optics and to the field of metamaterials.

(2) Executive Director of the Brevan Howard Centre

Reported: (i) That Professor Franklin Allen, currently Nippon Life Professor of Finance and Economics at the Wharton School of the University of Pennsylvania, USA, had been appointed as Executive Director of the Brevan Howard Centre and Professor of Finance and Economics, in the Imperial College Business School, with effect from 1 July 2014.

(3) Director of Research of the Brevan Howard Centre

Reported: That Professor Douglas Gale, currently Silver Professor, Professor of Economics, at the New York University, USA, had been appointed as Director of Research of the Brevan Howard Centre and Professor of Economics, in the Imperial College Business School, with effect from 1 July 2014.

(4) Chief Executive Officer of the Innovation Knowledge Centre in Synthetic Biology

Reported: That Dr Stephen Philip Chambers, currently Vice President of the Abpro-Labs, had been appointment as the Chief Executive Officer of the Innovation and Knowledge Centre in Synthetic Biology, in the Department of Bioengineering, Faculty of Engineering, with effect from 1 July 2014.

(5) Fellows of the Royal Society

Reported: That the following staff had been elected to the Fellowship of the Royal Society:

Professor Steven Cowley, Professor in Plasma Physics in the Department of Physics

Professor Amanda Fisher, Professor in Cell Biology and Head of the Institute of Clinical Sciences.

Professor Jenny Nelson, Professor of Physics in the Department of Physics

Professor Bill Rutherford, Chair in Biochemistry of Solar Energy in the Department of Life Sciences.

Further Reported: That the Senate congratulated these staff on their achievements.

(6) Fellowship of the Academy of Medical Sciences

Reported: That the following staff had been elected to the Fellowship of the Academy of Medical Sciences:

Professor Majid Ezzati, Chair in Global Environmental Health in the School of Public Health.

Professor Sebastian Johnston, Professor of Respiratory Medicine and Allergy in the National Heart and Lung Institute.

Professor Paul Matthews, Head of the Division of Brain Sciences, Department of Medicine.

Professor Dudley Pennell, Professor of Cardiology in the National Heart and Lung Institute.

Professor Nadia Rosenthal, Chair in Cardiovascular Science in the National Heart and Lung Institute.

Professor William Wisden, Professor of Molecular Neuroscience in the Department of Life Sciences.

Further Reported: That the Senate congratulated these staff on their achievements.

(7) Royal Society of Chemistry

Reported: That the following staff from the Department of Chemistry had been awarded Royal Society of Chemistry Prizes:

Dr Matthew Fuchter received the Harrison-Meldola Memorial Prize.

Professor Iain McCulloch received the Tilden Prize.

Professor Milo Shaffer received the Corday-Morgan Prize.

Professor Molly Stevens received the Corday-Morgan Prize.

Dr Edward Tate received the Norman Heatley Award.

Further Reported: That the Senate congratulated these staff on their achievements.

(8) Student Academic Choice Awards (SACAs)

Reported: (i) That the SACAs had been established by Imperial College Union in 2012, to enable students to reward excellence and innovation amongst Imperial's academic and professional staff, and awarded for the first time in 2013.

(ii) That the award winners in 2014 had been announced in a ceremony held in the Union Concert Hall which had celebrated every short-listed nominee as well as the award winners.

Further Reported: That the Senate congratulated Natalie Kempston (Deputy President, Welfare) and her team on having delivered a magnificent event.

Reported: (iii) That the following staff had been selected as Student Academic Choice Award winners in 2014:

Best Supervision: Professor Mark Sephton, Department of Earth Science and Engineering.

Best Tutoring: Dr James Wilton-Ely, Department of Chemistry.

Best Graduate Teaching Assistant: Mario D'Auria, Department of Electrical and Electronic Engineering.

Best Teaching for Undergraduate: Professor Omar Matar, Department of Chemical Engineering.

Best Support Staff: Mr Victor Boddy, Department of Electrical and Electronic Engineering.

Best Innovation: Dr David Dye, Department of Materials.

Best Feedback: Dr Jane Saffell, Department of Medicine.

Best Teaching for Postgraduates: Dr Mike Tennant, Centre for Environmental Policy.

Further Reported: That the Senate congratulated these staff on their achievements.

(9) Sabbatical Officers of the Imperial College Union

Reported: The names of the students elected as Sabbatical Officers of the Imperial College Union for the academic year 2014-15, as outlined in section 9 of the Senate's paper.

(10) Electrical and Electronic Engineering, Undergraduate Examination Incident

Reported: (i) That an incident had occurred during an examination being taken by 30 first-year Electrical and Electronic Engineering students which had involved a printing error on the examination question paper. The examination had been halted for a short time and the papers had been removed from the students. After duly reviewing the situation the Department had restarted the examination with the correct version of the question paper.

(ii) That the Department had since reported the incident to the Registry and had outlined satisfactory steps which would be taken to ensure that the situation could not occur again.

Further Reported: That the Senate considered that the Department had dealt with the incident in an exemplary manner and that the students involved had behaved in a very responsible way.

Noted: That departments were required to report any exam incidents (such as suspected cheating, disruption, etc.) immediately after the event. That the Academic Registrar planned to review the procedures for reporting examination incidents to expand the College definition of what constitutes an incident and also to stipulate reporting time and route. That revised procedures would be developed in advance of the next academic year.

1882 Vice Provost's Business

Received: A Report from the Vice Provost (Education) (**Paper Senate/2013/79**).

(1) President's Awards and Medals for Excellence 2014

Reported: The 2014 President's Awards and Medals for Excellence in Teaching; President's Awards and Medals for Excellence in Pastoral Care; President's Awards and Medals for Excellence in Research Supervision; and President's Awards and Medals for Excellence in Supporting the Student Experience, as detailed in section 1 of the Senate's paper.

Further Reported: That the Senate congratulated the award winners.

Noted: That the nomination process and criteria for the awards would be reviewed in advance of the next application cycle to strengthen the guidance provided.

(2) Annual Welfare Seminar

Reported: (i) That the College's sixth Annual Welfare Seminar had been held on 26 March 2014 and had been attended by more than 90 staff and students.

(ii) That the seminar had included presentations from Dr Nihara Krause (Chartered Clinical Psychologist), Dr Zul Mirza (Consultant, Emergency Medicine, West Middlesex University Hospital), Dr Vasa Curcin (Warden, Gabor Hall), and Dr Phil Power and Joe Cooper (ICU), as detailed in section 2 of the Senate's paper.

(3) Horizons course offer for 2014-15

Reported: That the Undergraduate Studies Committees had approved the course offer for the Horizons programme for 2014-15 which had been proposed and agreed by the Imperial Horizons Committee, as detailed in section 3 of the Senate's paper.

(4) Education & Student Strategy

Reported: (i) That the doctoral proposition for prospective research students had been agreed by the Provost's Board and that implementation was now being taken forward by Professor Sue Gibson, Director of the Graduate School.

(ii) That a Student Health & Well Being task group had been established to bring forward a report to VPAGE by September on a future model for student services in the face of increasing needs and changes in the NHS and DSA support.

(iii) That the proposed student survey schedule for 2014-15 would remain the same as at present, except that the International Student Barometer would not be run, and that this

would allow the Survey Group to undertake more detailed work in 2014-15.

(iv) That the outcomes of the review of the student residential experience had been agreed by the Provost's Board and were now being implemented.

(5) Learning in a Digital World

Reported: That a paper on "Learning in a digital world" had been presented to the Council Risk Committee in June by the Vice Provost (Education).

1883 Quality Assurance and Enhancement Committee (QAEC)

Considered: A Report by the Quality Assurance and Enhancement Committee (**Paper Senate/2013/80**).

(1) Proposal for a One Year Pilot of Sample Check Marking for Postgraduate Programmes in the Business School

Reported: (i) That the QAEC had considered a proposal from the Business School to pilot the use of sample check marking in place of double marking of postgraduate examination scripts for one academic year (2014-15).

(ii) That check marking is where a second marker determines whether the mark awarded by the first marker is appropriate, and confirms it is appropriate.

(iii) That the impetus for the Business School proposal had come from their aim to release marks and feedback to students within 6 weeks of examination, a target not currently being met due to the large number of students on the Business School programmes.

(iv) That sample check marking was common practice in business schools across the sector.

(v) That the papers selected for sample check marking would include a 10% sample of all passing scripts, all grade borderline scripts, all fail scripts and all distinction scripts (70%+). The sample scripts checked by the check marker would be the same sample as that sent to the External Examiner for moderation.

(vi) That the Committee had been supportive of the proposal and had been assured that training and support would be provided for staff involved in the marking process.

Observed: (i) That some members of the Senate were concerned to ensure that sufficient analysis and consideration of the current marking system had been undertaken to be sure that instances where previously marks had been challenged would not be overlooked in the process of sample check marking.

(ii) That some members of the Senate suggested that the style of double marking practiced in some areas of the College was similar to the check marking proposed, rather than second markers making an independent judgement of a script.

Agreed: (i) That the every exam script must be audited to ensure that all marks had been correctly aggregated and that no questions answered or pages had been missed.

Approved: A suspension of Regulations 14.1 and 14.2 for the *Examination of Taught Master's Degrees* for all Business School Master's level programmes for one academic year (2014-15) to allow a pilot of sample check marking to be carried out in place of double marking on their examination scripts, as outline in section 1 of the Senate's paper.

Further agreed: That the QAEC should receive a report from the Business School in June

2015 and make a recommendation to the Senate on the future of the pilot in time for the 2015-16 academic session.

(2) Regulations for the Appointment of External Examiners

Reported: (i) That the QAEC had considered a proposal to revise the following regulations for the appointment of external examiners:

- a) Regulations for the Examination of Taught Master's Degrees
- b) Regulations for the Examination of BSc, MSci, BEng, MEng, MBBS Degrees
- c) Procedure for the Appointment of Examiners for Research Degrees (MPhil, PhD, MD(Res), EngD)

(ii) That the revisions would align the regulations for undergraduate, Master's level and Research programmes regarding the appointment of former staff, former students and persons who have previously held an honorary or visiting appointment, by requiring a lapse of at least five years to have passed before they may be appointed as an external examiner.

(iii) That the revisions would ensure that the College was aligned with the expectations of the Quality Assurance Agency for Higher Education in the UK.

Approved: On the recommendation of the Committee, the amendments to the regulations for new appointments to the post of external examiner, with effect from the academic year 2014-15, as outlined in section 2 and Appendix I of the Senate's paper.

(3) Procedures for the Approval of New Programmes

Reported: (i) That the QAEC had considered a proposal to revise the procedures for the approval of new undergraduate and Master's level programmes.

(ii) That the revisions would result in a single, uniform process for both levels.

(iii) That proposals for new undergraduate programmes would be sent to four external reviewers (two from academia and two from industry or the Health Service), thereby aligning the undergraduate process with the existing Master's level process.

(iv) That the QAEC had emphasised that new programmes should not be considered by a quality committee without all four reviews being presented.

(v) That new Master's Level proposals for a programme in a new discipline or subject not currently taught at the College and/or which is distinct in format or structure from existing programmes at the College would require strategic approval from QAEC before they could be considered at the relevant quality committee, thereby aligning the Master's Level process with the existing undergraduate process.

Approved: On the recommendation of the Committee, the proposed amendments to the procedures for approval of new undergraduate and Master's level programmes with effect from the academic year 2014-15.

(4) Regulations for MBBS Programmes

Reported: (i) That the QAEC had considered a proposal to revise the regulations for the following programmes:

- a) MBBS/BSc
- b) MBBS (Graduate Entry)
- c) MBBS (Oxbridge Advanced Entry)

(ii) That the revisions would clarify the arrangements for student progression in terms of the number of re-sits that a student is permitted, and would clarify the maximum number of years a student may be registered for the programme.

Corrected: That revision (a) was to *Reduce the number of re-sit opportunities so that candidates have only **one** attempt to re-sit failed examinations in any year.*

Approved: On the recommendation of the Committee, the amendments to the regulations, with effect from the academic year 2014-15, as outlined in section 4 and Appendices II, III and IV of the Senate's paper.

(5) Student Placement Policy and Good Practice

Reported: (i) That the QAEC had considered a proposal to revise the Student Placement Policy and Good Practice in response to changes to Chapter B10 of the UK Quality Code for Higher Education, Managing Higher Education Arrangements with Others.

(ii) That the Collaborative Working Party had recommended revisions to the Placement Policy and Good Practice and that these revisions had been approved by the QAEC.

(iii) That the revisions would deliver enhancements to existing good practice, most notably in the areas of visits and supervision.

(iv) That greater emphasis had been given to the briefing of Placement Tutors by Placement Managers and that roles and responsibilities for a Placement Manager and a Placement Tutor had been added to the Good Practice.

(v) That a proportional approach to due diligence had been adopted.

Approved: On the recommendation of the Committee, the amendments to the Placement Policy and Good Practice, with immediate effect, as outlined in section 5 of the Senate's paper.

(6) Periodic Review and Programme Monitoring

Reported: (i) That, following an extensive College-wide consultation, the QAEC had agreed to develop a new process for periodic review and routine programme monitoring.

(ii) That the QAEC had agreed the following principles upon which the new processes would be founded:

- a) Departmental undergraduate and Master's Level periodic review processes would be combined into a single departmental periodic review of taught provision.
- b) MRes programmes would normally be considered during the periodic review of taught provision [except where an MRes programme forms the first part of a 1 plus 3 programme when the MRes may be considered as part of the department's research degree periodic review].
- c) Periodic reviews of taught provision would normally be scheduled either in the year prior to, or the year after, an accreditation visit.
- d) Periodic Reviews of taught provision would take place on a 5 year cycle and periodic reviews of postgraduate research provision on a 6 year cycle [departments would not undergo both types of periodic review in the same academic year].
- e) Flexibility would be retained in the scheduling of reviews of taught provision during the academic year rather than seeking to define a specific point in the year when reviews would normally take place.

- f) Departmental level annual monitoring of Master's level provision would replace the existing programme level review process so as to align the requirements for Master's level programmes with that for undergraduate programmes. Annual monitoring would be based on "exception reporting" therefore the administrative workload of departments would not be increased.

(iii) That the QAEC also agreed that they would seek to define the types of professional, statutory or regulatory bodies that the College recognises in order for a programme to be treated as "accredited" for the purposes of periodic review.

Noted: That new processes would be developed and trialled during the 2014-15 academic session with a view to implementation in 2015-16.

Approved: On the recommendation of the Committee, the principles to be adopted in the development of new processes for periodic review and routine monitoring, as outlined in section 6 of the Senate's paper.

(7) 'Our Principles'

Reported: That the QAEC had considered 'Our Principles' and had agreed that no notable changes should be made for the academic year 2014-15. The term 'course' had been amended to 'programme' where it referred to a programme of study in order to ensure consistency.

Approved: On the recommendation of the Committee, the minor amendments to 'Our Principles' for the 2014-15 academic year, as outlined in section 7 and Appendix V of the Senate's paper.

(8) Academic Standards Framework

Noted: (i) That the Vice Provost (Education) and the Academic Registrar would be working with the faculties and departments to develop an institutional Academic Standards Framework. The developmental phase would ensure the framework had the support of the faculties and departments and that it reflected the diversity of requirements across the College.

(ii) That the intention was for the framework to be presented for Senate approval in the spring term 2015.

1884 Engineering Studies Committee

Considered: A Report by the Engineering Studies Committee (**Paper Senate/2013/81**).

(1) Reorganisation of Undergraduate Courses and Examinations

(i) Design Engineering

Reported: (i) That the Committee had considered a proposal to establish a new four year MEng degree programme in Design Engineering, starting in October 2015.

(ii) That the aim of the programme was to prepare the next generation of engineering entrepreneurs and designers. The programme would provide students with a solid foundation in a wide-range of traditional engineering disciplines and, by combining this with modules in business, design, and a range of project- and industrially-oriented modules, would produce engineers who would be able to solve problems creatively and take products from the first stages of design right through to the market. To this end, the programme had a particularly strong focus on the communication and translation of engineering.

(iii) That the proposal had been through the normal College approval process involving review by external assessors.

(iv) That the Committee had been supportive of the proposal, but had had some concerns about the specifics of the new programme, including the curriculum, and that the Committee had established a sub-group to work through the proposals with the programme organisers.

(v) That a revised programme specification had subsequently been agreed by all the Directors of Undergraduate Studies within the Faculty of Engineering and that the proposal had subsequently been approved by Chair's action.

Noted: That the curriculum would continue to evolve, not only over the time period until October 2015 as staff are appointed, but also during the early years of the degree.

Approved: On the recommendation of the Committee, the establishment of a new four year degree programme, MEng Design Engineering, as outlined in section 1.1 of the Senate's paper, with effect for entry in October 2015.

Agreed: (i) That more substantial supporting information in respect of completely new undergraduate programmes would be presented to the Senate in future.

(ii) That the programme specification and the summary degree requirements for the new programme MEng Design Engineering programme would be circulated to Senate members following the meeting.

(ii) Bioengineering

Considered and approved: On the recommendation of the Committee, the establishment of a new five year degree programme: MEng Biomedical Engineering with a Year in Industry, as outlined in section 1.2 of the Senate's paper, with immediate effect:

(iii) Electrical and Electronic Engineering

Reported: That the Committee had approved a proposal to make the MEng Aeronautical Engineering with Year Abroad available for internal transfer only and to withdraw it as an offering to new entrants.

(2) Annual Monitoring Statements

Reported: (i) That the Committee had considered the Annual Monitoring Report from the Imperial College Business School.

(ii) That the Committee had been particularly concerned about External Examiners' comments relating to over generous marking and had asked the Business School to provide an action plan to address these concerns at the next meeting.

(3) Annual Report on Degree Classifications

Reported: That the Committee had considered the annual report on degree classifications and had noted that all departments within the Faculty had awarded more than 70% first class and second class (upper division) degrees in the previous academic year.

1885 **Report by the Medical Studies Committee**

Considered: A Report by the Medical Studies Committee (**Paper Senate/2013/82**).

(1) Harmonisation of year weightings for the BScs in Medical Sciences and Biomedical Science

Considered and approved: On the recommendation of the Medical Studies Committee, the changes to the year weightings for the BSc degrees in Medical Sciences and Biomedical Science, as outlined in section 1 of the Senate's paper.

(2) Revisions to the Examination and Assessment Strategy Phase 1 and the Lee Kong Chian School of Medicine (LKCMedicine) Assessment Strategy

Considered and approved: On the recommendation of the Medical Studies Committee, the amendments to the Examination and Assessment Strategy Phase 1 (LKCMedicine) and the Lee Kong Chian School of Medicine (LKCMedicine) Assessment Strategy, as outlined in section 2 and appendices 1 and 2 of the Senate's paper.

(3) Amendments to the Regulations for the Award of Degrees in Medicine

Reported: That the Committee had approved revisions to the Regulations for the MBBS/BSc, MBBS (Graduate Entry) and MBBS (Oxbridge Advanced Entry) for recommendation to the QAEC, as outlined in section 3 of the Senate's paper.

(4) Heads of Year Report

Reported: That the Committee had considered the Heads of Year report and had noted considerable successes and development in the past year, as outlined in section 4 of the Senate's paper.

(5) External Examiners

Reported: That the Committee had considered and approved a number of nominations for external examiners for the 2013-14 and 2014-15 sessions, and had ratified Chair's actions to approve external examiners.

(6) Education Committee Reports

Reported: That the Committee had considered and ratified the reports submitted by its various subordinate committees, as outlined in section 6 of the Senate's paper.

(7) SOLE

Reported: That the Committee had considered the Spring SOLE results, as outlined in section 7 of the Senate's paper.

(8) Equality and diversity monitoring report

Reported: (i) That the Committee had considered a report on admissions and progression outcomes stratified by gender, ethnicity and disability, as outlined in section 8 of the Senate's paper.

(ii) That the Committee had noted that the use of BMAT appeared to have caused a gender imbalance in the admissions process in 2013-14.

(iii) That the School of Medicine would undertake some further analysis during the Summer to understand how the BMAT had influenced the admissions process and ascertain whether this was an anomaly or a trend, and that BMAT were also investigating this issue.

(iv) That the Committee had welcomed the data suggesting that applicants with declared disabilities had performed extremely well in the College selection process.

(9) Distribution of Honours

Reported: That the Committee had considered a report on the distribution of Honours and had noted that the numbers of students obtaining 'good' degrees in the School of Medicine was broadly consistent with other Faculties.

(10) Five-year MBBS in Medicine (Graduate Exempt) programme

Reported: (i) That the Senate had approved (26 February 2014) the withdrawal of the four-year MBBS in Medicine (Graduate Entry) programme, in the School of Medicine, and the formal reinstatement of the five-year MBBS in Medicine (Graduate Exempt) programme, in the School of Medicine, both with effect from October 2015 (SM 1842 of 26 February 2014 refers).

(ii) That the decision had been taken largely in response to student feedback which showed that Graduate Entry students were considerably less satisfied with their medical programme course compared to their undergraduate entry peers. Efforts to increase student satisfaction had been limited in their success.

(iii) That the five-year MBBS in Medicine (Graduate Exempt) programme allowed for students with an undergraduate degree in an appropriate Science subject to be exempted from Year 4 of the MBBS/BSc Medicine (six year) programme.

(iv) That the School of Medicine had recently been made aware that, whereas students attending the current four year Graduate Entry programme had been eligible for a Government tuition fee loan for each of the four years of study, current legislation was such that students on a five year Graduate Entry programme would not be eligible for a Government tuition fee loan for any of the years of study.

(v) That initial consultations with the Department for Business, Innovation and Skills had not indicated this would be a factor and that the School of Medicine was now in urgent discussions with the Student Loans Company to try to resolve the issue.

(vi) That, in the meantime, the School of Medicine would make it absolutely clear to prospective applicants for the five year Graduate Entry programme that students must be completely self-funded for the five years of the programme.

(vii) That the School was giving consideration to other options which may require approval of the Senate during the summer months.

Agreed: That the Chair of the Senate would consult with members if action was needed in advance of the start of the next academic session.

1886 Report by the Science Studies Committee

Considered: A Report by the Science Studies Committee (**Paper Senate/2013/83**).

(1) Reorganisation of Undergraduate Courses and Examinations

(i) Chemistry

Considered and approved: On the recommendation of the Science Studies Committee, to rename the Chemistry and Management 3 year programme to "Chemical Sciences and Management", and to withdraw the programme as a point of entry for new entrants with immediate effect, as outlined in section 1 of the Senate's paper.

(ii) Physics

Reported: That the Committee had approved amendments to the Physics Undergraduate

programmes, as outlined in section 2.2 of the Senate's paper.

(iii) Mathematics

Reported: That the Committee had approved amendments to the guidelines for progression to Year 4 of the 4 Year MSci programme, as outlined in section 2.3 of the Senate's paper.

(iv) Life Sciences

Reported: That the Committee had approved the Department's proposal for dealing with requests to allocate ECTS to UROP projects.

(2) Distribution of Honours Data 2012-2013

Reported: That the Committee had received details of the distribution of Honours Degree classifications for awards in the 2012-13 session.

1887 Postgraduate Quality Committees

Considered: A Report by the Postgraduate Quality Committees (**Paper Senate/2013/84**).

(1) MSc in Future Power Networks

Reported: (i) That the Master's Quality Committee (Business, Engineering and Physical Sciences) had considered a proposal from the Department of Electrical and Electronic Engineering to introduce a new MSc in Future Power Networks with effect from October 2015.

(ii) That there was an increasing global demand for power engineers and that a number of competitor institutions were already offering programmes in this area. There would be a close relationship with industry and with guest lecturers drawn from industry collaborations.

(iii) That the proposal had been through the normal approval process involving review by external assessors.

Approved: On the recommendation of the Committee, the introduction of the MSc in Future Power Networks, with effect from October 2015, as outlined in section 1.1 and Appendix I of the Senate's paper.

(2) MRes in Tropical Forest Ecology

Reported: (i) That the Master's Quality Committee (Medicine, Life Sciences and School of Professional Development) had considered a proposal from the Department of Life Sciences to introduce a new MRes in Tropical Forest Ecology with effect from October 2015.

(ii) That the programme had been designed to provide students with high-level research training in the latest developments in tropical forest ecology, covering the physical and biological aspects of the forest ecosystem with an emphasis on understanding the linkages between those two components. The programme would prepare students for careers in academic, governmental or non-governmental organisations engaged in research into tropical forest ecology, biodiversity and conservation.

(iii) That the proposal had been through the normal approval process involving review by external assessors.

Approved: On the recommendation of the Committee, the introduction of the MRes in

Tropical Forest Ecology, with effect from October 2015, as outlined in section 1.2 and Appendix II of the Senate's paper.

(3) PG Certificate in Reproductive and Developmental Biology

Reported: (i) That the Master's Quality Committee (Medicine, Life Sciences and School of Professional Development) had considered a proposal from the Department of Surgery and Cancer to introduce a new PG Certificate in Reproductive and Developmental Biology with effect from October 2014.

(ii) That the PG Certificate would run alongside the existing MSc programme in Reproductive and Developmental Biology, a well-established programme attracting high quality students.

(iii) That the PG Certificate will be available on a full-time only basis over six months.

(iv) That the rationale for introducing the additional award of PG Certificate was to meet demand from prospective students who wished to extend their knowledge of Reproduction and Development but not to undertake the full MSc programme.

(v) That the proposal had been supported by the current external examiners.

Approved: On the recommendation of the Committee, the introduction of the PG Certificate in Reproductive and Developmental Biology, with effect from October 2014, as outlined in section 1.3 and Appendix III of the Senate's paper.

(4) MSc Finance suite of programmes

Reported: (i) That the Master's Quality Committee (Business, Engineering and Physical Sciences) had considered a proposal from the Business School to make a number of amendments to the MSc Finance suite of programmes with effect from entry in September/October 2014.

(ii) That the programmes affected were: MSc in Finance, MSc in Investment & Wealth Management, MSc in Finance & Accounting and MSc in Risk Management & Financial Engineering.

(iii) That the modifications were intended to remove overlap between modules and to ensure there was a clearer focus on areas which were considered of greater importance to industry.

(iv) That the proposal had been through the normal programme modification approval process.

Approved: On the recommendation of the Committee, the amendments to the MSc in Finance, MSc in Investment & Wealth Management, MSc in Finance & Accounting and MSc in Risk Management & Financial Engineering, with effect from September 2014, as outlined in section 2.1 and Appendix IV of the Senate's paper.

(5) MSc in Advanced Aeronautical Engineering

Reported: (i) That the Master's Quality Committee (Business, Engineering and Physical Sciences) had considered a proposal from the Department of Aeronautics to make amendments to the MSc in Advanced Aeronautical Engineering, with effect from entry in October 2014.

(ii) That the proposal had been through the normal programme modification approval process.

Approved: On the recommendation of the Committee, the amendments to the MSc in Advanced Aeronautical Engineering, with effect from October 2014, as outlined in section 2.2 and Appendix V of the Senate's paper.

(6) MSc in Ecology, Evolution and Conservation

Reported: (i) That the Master's Quality Committee (Medicine, Life Sciences and School of Professional Development) had considered a proposal from the Department of Life Sciences to make amendments to the MSc in Ecology, Evolution and Conservation, with effect from entry in October 2014.

(ii) That the Department had proposed that the format of the examinations be changed from hand-written to computer-written examinations, and that the computer-written examinations would utilise the mechanism which had been used successfully for the MSc Conservation Science programme since 2010.

(iii) That the proposal had been through the normal programme modification approval process.

Approved: On the recommendation of the Committee, the amendment to the MSc in Ecology, Evolution and Conservation, with effect from October 2014, as outlined in section 2.3 of the Senate's paper.

(7) MSc in Quantitative Biology [Department of Life Sciences]

Considered and approved: On the recommendation of the Master's Quality Committee (Medicine, Life Sciences and School of Professional Development), the change in award title from MSc in Quantitative Biology to **MSc Computational Methods in Ecology and Evolution** with effect from October 2014, as outlined in section 2.3 of the Senate's paper.

(8) MRes Biodiversity Informatics and Genomics - [Department of Life Sciences]

Considered and approved: On the recommendation of the Master's Quality Committee (Medicine, Life Sciences and School of Professional Development), the change in award title from MRes Biodiversity Informatics and Genomics to **MRes Computational Methods in Ecology and Evolution** with effect from October 2014, as outlined in section 2.4 of the Senate's paper.

(9) Withdrawal of Programmes

Considered and approved: (i) On the recommendation of the Master's Quality Committee (Medicine, Life Sciences and Professional Development), the permanent withdrawal of the MSc, PG Diploma and PG Certificate in Infection, with effect from entry in October 2014, as outlined in section 3.1 of the Senate's paper.

(ii) On the recommendation of the Master's Quality Committee (Medicine, Life Sciences and Professional Development), the permanent withdrawal of the MSc, PG Diploma and PG Certificate in Infection Management for Pharmacists, with effect from entry in October 2014, as outlined in section 3.2 of the Senate's paper.

(10) External Examiners' Reports 2012-2013

Reported: That the Master's Quality Committees had reviewed the comments received to date from External Examiners, together with the responses to the comments from departments. The Committees had pursued issues which were raised as needing attention and had taken particular note of areas of good practice which were highlighted in the reports. A copy of the minutes of these discussions would be presented to the Senate when the exercise had been completed.

(11) Master's Programme Reviews

Reported: That the Master's Quality Committees were undertaking internal programme reviews as scheduled and that a report would be presented to the Senate when the exercise had been completed.

(12) Industrial Pharmaceutical Chemistry (Department of Chemistry)

Reported: That the first cohort of students registered on the Industrial Pharmaceutical Chemistry programme was approaching completion of the programme. Those who successfully completed the programme of study would be awarded a Postgraduate Certificate in Industrial Pharmaceutical Chemistry.

Noted: That the Postgraduate Certificate in Industrial Pharmaceutical Chemistry was a work-based, flexible, modular programme for full-time employees of Glaxo-Smith-Kline only, which was launched in October 2009.

(13) MRes in Mathematics of Planet Earth with the University of Reading

Reported: (i) That the Senate had approved, in December 2013, the establishment of a joint MRes in Mathematics of Planet Earth with the University of Reading, subject to a suitable Memorandum of Agreement being drawn up. (SM 1821 of 11 December 2013 refers).

(ii) That the University of Reading had now signed the Memorandum of Agreement and that the programme would commence in September 2014.

1888 Changes to College Regulations 2014-15

Considered: A Note by the Academic Registrar (**Paper Senate/2013/85**).

(1) General Academic Regulations

Considered and approved: On the recommendation of the Academic Registrar, revisions to the General Academic Regulations, with effect from October 2014, as outlined in section 1 of the Senate's paper.

Reported: That the revisions would take account of advice from the Office of Fair Trading, that HEIs should not impose academic sanctions as a method of penalising non-tuition fee debts.

(2) Regulations for Students

Considered and approved: On the recommendation of the Academic Registrar, revisions to the Regulations for Students, with effect from October 2014, as outlined in section 2 of the Senate's paper.

Reported: That the revisions would take account of advice from the Office of Fair Trading, that HEIs should not impose academic sanctions as a method of penalising non-tuition fee debts, and would make provision for the recording of lectures.

Agreed: To recommend the revisions to the College Council with effect from October 2014.

1889 Prizes and Medals Established/Amended

Considered: Recommendations concerning new prizes as outlined in **Paper Senate/2013/86**.

Approved: The establishment of the Johnson Matthey Prize.

1890 Membership of Student Appeals Panels

Considered and approved: Nominations for membership of the panels to deal with student withdrawal and representations appeal hearings and student disciplinary and examination offence hearings for 12 months from 18 June 2014, as detailed in **Paper Senate/2013/87**.

1891 Senate Committees

Approved: The Terms of Reference, Constitution and Membership of the Senate's sub-committees for 2014-15, as outlined in **Paper Senate/2013/88**.

1892 Prizes and Medals Awarded

Reported: The award of prizes and medals, as detailed in **Paper Senate/2013/89**.

1893 Appointment of External Examiners in 2013-2014 and 2014-2015

Received: The names and affiliations of external examiners for undergraduate and Master's degrees in 2013-2014 and 2014-2015 (**Paper Senate/2013/90**).

1894 Award of Degrees and Diplomas

Reported: That under the provisions of University of London Ordinance 9(2) and Imperial College London Ordinance B1(1), and with the terms of SM 8 of October 1998, that the Academic Registrar had acted on behalf of the Senate in approving the awards for research degrees for 70 candidates who have satisfied the examiners in the examination and satisfied all other necessary requirements for the award of the degrees appointed since the last Senate meeting, and that degrees had been conferred on these candidates, the date being as indicated on the award.

1895 Dates of Senate Meetings in 2014-2015

Reported: The following dates of meetings of the Senate in 2014-15:

Wednesday, 29 October 2014
Wednesday, 10 December 2014
Wednesday, 25 February 2015
Wednesday, 20 May 2015
Wednesday, 24 June 2015

All meetings will start at 3.00pm and will be held in Council Room, 170 Queen's Gate, with the exception of the meeting on Wednesday, 10 December 2014 which will be held in Room G01, Royal School of Mines.

1896 Any Other Business

The Provost advised that this was Professor Richard Thompson's last meeting.

Members were also informed that this would be the Student Union Representatives' (David Goldsmith and Natalie Kempston) last meeting.

The Senate thanked all for their valuable contributions and wished them well for the future.

1897 Date of Next Meeting

Reported: The next meeting of the Senate would take place on Wednesday 29 October 2014, in the Council Room, 170 Queen's Gate, starting at 3.00pm.