Keble Advanced Studies Centre



News from Hilary Term 2015

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Article by Andrea Christofidou selected as one of the 10 best ever articles in the journal 'Philosophical Investigations'



'Philosophical Investigations', an international journal founded in 1978 that covers every branch of philosophy, has published an online issue containing its best ten articles, together with the best critical notices and reviews, from 1980 to today. The article 'Self and Self-consciousness: Aristotelian Ontology and Cartesian Duality' (2009) by Dr. Andrea Christofidou, Keble Senior Lecturer in Philosophy, has been selected by the editorial board to be in this special issue. Andrea Christofidou explained to us what this article is about and the focus of her arguments: "I compare and contrast Aristotle's conception of nous (a thinking mind) and Descartes' conception of mind. Aristotle may not be a direct precursor of Descartes; nevertheless, I demonstrate that far from being diametrically opposed to Descartes' view, or showing that Descartes' conception of the mind is fundamentally mistaken, as is argued in contemporary discussions in the Philosophy of Mind, Aristotle's conception is as much immaterialist about nous as is Descartes'. I argue that Aristotle's notion of nous denotes what we (and Descartes) understand by what it is to be a self-conscious subject; what it is to be a person presupposes the true union of mind and the human body. I defend the irreducibility of mind and consciousness to the physical, including functional, neurobiological, and varieties of non-reductive physicalism even if they accept non-physical properties (a notion that is in fact unclear) to be irreducible. To argue, as is prevalent in contemporary enquiries, that we are a series of interconnected neurons firing, or of psychological states, or that we are physical particulars among physical particulars, is not only metaphysically flawed, it seems also to be an abdication of responsibility".

THE FUTURE OF DRIVERLESS CARS IN THE UK

On the 11 February this year, a significant step forward was made in the UK's transport future when Business Secretary Vince Cable and Transport Minister Claire Perry together announced: 1) A recently completed government review that gives the green light to the testing of driverless cars in designated areas on public roads in the UK, and 2) The winner of the UK Government's 'Introducing Driverless Cars' competition as UK Autodrive Consortium. Keble Fellow in Engineering Science, Prof. Paul Newman, and his Oxford research group 'Mobile Robotics', will play an integral role in this. Along with his company Oxbotica, he will help develop the systems to drive so-called Autonomous Pods as part of the Autodrive Consortium.

What does giving a "green light" mean?

Full sized driverless cars are already being manufactured by companies such as Jaguar Land Rover, Ford and others. It is only since the completion of the recent governmental review however, that these can be tested on public roads in the UK. Milton Keynes has been announced as one of the selected test sites. This process should encourage the automobile industry to invest further in the development and testing of the technologies required for driverless cars. A major review is expected to develop the rules for further development of the industry.

UK Autodrive and the introduction of "Pods"

The UK Government's recent £10 million competition "Introducing Driverless Cars" announced UK Autodrive as the winner. UK Autodrive is a consortium formed from local authorities, academic institutions and advanced engineering businesses. Their aims are slightly different from those of the automobile

manufacturers. They plan to test small driverless cars known as 'Pods', designed to navigate autonomously on designated pedestrianised areas or pathways but not on roads. The first three of the pods will arrive at Milton Keynes by the end of 2015 and eventually the number will expand to 40. Partners in the UK Autodrive consortium include Arup, the Milton Keynes and Coventry Councils, the Universities of Oxford and Cambridge, the Open University, Transport Systems Catapult, RDM Group, and the car manufacturers Jaguar Land Rover, Ford Motor Company and Tata Motors -India's largest automobile company.

The funding provided by Innovate UK (the new name for the Technology Strategy Board, an executive nondepartmental public body sponsored by the Department for Business, Innovation and Skills) will be matched by Consortium partners to create a £19.2m three-year project aiming to establish the UK as a global hub for the development of autonomous vehicle technologies and to integrate driverless vehicles into existing urban environments by trialling them in two major UK cities. This programme will also test the public reaction to both driverless cars and self-driving pods. Prof. Newman considers this an opportunity to explore challenges such as lowering costs and fostering the perception of safety in autonomous vehicle development.

Read more about the role of Oxford Mobile Robotics Group here and our article about Prof. Paul Newman's research on navigation systems here (originally published in our ASC Trinity Term 2014 Newsletter).





Gender, Peace and Conflict in the Medieval World Colloquium

During Hilary term, the Medieval and Renaissance Cluster organised a half day colloquium on Gender, Peace and Conflict in the Middle Ages.

Prof. John Watkins, University of Minnesota and Keble Research Visitor, delivered a talk entitled: 'Marrying Your Enemy's Non-Existent Daughter: Virgilian Ideals and Counter-Virgilian Practices in Dudo of St. Quentin's *Gesta Normannorum*' where he gave examples of marriages during war time and compared them with different cultures exploring ideas and aspirations.

Bernard Gowers (Middlebury-CMRS) gave a talk called 'Two deaths in twelfth-century Eurasia: Attitudes to Masculinity and Violence', in which he discussed masculinity and violence from a cross-cultural perspective. The two violent deaths referred to were that of Beckett in 1141 and Yüeh-Fei in the 1120s. Gowers drew parallels between the two murders and pointed out that on the one hand these images are most important as they capture the imagination with respect to the battles of masculinity and on the other, the responsibility of rulers of the time to reconcile different forms of masculinity.

Anna Caughey (Keble College) talked about 'Masculinity and Conciliation in Late Medieval Scottish Writing' through the analysis of three ancient poems: (The Knightly Tale of) Golagros and Gawane, Rauf Coilzear, and The Wallace –a narrative poem on the life of Sir William Wallace.







Images: Speakers delivering their lectures. (Top) Prof. John Watkins, (left) Anna Caughey and (right) Bernard Gowers.

"Shedding Light on Medieval Manuscripts" a joint Imaging and Medieval & Renaissance Cluster ASC lecture

Prof. Andrew Beeby, University of Durham and Keble Senior Academic Visitor, talked to a packed house in the Pusey Room in late February about his exciting and multidisciplinary project on chemical analysis of Medieval manuscripts using Raman spectroscopy. This was a nice example of joint Cluster research between Dr. Sowerby and Prof. Faulkner's groups. Prof. Beeby showed that Raman spectroscopy is a powerful tool for the analysis of pigments found on ancient manuscripts, with the benefits of being non-invasive and nondestructive. Several examples of illuminated manuscripts studied were given, including some kept at Keble College.



Beeby's research has provided intriguing new information about the materials used by the Medieval scribes and illustrators of the manuscripts, for example the trading of 'red lead' and the use of 'orpiment' to create the yellow pigment which were the best available in the 7th century. There was also evidence of the use of a purple colour on an early 8th century manuscript that remains unidentified, as well as subtle differences found in the manufacture of pigments used between the 7th to the 15th century which revealed transformations in the technology of book production across the centuries. The discovery of *lapis lazuli* used on several key Medieval manuscripts provides a direct trade link through Europe and central Asia to the source of the mineral in Afghanistan.

Prof. Beeby concluded his fascinating talk by describing how Raman spectroscopy may also be used for very high resolution 'point-by-point' analysis. Of course this is not ideal if one is trying to analyse whole pages, but a new approach using multispectral imaging and principal component analysis allows this to be done quickly by 'pigment mapping'. He also pointed out the importance of having mobile instrumentation because books being studied are often not easily moved and very expensive to insure.

The lecture was followed by the display of one of the manuscripts held at Keble. Hear the recorded lecture with supporting slide show <u>here.</u>



Images: (Above) Prof. Beeby with organisers Tracey Sowerby and Stephen Faulkner. (Left) Professor Andrew Beeby delivering his talk. (Right) Attendees taking a look at some Keble manuscripts.

Networks Cluster Lectures

"Social mechanisms and networks in online environments"

Dr. Felix Reed-Tsochas (James Martin Lecturer in Complex Systems and Co-Director of the CABDyN Complexity Centre) began his talk by discussing the concept of "big data" for research opportunities in the social sciences. In some cases it is not possible to run experiments because the context is not transferable to a lab or it may be unethical to do so. This is where big data may come in handy. Felix explored the concept of 'cultural product', referring to products whose value is difficult to judge because of a reliance on public opinion to judge how successful something will be, such as the success of a film, music hits or the success of an 'app' on the internet.

One of Felix's research questions is to understand how social mechanisms and actions at the individual level can be related to collective outcomes. In 2007 Felix and his research group set out to analyse how millions of users on the online social networking site Facebook chose which apps to install; did they do this independently or were they influenced by friends? The data suggested that they could model two distinct social mechanisms: (1) imitative behaviour reflecting the influence of the recent application activities of other users; (2) rich-get-richer popularity dynamics, where users were influenced by the cumulative popularity of each app. A combination of these two mechanisms yield the long-time behaviour observed in the data, however, the temporal dynamics of app downloading can only be reproduced with models that strongly emphasize the recent installation activities of other users over their cumulative popularity. More generally their approach demonstrates that under some circumstances it is possible to differentiate between competing microscopic mechanisms using purely observational data, without the need to introduce experimental research designs. Further reading: <u>Reed-Tsochas</u> (2014) PNAS.

"Risk in a Bipartite Graph Structure"

Systemic risk refers to the risk of collapse in an entire system, as a result of the actions taken by the individual component entities or agents that comprise the system (Chen, 2012). Systemic risk is an issue of great concern in modern financial markets as well as, more broadly, in the management of complex business and engineering systems. In this talk, **Prof. Claudia Klüppelberg** (Munich University of Technology) presented her joint work with one of our Networks Cluster leaders, Prof. Gesine Reinert, on measuring the systemic risk in the re-insurance market. Their work focussed on modelling business relationships (networks) exemplifying this market through the use of bipartite graphing which determines the sharing of severe losses (i.e. individual agents and whole system risk). Prof. Klüppelberg explained the influence of the network structure on diversification in different network scenarios. Further reading: <u>Kley, Klüppelberg and Reinert</u> (2014).



Images: (Left) Networks Cluster members Dieter Jaksch, Felix Reed-Tsochas, Gesine Reinert and Alan Whitmore. (Right) Prof. Claudia Klüppelberg.

Interested in Networks? Alan Whitmore will be delivering a talk on "**Networks Pharmacology**" on June 18 at Keble. All welcome.

ASC Hilary Term Lecture "Liquid Crystals and their Myriad Applications"



Dr. Apala Majumdar (University of Bath/ Keble College) delivered our ASC Hilary Term Lecture, and talked about her work on liquid crystals (LC). Apala took us into the world of liquid crystals, explaining what they are, their fortuitous discovery in 1888 during a cholesterol melting point experiment, and the birth of the 'liquid crystal' industry during the 1960s when a wide range of commercial applications began to be exploited. At the time no one predicted that only a few decades later it would support a multi-billion dollar industry. Liquid crystals are a state of matter somewhere between solids and liquids: they have less order than a solid but less fluidity than a liquid. According to the arrangement of their molecules and their interactions, liquid crystals can be of two types: nematic or smetic. Apala's work is based on the former which can be described as liquids with a directional flow as their molecules move together. This type of liquid crystal behaviour is actually ubiquitous in nature; some examples include human cells and tissues, bacterial suspensions, colonies of microorganisms, and flocks of birds. In industry, these crystals are also all around us. They are used on devices that require a good response to light and temperature such as TV, digital watches and other devices with LCD screens.

The study and industrial use of liquid crystals call for emerging applications which exploit fluidity and order in liquid crystals to produce a desired behaviour. Mathematics has proved to be useful to predict and model liquid crystal behaviour, to understand universal defects or material imperfections, as well as to translate its microscopic behaviour into macro phenomena. Understanding this better will help not just the industry to develop better liquid crystals but other research areas such as physics, cosmology, biology and chemistry where liquid crystals can be found. Apala pointed out the importance of mathematics for liquid crystal study and the importance of different areas of maths working together.



Images: (Top) Apala Majumdar with Professor Tom Higham, Interim Director of the ASC, and Professor Gui-Qiang Chen, co-leader of our Complexity Cluster. (Below) Apala Majumdar delivering her talk.

Creativity and Entanglement

ASC Creativity Lecture - Professor Ian Hodder (Stanford University).

A packed house was present for this Creativity lecture by Professor Ian Hodder of Stanford. He explored the relationships between creativity and the productive tensions associated with dependence and dependency. He described 'creativity' as radically dispersed and co-produced between humans and inanimate objects along 'chains of entanglement', the latter described as the interaction between dependence (i.e. reliance and contingency) and dependency (i.e. limitation and constraint). Prof. Hodder gave examples from his work at Catalhoyuk, the 9,000 year-old Neolithic site in central Turkey, relating the complex relationships associated with the creation of objects from sourcing materials to the manufacturing of each of its components.



Prof. Chris Gosden, Prof. Ian Hodder and Creativity Cluster leader Lambros Malafouris after the lecture.

He concluded that 'creativity' is irreversible and involves multiple forms; it is dispersed in the dependence of humans on the objects they create and the reliance of those objects on human creation. Creativity is time and space dependant because objects are produced and evolve in both dimensions. These 'entanglements' are therefore associated with multiple temporalities and locations.



Prof. Ian Hodder delivering his lecture.

Interview

Interview with Dr. Andrea Christofidou

The ASC chatted with Dr. Andrea Christofidou, Keble Fellow in Philosophy, in the wake of her outstanding recent achievement in having her paper "Self and self-consciousness: Aristotelian Ontology and Cartesian Duality" published in the "Philosophical Investigations" voted as one of the best ten articles ever published by this prestigious journal.

Visit the ASC website <u>www.keble-asc.com</u> to read the full interview.

What does your work involve (in 3 sentences)?

I am a Senior Lecturer in Philosophy at Keble, and a Lecturer in Philosophy at Worcester College. I teach a wide range of subjects both for Prelims and Finals: Early Modern Philosophy (which covers Descartes, Spinoza, Leibniz, Locke, Berkeley and Hume. I teach all six philosophers), the philosophy of Kant (both his metaphysics and ethics), J.S. Mill, Wittgenstein, Metaphysics and Epistemology, Philosophy of Mind, and Ethics.

My research is mainly in Metaphysics, especially on Descartes and early modern philosophy - covering theories of substance, essence, independence, with particular emphasis on the self, self-consciousness and their relation to the metaphysics of freedom; it also touches on a Theory of Reference, especially indexicals and their substantive underpinnings.

Outside my philosophical research, I have translated with Peter J. King (my partner) some modern Greek poetry, including more than a hundred poems by the Alexandrian Greek poet Cavafy, some of which have been published by the Oxford Magazine, and by the College Record of Worcester College. We hope one day to publish a book in dual text!



Why is what you do important?

My work is an enquiry into the nature of reality, broadly construed. I focus particularly on the nature of the self and self-consciousness. Without the self, the unity of self-consciousness and our whole system of perceiving and reasoning collapses. For example, no two thoughts would be connected and a third derived or inferred from them; no contradictions would be identified; there would be no thoughts and no perceptions, since thoughts and perceptions presuppose a single thinking and perceiving subject. This is important not just for research, but it has wider implications: our experience and understanding of the world as being mind-independent, our interpersonal relations and our responsibilities are only possible if the self is a substantial, irreducible, enduring subject of thought and experience.

A systematic enquiry into the most fundamental categories, structure, and nature of reality in the broadest sense is possible. This includes an important sub-division, ontology, the study of what there is, (what exists or could exist); it investigates the different ways in which entities that belong to various categories may be thought to exist.

Interview

...continued

Your article "Self and self-consciousness: Aristotelian Ontology and Cartesian Duality" was published in 2009 (read <u>here</u> about it). Is this the piece of work that you are most proud of?

I am obviously very proud of this article and I am only just beginning to understand the importance of my achievement. But perhaps the article of which I feel most proud is one that I wrote on Descartes' dualism, which was selected for inclusion in the critical bibliography of Cartesian Studies published by the Sorbonne. When I discovered that –four or five years ago- my immediate response was: 'I can now die happy'.



Photo: Université de Paris-Sorbonne



This Descartes connection is obviously important for you. Yes. Descartes had to submit his masterpiece (one of the masterpieces in the whole of philosophy) "The Meditations on First Philosophy" to the authorities of the Sorbonne in 1639, for their approval and permission to publish it. Then I write my paper some 350 years later, on Descartes' dualism, and it was selected by the Sorbonne. I thought this connection was important.

The work I feel most proud about today is my recent book "Self, Reason, and Freedom: A New Light on Descartes' Metaphysics" (2013, Routledge).

Read the full interview at www.keble-asc.com

Read more:

A. Christofidou. Descartes' Dualism: Correcting some misconceptions. *Journal of the History of Philosophy* 39 (2001), 215-238.

ASC News

Plans to develop a new ASC Research Cluster on the study and analysis of relics

Relics are objects that survive from ancient times, often associated with a deceased holy person's body or their belongings and kept as objects of reverence or worship.

Why study them

Relics have played a central role in the principal cultures and religions of the world (Judaism, Christianity, Islam, Hinduism and Buddhism), and remain highly relevant today. In addition to their cultural, historical and religious significance, relics can also contain valuable anthropological information concerning an individual's life history, which can be compared with existing written records. They may allow us to trace pathways of movement, patronage and belief.

Obstacles

- Divisions between Humanities, Science and Religion;
- A lack of a systematic methodology for the subject as a whole (perhaps due in part to a legacy of critical prejudice and scepticism about a phenomenon long associated with low-grade superstition);
- Isolated researchers studying different aspects of relics, rather than collaborating to examine the subject as a coherent whole;
- Reticence to allow invasive analysis of relics;
- Lack of scientific analysis of relics that might help to shed light on their history of movement, antiquity, place of origin, and the like;
- No accessible inventories of relics surviving today;
- No extensive chronological or genetic data by which to compare relics.

Aims of the proposed Relics Cluster

- Build an interdisciplinary approach to the study of relics with Fellows working in social sciences (archaeology and anthropology) and humanities (theology, history, art history), as well as natural sciences (chemistry, physics, human genetics);
- Establishment of a structured, interdisciplinary methodology as well as a database and platform for scholarly discussion;.
- Build the interest in the study of important and ancient relics by scheduling research seminars and workshops and by inviting visiting scholars to participate in events in College through the established schemes that we have in place here;
- Creation of an online hub for members through the Keble ASC website (<u>www.keble-asc.com</u>) to stimulate the field, provide information and advice for researchers and interested scholars and enable the development of a platform for collaboration.



Potential Keble Cluster members

Prof. Markus Bockmuehl, Biblical, Jewish & Early Christian Studies).

Professor Dame Averil Cameron, Byzantine & Medieval Studies.

Rev. Dr. Jenn Strawbridge, Early Christianity. Dr. Sarah Apetrei, Ecclesiastical History & Early Modern Christianity.

Dr. Mark Philpott, Medieval Church history. Dr. Efthymios Rizos, ERC funded project 'The Cult of Saints: a Christendom-wide study of its origins, spread and development', led by Bryan Ward-Perkins.

Dr. Morgan Clarke, Social Anthropology & Modern Islam.

Prof. Diane Purkiss, English Literature. Dr. Anna Caughey, Old and Middle English. Prof. Tom Higham, Archaeological Science. Dr. Georges Kazan, Science, Theology & History to explore the cult of relics. Dr. Thibaut Devièze, Archaeological Chemistry.

For more info about this new cluster, please contact **Prof. Tom Higham** (<u>thomas.higham@rlaha.ox.ac.uk</u>) and/or **Prof. Markus Bockmuehl** (<u>markus.bockmuehl@theology.ox.ac.uk</u>).

ASC Research Visitors

Report on completion of Keble College Senior Research Visitorship by Professor John Watkins, Department of English, University of Minnesota.

"I am grateful to the Warden and Fellows of Keble College for the opportunity to conduct research and to write at Oxford University during the fall and winter of 2014-15. I have spent the time revising my manuscript on Premodern Marriage Diplomacy. While at Oxford, I have completed four of the projected six chapters:

The Vestiges of Empire: Interdynastic Marriage in Jordanes and Paul the Deacon. This chapter examines the role marriage played in efforts to rebuild the diplomatic infrastructures of the Roman Empire.

The Origins of Christian Diplomatic Society: Gregory of Tours and Bede. This chapter examines the role of marriage in the great European conversions and the expansion of the episcopate as a primary player in relations between the Roman successor states.

The Peace of Christendom: Chronicles and Romances. This chapter examines how a new discourse of peacemaking during the Crusades intersected with new canon laws of marriage to ennoble interdynastic brides as types of the Virgin Mary mediating between the interests their husbands and fathers. I presented a portion of this research at a colloquium on Medieval gender organized by Tracey Sowerby in February and held in Keble.



The Queen's Eclipse: Corneille and Racine. This chapter explores the collapse of the Queen's traditional role as a peacemaker and intermediary in seventeenth-century France. I will be presenting it to a research group on "Social Science Perspectives on the History of Culture" at Yale University next month.

In addition to my work on my book, I have also been able to research and draft a chapter on "Sir Philip Sidney and the Problem of Compliance in International Law" for a collection edited by Tracey Sowerby and Joann Craigwood. This has been an extraordinarily productive period. The Bodleian Library, the History Faculty Library, the Keble Library, the Codrington Library, the Queen's College Library, and the Taylorian Institute have been ideal places for me to work. I have repeatedly availed myself of calendars of government papers, secondary sources in history and literary criticism, and above all, highly specialized dictionaries I needed for my work on Medieval Latin. Of course the most valuable part of any Oxford experience is the conversations you end up having with other scholars. I have made many new friends at Keble, and renewed ties with old friends around the University. My work has benefited most directly from conversations with Tracey Sowerby, Bernard Gowers, Michael Hawcroft, Angus Hawkins, and Ian Archer at Keble, as well as with Colin Burrow at All Soul's and Fiona McConnell at St. Catherine's. I benefited more generally from my participation in the TORCH* War Crimes seminar, and from the opportunity to attend the Ford Lectures on War and Henrician Society. Finally, I have been enriched by many passing conversations with mathematicians, medics, psychologists, engineers, theologians, and musicians. I am especially grateful for conversations with Dan Grimley and Simon Whalley about a future project I'm planning on "Benjamin Britten and the Elizabethans." Keble is a wonderful community, and I am grateful to have been a part of it".

ASC Research Visitors

Report of activities by Professor Lynn Meskell, Director of the Stanford Archaeology Center, Department of Anthropology, Stanford University.



"During my time at Keble as a Senior Research Visitor (January-February 2015) I undertook research into the history and development of UNESCO, with a particular focus on its mission to conserve and promote World Heritage internationally. As an archaeologist and ethnographer, my work has been specifically focused on the politics surrounding cultural heritage sites within larger global arenas. Engaging with other fellows at Keble who have expertise from a wide array of disciplines from archaeology to international diplomacy greatly benefited my thinking about a new book-length project that I tentatively call, A Future in Ruins. Being based in Oxford further allowed me to connect with other scholars working on international organizations, particularly UNESCO, and this significantly changed the direction of this next writing project.

At Keble I was affiliated with the Creativity cluster of the ASC and this enabled me to reframe my book project in a number of ways. First, I began to consider the founding of UNESCO in a rather more creative context, seeing the contributions of literary figures and scientists as together forging an institution that was both utopian and evolutionary in its mission. Rather than a simple technocratic regime, the moral and social evolutionary aspects of the organization came to the fore. The project involved tracing everything from the utopian creations of Thomas and Aldous Huxley right through to the world of Wikileaks. New aspects of this work were presented to the Creativity cluster at Keble in late February. Lastly, some of the political manoeuvrings I had been tracking over the years in the World Heritage Committee also took on more creative valences. Perhaps instead of positioning the practices of international delegates as inherently corrupt one might argue that these diplomats would instead see their actions as creatively circumventing the rules of World Heritage that for so long has been charged with being Eurocentric and globally unrepresentative. In sum, I am very grateful for my time at Keble, which was stimulating and productive, and I hope to continue these conservations with my colleagues in future".

Other visitors

Prof. Andrew Beeby (University of Durham) visiting the Imaging and Medieval & Renaissance Clusters), February 2015. He gave the talk "Shedding Light on Medieval Manuscripts" on 26th February. Access the recorded lecture <u>here.</u>

Prof. Claudia Klüppelberg (Munich University of Technology) visiting the Networks Cluster, March 2015. She gave a lecture on "Risk in a bipartite Graph Structure" on 12th March.

Prof. Fred Coolidge (University of Colorado) visiting the Creativity Cluster, March 2015. He delivered the lecture "On the Evolution of Language: Chomsky's Creationist Theory, Unicorns, and other Mythical Ideas" on 23rd March.

Coming events...all welcome!

All ASC events are listed on <u>www.keble-asc.com</u>

Next ASC Termly Lecture (Trinity 2015) "The avian genome explosion (3 ways to publish a pigeon)"

The lecture will be delivered by Professor Tom Gilbert (University of Copenhagen) on Monday 27th April, 5pm at O'Reilly Lecture Theatre, Keble. All welcome.



Professor Tom Gilbert and colleagues have recently solved several major problems regarding bird evolution through analysing the genomes of over 48 bird species. Their work has been published in a significant series of papers in *Science* and other journals which together are considered the most comprehensive genome study of any major branch of the tree of life. Their results have provided new insights into other research areas including associations between gene activity patterns in the brain during birdsong and human speech and the explosion in bird diversity after the disappearance of the dinosaurs between 67-50 million years ago. This stunning work has involved the work of dozens of scientists around the world, led by Prof. Gilbert, a young star in the world of ancient genetics.

Abstract: In mid 2010, I found myself to be the proud (and confused) owner of the nuclear genome sequence of the domestic pigeon. Although it had been on my list of things to accomplish, I found myself in the awkward situation of having enthusiastic colleagues at BGI in China pushing to publish it, but no story to tell. Never one to turn down a challenge, I spent the next 4 years trying to rectify this, and thus commenced both an exploration into the evolution and radiation of modern birds, as well as a burgeoning love affair with the flying rat of our cities. What we did, how we did it, the challenges we faced, and what it taught me about genomics in general, is the story I will tell.

This lecture will be streamed live on the internet. You can find more information about this lecture as well as the livestream link shortly <u>here</u>.

Coming events...

All ASC events are listed on www.keble-asc.com

"The Wild Hunt and the Witches"

A Medieval and Renaissance Cluster lecture by Professor Ronald Hutton (Bristol). All welcome.

Abstract

In the past few decades, historians of the early modern witch trials have come generally to accept that folkloric beliefs, some with ancient roots, heavily influenced the constructions of witchcraft which underpinned those trials. In particular, authors such as Norman Cohn, Carlo Ginzburg, Wolfgang Behringer and Eva Pocs have drawn attention to the importance of a tradition of nocturnal processions and cavalcades of spirits in making those constructions. This paper considers the nature of that tradition, and its relationship both with ancient paganism and with the early modern concept of witchcraft.

Wednesday 6th May, 5pm at Pusey Room, Keble.



What is Network Pharmacology?

A Networks Cluster lecture by Alan Whitmore, Principal Clinician Scientist at drug discovery and development company e-Therapeutics PLC. All welcome.

Abstract

Drug discovery is hard and it is characterised by failure rather than success. It is this failure that accounts for the high cost of pharmaceutical development. There has been a one hundred fold decline in the productivity of pharmaceutical R&D since 1950 despite major advances in biological science and technology and the expenditure of literally hundreds of billions of dollars. This is very bad for patients, for drug companies and for the health economies of the world.

Why might this be? I shall argue that a principal reason is a failure to engage with the true complexity of biological systems; and incomplete consideration of the realities of chemical biology. I shall offer up Network Pharmacology as an alternative paradigm for drug discovery. One that embraces the complexity of pathophysiology and chemical biology and which has already started to demonstrate its potential in the search for new therapies. Read full abstract <u>here</u>.



Thursday 18th June, 5pm at Roy Griffiths Room, Keble.