

Keble Advanced Studies Centre



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College

News from Trinity Term

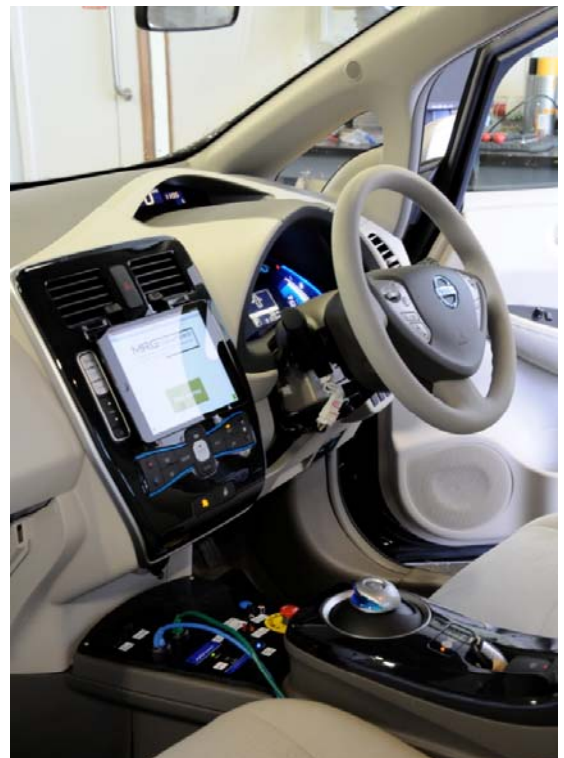
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RobotCar UK: Oxford's Autonomous Car

Professor Paul Newman –BP Professor of Information Engineering at the University of Oxford, EPSRC Leadership Fellow and Keble Fellow–delivered the ASC Annual Lecture in April. He talked to a full house about his fascinating research on robot cars.

The RobotCar UK is a modified *Nissan Leaf* capable of auto-driving. To achieve this it exploits a low cost navigation system along with planning and control software developed by the Oxford Mobile Robotics Group ([MRG](http://www.mrg.ox.ac.uk)), headed by Prof. Newman.

The car navigation system consists of hardware including laser sensors and small cameras mounted around the vehicle that are used to recognise the immediate surroundings. The software, developed by MRG, collects and processes the data generated and translates it into automated actions for the robot car when in auto-drive mode. This data processing is achieved with a computer kept in the boot of the car.



Pictures: RobotCar UK showing the hardware outside the vehicle which is used to recognise its immediate surroundings. In the interior there are only minor changes compared to the look of an unmodified car.

Credit: Department of Engineering Science, University of Oxford.

RobotCar UK: Oxford's Autonomous Car

...continued

The system itself is infrastructure-free, meaning that RobotCar does not rely on global positioning satellite (GPS) information to help it make decisions. This is because GPS technologies do not provide the precision required at ground level and are only sporadically available. The RobotCar, like other autonomous driving efforts, does require a reference representation – a map – of its surroundings.

The concept of automated navigation systems is not new, however what is unique to the RobotCar is the low cost of its hardware. At present, the estimated cost of the prototype navigation system is around £5,000 but the group aims to produce a system that will one day cost less than £100.

The Oxford Group's research is supported by the Engineering and Physical Sciences Research Council (EPSRC) as well as by a broad portfolio of industrial sponsors.

Prof. Newman's team currently occupies the ground floor of the Acland site, the first member of what we hope will be the location of the new Advanced Studies Centre building in the near future.

For more information on the autonomous car and Prof. Newman's research visit:

www.robotcar.org.uk



Professors Paul Newman (left) and Ingmar Posner (right) with their RobotCar UK.

Picture credit: John Cairns

Key aspects of the RobotCar UK:

- ❖ Low cost navigation system
- ❖ Use of laser sensors and small cameras to identify its environment
- ❖ Infrastructure-free navigation –no GPS

ASC Termly Lecture

Dr. James Palmer on Reducing European Road Transport's Carbon Footprint

On 11 June, Dr. James Palmer delivered our ASC Termly Lecture entitled "Reducing European Road Transport's Carbon Footprint: 'Easy Ride' or 'Road to Nowhere?'". He discussed the EU's plan to address the high carbon footprint from its road transport system which accounts for about 20% of the EU's total emission of carbon dioxide. He highlighted the importance of questioning where proposed EU's targets come from and the evidence used in the decision making process to determine these targets.

Dr. Palmer analysed three principal areas in his talk; 1) Biofuel policy and its impact on agriculture; 2) Fuel efficiency targets and the pressure the automotive industry puts on governments when setting targets and; 3) Electric vehicles. He concluded by pointing out the need for setting principles for legitimate and effective transport policy.

Images: Top: Dr. James Palmer delivering his lecture. Bottom: Enjoying a drink with some of the audience afterwards.



James Palmer is the Keble Tutorial Fellow in Human Geography, covering subjects ranging from environmental policy-making, contemporary globalisation to geographies of security and critical geopolitics, and more. Based at the School of Geography and the Environment, Oxford, he is particularly interested in debates for a more sustainable European road transport system and the interactions between science and politics. The latter has driven him to examine the changing role of chief scientific advisers in UK's government over the past two decades as part of a research project in the Centre for Science and Policy.

Meetings and events

Creativity Lectures by Professors Wexler, Coolidge and Wynn

Last term our three Creativity Cluster lectures were very well attended.

Prof. Bruce Wexler (Yale) delivered a talk entitled “Brain and Culture: Implications of Epigenetic Sensitivity to Environmental Input for Understanding Conflict and Creativity” in which he discussed changes in brain neuroplasticity through life and the way that they fundamentally alter the relationship between the individual and the environment in ways important for understanding conflict and creativity.



Dr. Matthew Walls, Dr. Lambros Malafouris and Prof. Bruce Wexler



Dr. Lambros Malafouris with Professors Tom Wynn (left) and Fred Coolidge (right).

The other two lectures were given by Prof. Fred Coolidge of Colorado University. His first talk was on “The Major Exaptations of the Human Brain” where he proposed that the modern human brain has been shaped by eight major ‘exaptations’, brain functions we have now which were not originally adapted or selected for. He was then joined by Colorado University colleague Tom Wynn, Prof. of Anthropology to deliver a joint lecture on Technical Creativity. They explained how repetitive practice not just results in expertise but in the freedom of conscious mind control giving space for creativity, novel ideas and inventions.



More information on these lectures, including interviews with Professors Coolidge and Wynn, can be found in our website: www.keble-asc.com

Meetings and events

Medieval and Renaissance Events

Professor Brian Richardson (Emeritus, Leeds) gave a talk for the Cluster called 'Oralising Early Modern Italian Literature', which drew on findings from his ERC funded project 'Oral Culture, Manuscript and Print in Early Modern Italy, 1450-1700'. Professor Richardson explored the contexts in which poetry and prose might be read aloud, raising questions about the relationship between poetry, prose and song as well as cultures of reading. Reading texts aloud occurred in a wide range of social contexts and at several levels of society. We learned about itinerant reciters of poetry who would perform in front of large public crowds and of poets who would recite their works at court, sometimes with the intention of seeing how the audience responded to their ideas. Much Italian poetry was apparently sung. Professor Richardson demonstrated how poets were aware of this phenomenon and that some, even those who might be expected to appreciate its benefits, were wary of seeing their own poetry performed in this manner. He ended by encouraging us to consider the performative context of texts as part of their 'materiality'.



Prof. Brian Richardson and Dr. Tracey Sowerby, leader of our ASC Medieval and Renaissance Cluster.

This lecture was recorded and the video can be found at our website: www.keble-asc.com

Mini-Colloquium on Illuminated Medieval Manuscripts

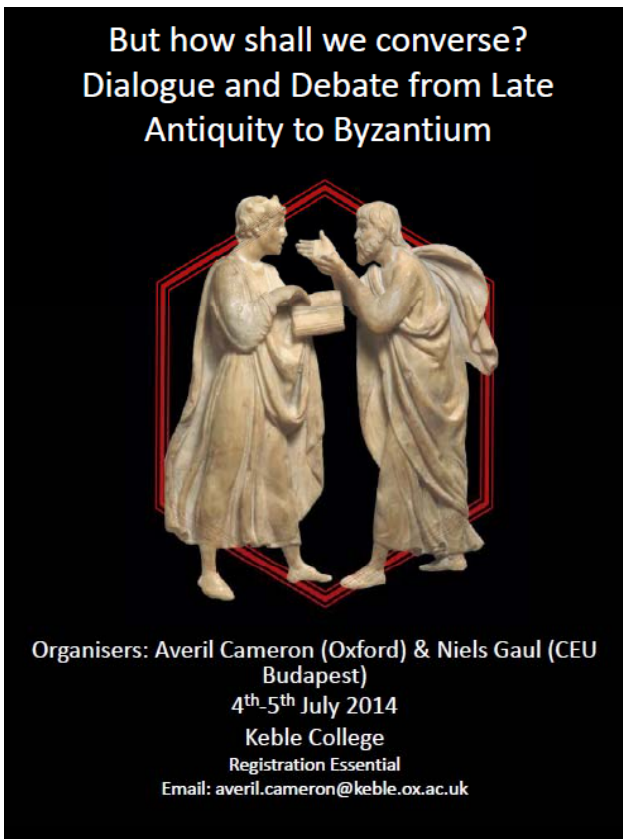
On 16 May the Medieval and Renaissance Studies Cluster hosted an afternoon workshop on illuminated manuscripts that aimed to explore the relationship between text and image. Discussion ranged widely, including the iconography of the texts, nature of book production and ways in which the illuminations in these texts were used to reinforce aspects of the texts, whether narrative devices or important scriptural passages.



Meetings and events

Medieval and Renaissance Workshop

Prof. Averil Cameron gave us her comments on the success of the Medieval and Renaissance Cluster workshop: “But How Shall We Converse? Dialogue and Debate from Late Antiquity to Byzantium”.



Written dialogue - Socratic, literary, fictional, philosophical, inter-religious - is arguably a universal form, and certainly features in many cultures. However, this was probably the first workshop to cover the large number of mostly very neglected dialogue texts in Greek from the late antique period to the end of Byzantium and after. Averil Cameron (Keble) and Niels Gaul (Central European University, Budapest) put together a very international programme, with 19 speakers over two days. A very pleasing feature was that three of them were Keble alumni: George Karamanolis (Vienna), Eleni Kechagia (Oxford, Nuffield) and Foteini Spingou (Princeton). About 50 people, also from a wide variety of backgrounds and places, very much enjoyed both the discussions and the setting at Keble. It was a wonderfully exciting event for those who were there, and there will undoubtedly be a highly original volume in due course.

Contribution from Prof. Dame Averil Cameron, Keble Research Fellow in Byzantine and Medieval Studies.

Work-in-Progress Lunchtime Seminar

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This year, the Medieval and Renaissance Cluster set up a Work-in-Progress lunchtime seminar for members and graduate students. Dr. Ian Archer gave this term's paper on a text he has co-edited on Early Modern London.



Prof. Averil Cameron with invited speaker Dr. Alex Novikoff from Fordham University, New York.

Meetings and events

International Conference on Early Modern Diplomacy



Dr. Tracey Sowerby, leader of our Medieval and Renaissance Cluster, organised an international conference on early modern diplomacy which was held in Oxford from 31 July to 2 August. This marked the culmination of a project funded by the AHRC, of which she is the PI. 'Textual Ambassadors: Cultures of Diplomacy and Literary Writing in the Early Modern World' investigates the intersections between literature and diplomacy c.1450 to c.1750.

A core group of scholars from the UK, USA and Europe had already met for workshops in Oxford and Cambridge. This conference showcased research from the network and put it in context, attracting a wide range of international delegates working in history, literary studies, theology, musicology and historical anthropology.

Over fifty papers were delivered, ranging geographically from Denmark to India and thematically from diplomatic networks to material

culture to rhetorical strategies. The keynote lecture on 'Diplomacy as a Social Practice' was given by Professor Christian Windler (Bern), a leading scholar of early modern diplomacy and an expert on diplomacy and cross-cultural exchange. The conference also featured two roundtable sessions addressing future directions of research in 'diplomatic poetics' and diplomatic studies respectively, both of which produced lively and useful discussions.

The conference also received sponsorship from The Oxford Research Centre in the Humanities (TORCH) and the Society for Renaissance Studies.

Dr. Sowerby now plans to begin work on a conference volume and (with her co-investigator, Joanna Craigwood) a volume of essays from the network. To find out more about the project visit www.textualambassadors.org.



[Tracey Sowerby](#) is the CMRS Career Development Fellow in Renaissance History at Keble College, Oxford. Her research interests cover early modern politics, religion, print culture, and intellectual culture and the interactions between them. At present she is researching the cultural history of Tudor diplomacy, considering how English diplomatic practice, personnel and theory adapted to three major sixteenth century developments: the introduction of resident ambassadors, the English Reformation and female rule. Tracey has published a monograph, *Renaissance and Reform in Tudor England: The Careers of Sir Richard Morison* (OUP, 2010), which examines the activities of an influential Tudor humanist and diplomat.

Meetings and events

Complexity Cluster



Professor Gui-Qiang G. Chen, Professorial Fellow and Leader of the ASC Complexity Cluster, chaired the "International Conference on Free Boundary Problems: Theory and Applications", held on 23-27 June 2014 at the Isaac Newton Institute for Mathematical Sciences, University of Cambridge <http://www.newton.ac.uk/programmes/FRB/frbw04p.html>. The Co-leader of the Cluster, **Dr. Apala Majumdar**, delivered an invited lecture on "Free Boundary Problems for Liquid Crystals" at the meeting.

This was the 13th International Conference on Free Boundary Problems: Theory and Applications, part of a series initiated in Oxford and Durham in the 1970s. The inaugural meeting was in Montecatini (Italy, 1981) and succeeding in Maubuisson (France, 1984), Irsee (Germany, 1987), Montreal (Canada, 1990), Toledo (Spain, 1993), Zakopane (Poland, 1995), Crete (Greece, 1997), Chiba (Japan, 1999), Trento (Italy,

2002), Coimbra (Portugal, 2005), Stockholm (Sweden, 2008), and Chiemsee (Germany, 2012).

The aim of the conference was to bring together mathematical scientists with interests in the theory, numerics and applications of Free Boundary problems and discuss recent significant advances and current trends/directions in Free Boundary problems and related topics. Beside 14 plenary lectures, there were seven focus sessions on Free Boundary Problems (FBPs): Analysis of FBPs; FBPs in Fluid Mechanics; FBPs in PDEs of mixed type; Numerics for FBPs; FBPs in Materials Science; FBPs in Biology; and Recent Developments in FBPs. In addition, a half-day Turing Gateway Event brought together leading experts in multiple disciplines across biology and medicine which require mathematical modelling and computation involving FBs, interfaces and related concepts.

Dr. Apala Majumdar, Fellow by Special Election at Keble College and Co-leader of the Advanced Studies Complexity Cluster, is editing a special issue of the Philosophical Transactions of the Royal Society A on "**New Trends in Active Liquid Crystals: Mechanics, Dynamics and Applications**" with Professor Cristina Marchetti (William R. Kenan Professor of Physics, Syracuse University, USA) and Professor Epifanio Virga (University of Pavia, Italy).

Dr. Majumdar has been invited to speak at the Institute of Computational and Experimental Research in Mathematics (ICERM), Brown University semester program on "Phase Transitions and Emergent Properties" in early 2015.



Awards received by ASC Cluster members

Prof. Sarah Whatmore Elected Fellow of the British Academy

Congratulations to Prof. Whatmore a member of our Creativity Cluster.



Professor Sarah Whatmore, Keble Fellow and Head of the School of Geography and the Environment, Oxford, has been elected Fellow of the British Academy in recognition of her outstanding research.

Professor of Environment and Public Policy, Sarah Whatmore’s research focuses on the relations between people and the material world. She is also interested in the spatial habits of thought that inform the ways in which these relations are imagined and practiced in the conduct of science, governance and everyday life. She is an active member of our **Creativity Cluster** and author of several books on the theoretical and political implications of her research including, *Hybrid Geographies: Natures Cultures Spaces* (Sage), *The Dictionary of Human Geography* (Wiley - Blackwell) and *Political Matter: Technoscience, Democracy and Public Life* (Minnesota Press).

Dr. Anna Caughey Receives a British Academy Small Research Grant

Anna Caughey, Keble Lecturer in Old and Middle English and member of our Medieval and Renaissance Cluster, has received a Small Research Grant from the British Academy for her digital humanities project, on the print and manuscript tradition of Robert Henryson’s *Morall Fabilliis* leading to an online edition of the text.

Dr. Caughey was awarded a Keble Research grant last year which helped to pump-prime this funding. Congratulations!



New Members and Academic Visitors

Medieval and Renaissance Cluster



We welcome **Dr. Bernard Gowers** to our ASC community. Dr. Gowers has joined the Medieval and Renaissance Cluster. The main focus of his research is on ecclesiastical life during the tenth to twelfth centuries, principally in France. He is also interested in Christian attitudes towards Jews in this period, and has published on tenth-century peasant politics.

He is involved in the collaborative ERC-funded project 'Communication and Empire: Chinese Empires in Comparative Perspective' (<http://chinese-empires.eu/>), based at the University of Leiden. This explores the relationship between China and Latin Europe during the Middle Ages. Dr Gowers' contribution involves comparative analysis of intellectual elites.

Dr. Gowers is a Research Associate at Keble, Senior Tutor at the Centre for Medieval and Renaissance Studies, Oxford and a member of the History Faculty, Oxford.

Next academic year **Prof. John Watkins**, will be a Medieval and Renaissance Cluster visitor. He is part of the Textual Ambassadors Research Network directed by our Cluster leader Dr. Tracey Sowerby. He will come in September and visit again in spring 2015.

Prof. Watkins is Distinguished McKnight University Professor of English at the University of Minnesota and holds affiliate positions in History, Medieval Studies and Italian Studies. He has written widely on medieval and early modern diplomacy, exchanges between England and the Mediterranean, early modern political culture, queenship and sovereignty, and the classical and medieval origins of the Renaissance. He is the author of *Representing Elizabeth in Stuart England: Literature, History, and Sovereignty* (CUP, 2002), and *The Specter of Dido: Spenser and Virgilian Epic* (Yale UP, 1995) and co-author (with Carole Levin) of *Shakespeare's Foreign Worlds: National and Transnational Identities in the Elizabethan Age* (Cornell UP, 2009). In 2008 he edited a special edition of essays on diplomacy for the *Journal of Medieval and Early Modern Studies* and called for a multi-disciplinary approach to the study of diplomacy in the pre-modern era. John is currently completing a book on medieval and early modern interdynastic marital diplomacy.



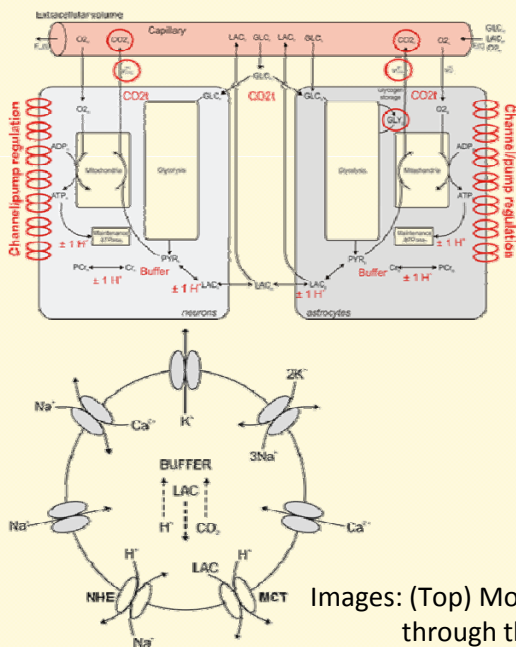
www.textualambassadors.org

Image taken from Department of English, University of Minnesota

Coming events...

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

Imaging Cluster Workshop: Modelling Inflammation



The Imaging Cluster is pleased to announce a new workshop dedicated to modelling inflammation. This event will be held on Wednesday 15th October and is open to Keble, LMH and John Radcliffe Hospital members and their collaborators. This is an exceptional opportunity to bring together researchers working on inflammation and those who can develop tools and methods for its study.

Format: Presentations (10 mins talk + 20 mins discussion). A Poster Session will be organised if many wish to participate.

For more information please contact:
[Dr. Piotr Orłowski](mailto:piotr.orkowski@keble.ox.ac.uk), EP Abraham Career Development Fellow in Imaging
 piotr.orkowski@keble.ox.ac.uk

Images: (Top) Modelling cell death during stroke and (bottom) model of ion transport through the cellular membrane. Orłowski et al., Interface Focus, 2011.

Next ASC Termly Lecture High-Temperature Superconductivity

Dr. Stephen Clark, a key member of our Networks Cluster, will be delivering the next ASC Termly lecture. He will be covering his and Prof. Dieter Jaksch's work on high-temperature superconductivity; research funded by the European Research Council (ERC). Dr. Clark will include some history and background of the subject. The lecture has been planned for mid to late Michaelmas term. The date and title to be announced shortly on our website: www.keble-asc.com



Other related events

Dr. Simon Butt, member of the Imaging and Creativity Clusters, will deliver the Douglas Price Society Lecture on 'The Exquisite Nature of Building a Normal Brain'. Friday 26 September. Bookings to be made online. Enquiries to Sharon Thomas sharon.thomas@keble.ox.ac.uk

The next Keble London Lecture to be held on Thursday 20 November, will be by **Dr. Ian Archer**, member of the Medieval and Renaissance Cluster. The title is "The Transformation of London 1550-1700". Enquiries to Ruth Cowen ruth.cowen@keble.ox.ac.uk