EXTERNAL RESEARCH GRANTS SECURED (THRESHOLD: £10K)

ARI/REF UoA 09/Physics
£63k allocated to LJMU, ‘Astrophysics meets conservation biology’, Dr. Steven Longmore. STFC Research Grant, Apr 2017 - Dec 2017.

PROTECT/REF UoA 11/Computing Science
£63k allocated to LJMU, ‘Telehabilitation using games and motion capture’, Prof. Abdennour El Rhalibi and Dr. Stephen Tang; Prof. Gabor Barton (RISES). KTP, UPLEC Industries Ltd KTP, Jan - Sep 2017.

£35k allocated to LJMU, ‘Personalised health care monitoring using smart meter energy readings’, Dr. William Hurst, Dr. Michael MacKay, Dr. Paul Fergus, Dr. Dhiya Al-Jumeily and Carl Chalmers. Innovation to Commercialisation of University Research (ICURe) programme, Nov 2016 – Feb 2017.


GERI/UoA 15/General Engineering
£84.5k allocated to LJMU for laser machining trials, Dr. Paul French and Dr. Martin Sharp. National Composites Centre, HVM Catapult, Dec 2016 – Mar 2017.

£15k to LJMU, ‘Feasibility Study for the Glass Grinding Wheel Concept’, Prof. Mike Morgan. MTC@LJMU commercialisation action, Jan – Mar 2017.

BEST/UoA 16/Built Environment
£30k allocated to and match-funded by LJMU, ‘Electromagnetic wave sensor for the quality control and monitoring of polymers used in the rotomoulding industry’, Dr. Muhammad Ateeq (PI), Dr. William Atherton (Co-PI), Prof. Andy Shaw (Co-PI). Matrix Polymers, 2017-2019.


AWARDS/PRIZES/KEYNOTE ADDRESSES (AT RECOGNISED INTERNATIONAL CONFERENCES)

(ARI) On 24th November the EAGLE team (represented by LJMU) came second in the category of Research Project of the Year at the Times Higher Education Awards 2016, and were "highly commended" by the judging panel.

(BEST) Dr. Alex Mason gave a keynote speech at the IEEE International Conference on Intelligent Control, Power and Instrumentation (ICICPI2016), "Industrial Applications of Microwave Sensors", Kolkata, India, October 2016.

(Computer Science) Prof. Abdennour El Rhalibi was invited as a keynote speaker at the Health 2.0 Asia 2016 International Summit on Smarter Healthcare & Great Health Industry, Nanjing, China, November 9-10, 2016.

(EEE) Prof. Emil Levi delivered a keynote address titled "Multiphase electric machines – what are they good for?" at the XI Int. Symp. on Industrial Electronics INDEL in Banja Luka, Bosnia and Herzegovina, November 2016.

(LOOM) Prof. Jin Wang (with contributions from Mr. A.F. Bin Ahmad Najib and Dr. Ben Matellini) delivered an opening keynote address on “Development of Decision Making Techniques for Analyzing the Designation of the Northern Sea Route (NSR)” at International Workshop on Maritime Safety and Arctic Shipping (MSAS), 4-7 December 2016, Wuhan, China.
Prof. Zaili Yang delivered a keynote address on “Challenges and Opportunities of One Belt and One Road” at the International Conference on The Silk Road Economic Belt and the 21st Century Maritime Silk Road for Transportation and Global Supply Chain, 1-2 December, 2016, Melbourne, Australia.

RESEARCH IMPACT GENERATING ACTIVITIES

(EEE) The defect-based characterization technique developed by Dr. Zhigang Ji and Prof. Jian Fu Zhang has been selected by one of the world-leading test equipment providers, Keithley Instruments, as the future standard reliability test method. The technique will be implemented into Keithley’s most advanced characterization system and will be disseminated to all their users worldwide. Dr. Ji was invited to visit the company’s headquarter in Cleveland, USA.

(LOOM) Tri Thanh Le and Dr. Trung Thanh Nguyen are delivering an optimization algorithm to help a port in Vietnam (Greenport) to better load goods to vessels. Initial trials showed that the solutions from the team is significantly better than the existing solutions previously used by the port.

(ARI) A paper that appears in Nature Astronomy, led by Giorgios Leloudas (Weizmann), of which ARI’s Prof. Paolo Mazzali is a co-author, reports observations of ASAS-SN-15h, which show a dramatic rebrightening of the source, making it incompatible with a Supernova (as reported by Dong et al 2016, Science). The position of the event, very close to the nucleus of the host galaxy, and its repeating, suggest that we are witnessing episodes of accretion on the supermassive black hole at the centre of a galaxy, a phenomenon known as a Tidal Disruption Event (TDE). The URL link to the paper at Nature Astronomy will be http://nature.com/articles/doi:10.1038/s41550-016-0002.

(ARI) Nicholson, R. B, Parker, R. J. (2017) "Supernova enrichment of planetary systems in low-mass star clusters", MNRAS, vol. 464, pp 4318-4324. Until recently, it was thought that our Sun formed in a very massive star cluster due to the inclusion of short-lived radioactive chemical elements from supernovae in the early phase of Solar System formation. This new research at ARI, which has also featured in the December 2016 edition of the popular astronomy publication 'Astronomy Now', shows that the star cluster that formed the Sun could have been much less massive, and this therefore vastly increases the chances of Solar-like planetary systems existing around other stars.

IMPORTANT ITEMS FOR POSTGRADUATE RESEARCHERS INCLUDING PHD COMPLETIONS AND RESEARCH INITIATIVES AT FET

Darren Conway and Chantelle Mason (Applied Mathematics) have both been awarded bursaries from the In Vitro Toxicology Society, based on the quality of their abstracts for the upcoming annual international meeting in Glasgow. Only three of these awards are presented by the society each year. Darren has also been awarded a £780 bursary to attend an international teaching school on computer-aided preclinical testing interventions of age-related diseases, hosted by the European network MouseAGE:COST.

Gavin Lamb (ARI) was invited to present his research at the Astrophysics Big Bang Laboratory, RIKEN Institute, Japan on the 11th November 2016.

Ahmed Makki, Danial Yazdani, Ran Wang, Igor Deplano and Yannis Ancele (MME) have delivered a joint report with Dr. Trung Thanh Nguyen to the Department for Transport, outlining the current problematic state of seat reservation in rail, and possible solutions using analytical methods to improve the situation.

Yannis Ancele (MME) has worked with Dr. Trung Thanh Nguyen to deliver a new version of the wayfinding software to be used by visitors to the Southport and Ormskirk hospitals.

EXTERNAL COLLABORATION

(ARI) Dr. William Chantereau will be coming to LJMU on an SNSF Fellowship (Swiss National Science Foundation) for 18 months from March 2017. He will work with Prof. Nate Bastian and his group on stellar evolutionary theory (stellar rotation) and the phenomenon of “multiple populations” within massive globular clusters.

(BEST) Dr. Alex Mason and Dr. Olga Korostynska hosted a British Council-sponsored visit from Dr. Yaroslava Zhukova
of the National Academy of Sciences in Ukraine to build collaboration in the area of food safety.

**Dr. Muhammad Ateeq, Dr. William Atherton and Prof. Andy Shaw** have confirmed a PhD project (3 years) with Matrix Polymers, a Merseyside based SME supplying polymers to the rotomoulding industry. The aim of this high impact industry-focused research project is to develop an innovative electromagnetic wave sensor for the characterisation, quality control and assessment of the raw/processed material. The collaboration came through Low Carbon Eco-Innovatory and as a result of a feasibility study carried out for the company.

(Computer Science) **Prof. Abdennour El Rhalibi** has been appointed Visiting Professor at Sathyabama University in Chennai, India, to visit in summer 2017 for research and collaboration.

Dr. Ben Kotze, from Central University of Technology - Free State in South Africa, visited the Department of Computer Science for one month in November 2016, to collaborate with **Prof. Abdennour El Rhalibi** and Dr. William Hurst. The initial research collaboration will lead to a Newton Institutional Links application.

(GERI) **Dr. Andre Batako** visited the University of Shanghai for Sciences and Technology, where he gave a series of lectures over a week. He also gave key lectures at the Chinese Institute for Abrasives and Grinding Technology in Zhengzhou. In addition, he presented his work at the 13th Global Congress of Manufacturing and Management, 28-30 November 2016, where he is a member of the Steering Committee.

(LOOM) The Faculty welcomes Van Truong Vu from Le Quy Don Technical University, who started his 5-month research visit to LOOM in November. He will be working with **Dr. Trung Than Nguyen** on vehicle routing, as a part of a project funded by the Royal Academy of Engineering.

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### NOTABLE PUBLICATIONS


(BEST) **Ma F.**, Sha A., Yang P., **Huang Y.**, (2016), “Laboratory investigation on the properties of asphalt mixtures modified with double-adding admixtures and sensitivity analysis”, Journal of Traffic and Transportation Engineering, 3(5), pp. 412-426, [DOI](https://doi.org/10.1007/s40593-016-0141-9). This research was funded by the National Natural Science Foundation of China (NSFC).


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### OTHER ITEMS

(BEST) **Dr. Eduardo Cordova-Lopez** travelled to China, appearing on state TV and participating in a number of exhibition events, to promote the activities of LJMU in healthcare and within Sensor City.

(ARI) The Liverpool Telescope had its most productive year ever in 2016, with 68 refereed journal publications based on data from the robotic telescope. The previous best was 2014 with 60 publications.

(Computer Science) **Prof. Abdennour El Rhalibi** was appointed Expert Adviser, Panel Member and Reviewer for British Council Newton Fund Panel for the period Oct 2016 – Oct 2019. He will be responsible for advising on calls and applications for Newton Fund Institutional Links UK-Russia Institutional Links, UK-Gulf Institutional Links, STREAM Triateral Institutional Links, Researcher Links Travel Grants and Workshop Grants. Prof. El Rhalibi is also co-organizing, as Programme Chair, The 11th International Conference on E-Learning and Games, Edutainment 2017, at Bournemouth University, UK, with several colleagues from the Department of Computer Science also participating as International Programme Committee members.

**Dr. Kashif Kifayat, Professor Qi Shi, Prof. Abdennour El Rhalibi** and Dr. Kay Hack are the guest editors for the LNCS Transactions on Edutainment’s special Issue on Cybersecurity Teaching and Learning 2017. **Dr. Kashif Kifayat** has also been appointed for the second time as Chair of the 2017 National Higher Education Academy (HEA) Conference on Cybersecurity Teaching and Learning.

(EEE) **Prof. Emil Levi** has been appointed as the Technical Programme Chair for the 19th International Symposium POWER ELECTRONICS Ee2017, which will be held in Novi Sad, Serbia, in October 2017 with the sponsorship of the IEEE Power Electronics Society and IEEE Industrial Electronics Society.
Prof. Xun Chen has been appointed as the Editor in Chief for the International Journal of Abrasive Technology.

An MTC@LJMU Project titled ‘Design for Additive Manufactured Components’ marks the first formal and financial engagement between the MTC@LJMU and LJMU. It is the first external project to be approved by the MTC to an external unit within the highly competitive CRP initiative requiring the approval of more than 100 MTC industry members and the three founding universities (Birmingham, Nottingham and Loughborough). £5k has been awarded to Prof. Mike Morgan as part of a £54k feasibility study and prelude to a planned larger Innovate UK submission.
EXTERNAL RESEARCH GRANTS SECURED (THRESHOLD: £10K)

ARI/UoA 09/Physics
€307k awarded to LJMU; EU H2020 OPTICON grant to support time domain astrophysics, Prof. Iain Steele, 2017-2020.

£51k awarded to LJMU; STFC grant to support completion of the WEAVE detector system for the William Herschel Telescope, Prof. Iain Steele and Stuart Bates, 2017-2018.

£15k awarded to LJMU, Royal Society grant for new computing hardware, Dr. Rob Crain.

€243k allocated to LJMU, RESET - Reliability and Safety Engineering and Technology for large maritime engineering systems, Prof. J. Wang (PI), Dr. C. Michailides, Dr. E. Blanco-Davis, Prof. Z. Yang, Dr. M. Seddighi, Dr. T.T. Nguyen, and Prof. I. Jenkinson, LJMU as the coordinator for the grant of €1,285,200 funded via the H2020 Marie Curie programme, 2017-2021.

£21k allocated to LJMU, Intelligent real-time seat allocation for better rail services, funded by the Department for Transport. Dr. T. T. Nguyen (PI), Dr. P Johnson, Prof. J. Wang, A. Makki, Dr. C.T. Ha, D. Yazdani, Ms. R. Wang, Y. Ancele, and I. Deplano, 2016-2017.

BEST/UoA 16/Built Environment
£100k allocated to LJMU; Development of a sensor for monitoring hip dysplasia in infants, Arthritis UK, Dr. Olga Korostynska and Dr. Alex Mason, 2017-2019.

EEE/UoA 13/Electrical and Electronic Engineering, Metallurgy and Materials
£100,727 awarded to LJMU; EPSRC First Grant for project ‘Power flow control in future electric vehicles and dc microgrids with multiple energy sources’, Dr. Obrad Dordevic, March 2017 – March 2018.

AWARDS/PRIZES/KEYNOTE Addresses (AT RECOGNISED INTERNATIONAL CONFERENCES)

(ARI) Prof. Iain Steele has been invited to present the new robotic telescope project at Photonex 2017, the UK’s leading annual optics conference.

Dr. Rob Crain gave the keynote address at the annual Belgian Astronomy Day, held at the Royal Observatory in Brussels (October 11th) and also gave an invited review at the conference ‘The changing face of galaxies’ in Hobart, Tasmania (September 19-23).

(BEST) Dr. Alex Mason delivered a keynote address ‘Microwave Sensing in Food and Agriculture’, at the National Academy of Sciences, Kyiv, Ukraine, July 2016.

Dr. Olga Korostynska, delivered an open keynote lecture ‘Microwave Sensing: Challenges and Opportunities’ at National Technical University of Ukraine, Kyiv, Ukraine, September 2016.

(Computer Science) Dr. Gyu Myoung Lee delivered a speech entitled ‘ITU-T activities for trust in ICT infrastructure and services’ in the special session on trust information infrastructure at the international conference on ICT convergence 2016, Jeju, South Korea, 19-21 October 2016. He also served as a Regional Chair for the conference.


(LOOM) Dr. Eddie Blanco was an invited speaker in the ‘New Urban Mobility Services: Europe’s Cities and Regions as engines for growth’ workshop within the European Week of Regions and Cities, Brussels, Belgium. The workshop was co-organised by a LOOM team (Dr. T.T. Nguyen, Dr. E. Blanco, Prof. J. Wang) in collaboration with ERRIN and other European partners. The European Week of Regions and Cities is the biggest European public event of its kind, with 6,000 participants and 600 speakers from all over Europe.

Dr. Constantine Michailides delivered a keynote address on “Structural Health Monitoring in Offshore Wind Technology” at the 2nd International Conference on Renewable Energies Offshore, RENEW2016, 24 - 26 October 2016, Lisbon, Portugal. The presentation attracted more than 400 attendees.
RESEARCH IMPACT GENERATING ACTIVITIES

(BEST) Research led by Dr. Alex Mason and Prof. Ahmed Al-Shamma’a featured in Norwegian Parliamentary papers on innovation in the food sector in Norway, commenting that the project and resulting sensor technologies “have great potential for practical use in the meat industry”.

(ARI) Dr. Rob Crain has contributed visualisations of cosmological simulations to an IMAX release ‘Voyage of Time’, directed by Terrence Malick and narrated by Brad Pitt. He has done some voice-overs for the clips, which are now on the movie’s website for a "Behind the Science" section and was interviewed on BBC Radio Merseyside about it (October 7th).

IMPORTANT ITEMS FOR POSTGRADUATE RESEARCHERS INCLUDING PHD COMPLETIONS AND RESEARCH INITIATIVES AT FET

Rui Gao (EEE) has won the 2016 IET travel award, which will provide partial financial support for him to present his research work at the International Electron Device meeting in San Francisco this December.

Bandar Al-Dawsari (Computer Science) has been awarded the Distinctive Research Student Award by the Saudi Arabian Cultural Bureau (SACB) in London for the quality and number of the research papers he has published since he started his PhD study in Feb 2014. His name has been announced on the Reward of Excellence page of the SACB website. The supervision team is Dr. Thar Baker, Dr. David England, and Dr. Martin Randles.

INTRODUCTION TO NEWLY APPOINTED RESEARCH ACTIVE MEMBERS

Dr. Paul Davies joined the Department of Maritime and Mechanical Engineering in September as a Royal Academy of Engineering Visiting Professor in Risk Assessment and Marine Technology. This is a three year post alongside his interests in risk assessment and alternative fuels for ships at Lloyd’s Register. Paul is a Chartered Engineer and obtained his PhD in risk assessment from Loughborough University in 1990. He chairs and provides advice to industry, governments and NGOs, including: the UK Maritime Coastguard Agency; European Maritime Safety Agency; UK Health & Safety Executive; Society for Gas as Marine Fuel; and the Cruise Ship Safety Forum.

The Department of Computer Science welcomes three new research-active members of staff, who are all keen to collaborate with other University staff in areas of mutual interest.

Dr. Nathan Shone has joined as a Lecturer in Cyber Security. Prior to this, he worked as an RA in the PROTECT research centre. His research interests include: misbehaviour monitoring, security monitoring, anomaly detection, IoT security and digital forensics.

Before joining LJMU as a Lecturer in Games Development, Andrew Simpson was a software engineer with some of the biggest companies in the games industry, including Lucid Games and Bizarre Creations, and has worked on many high profile games including Ice Age 3, Blur, and Geometry Wars 3. His research interests are in Console Game Development, iOS Development, Android Development, Game Engine Development, AI for Computer Games, Tools to aid Game Development, Console Emulation, Virtual Reality, Augmented Reality, Serious Games, Procedural Generation of Game Content, Game UI and UX, Raspberry Pi Development, Arduino Development and Analytics for Games.

Prior to joining LJMU, Dr. Gabor Kecskemeti was a research fellow at the Institute for Computer Science and Control, Hungarian Academy of Sciences. His research interests are in the areas of distributed systems (e.g., grid and cloud computing), computer systems simulation (especially focusing on large scale cloud and IoT systems) and service-oriented architectures with a focus on monitoring, SLA and deployment issues. He has contributed to over 60 scientific papers (including 13 articles in high impact journals).

REF UPDATE

Introducing research performance metrics

In our preparations for the next REF, alongside the peer-review of research outputs as part of research quality assessment, we will be considering a number of research performance metrics from the SciVal platform. Here is a brief introduction to a couple of SciVal metrics: Field-weighted citation impact (FWCI) and Publications in Top Journal Percentiles (PTJP).
FWCI is the ratio of the citations received by an output, and the average number of citations by all other publications. Importantly, it takes into account the difference in research behaviour across disciplines. A FWCI of 1.00 means that the output performs just as expected for the global average; >1.00 means the output is more cited than expected e.g. 1.48 means 48% more cited than expected. Looking at departments in FET and outputs (articles only) published by staff in 2015, ARI tops the list with a FWCI of 2.96, EEE 2.53 and MME 1.21 (the value for LJMU overall is 1.69).

The PTJP can be calculated for varying percentages i.e. the average citation thresholds that represent the top 1%, 5%, 10% and 25% of journals in the ‘data universe’ on a world-wide basis. Again considering articles only, 63% of EEE outputs were published in the top 10% of journals, Maths 56%, MME 48% (the value for LJMU overall is 15%).

Of the top 100 LJMU authors based on the number of publications produced between 2011-2016, over half (53) are affiliated to FET. But remember that it is not always about the volume: it’s quality that matters, always think ‘quality over quantity’. Professor Emil Levi is one of LJMU’s most prolific researchers in terms of the number of publications authored (2011-2016), but his FWCI is an impressive 5.37!

Please get in touch if you would like to learn more about SciVal and research performance metrics (individual level, departmental and group levels etc).

Dr. Diana Leighton, REF Manager

EXTERNAL COLLABORATION

Dr. Roman Petruk and Dr. Vitalii Ishchenko from Vinnysia National Technical University, Ukraine, visited LJMU in September to establish a link for Erasmus staff and student exchange and to explore research cooperation opportunities. They were hosted by Dr. Olga Korostynska and Dr Alex Mason as part of a British Council sponsored project. During their visit, they delivered open research seminars on “Environmental impact and processing of hazardous waste” and “Method of heterogeneous mediums analysis on the base of multi-spectral images”.

Prof. Andrew Newsam, Dr. Chris Copperwheat and Dr. Robert Smith (ARI) were all selected to be part of a 14 strong UK delegation invited to attend a 3 day workshop hosted by the National Astronomical Research Institute of Thailand (NARIT). Subsequently, all three were selected to lead STFC Newton Fund grant proposals for joint UK/Thai projects in astrophysics. ARI hosted a delegation from NARIT led by Deputy Director Professor Saran on 22nd and 23rd September, to discuss plans for future joint outreach and technology development activity, including a major role in the new robotic telescope (LT2).

The Faculty welcomes Hui Cao from Xi’an Microelectronics Research Institute, China, who started his 12 month research visit to the Microelectronics Research Group in September 2016.

The Electric Machines and Drives Research Group (EMD-RG) hosted three international internship students this summer, under the supervision of Dr. Obrad Dordovic. Two French 4th grade students, Valentin Morelle and Mathieu Bertram from École Polytechnique François Rabelais, University of Tours, spent three months with EMD-RG, working on: ‘Development of PLECS thermal library models for particular semiconductor devices’; and ‘Design and implementation of Flyback converter’, respectively. Jason Bullock from Griffith University, Australia, spent three months working on his final dissertation: ‘Modelling of a wind energy conversion system in MATLAB/Simulink and PLECS’.

The Faculty welcomes Le Tri Thanh from Vietnam Maritime University and University of Engineering and Technology, Vietnam National University, who started his 8-month research visit to LOOM in September. He will be working with Dr. Trung Thanh Nguyen on optimization for loading containers into vessels, as a part of a project funded by the British Council.

NOTABLE PUBLICATIONS

(ARI) Emma Beasor and Dr. Ben Davies led a paper that will be published by the Monthly Notices of the Royal Astronomical Society, which re-evaluated the way the massive stars eject their outer layers in the short period before they go supernova. The results of the study solve the long-standing problem of why theory fails to predict the mass range of stars which explode as supernovae.


(ARI) Fontani, F., Commerçon, B., Giannetti, A., Beltrán, A., Sánchez-Monge, A., Testi, L., Brand, J., Caselli, P., Cesaroni, R., Dodson, R., Longmore, S., Rioja, M., Tan, J.C., and Walmsley, C.M. (2016), “Magnetically regulated fragmentation of a massive, dense, and turbulent clump” Astronomy & Astrophysics, 593, L14 DOI. This paper featured in the Research Highlights section of the October issue of Nature. The paper is significant because it shows a massive, dense molecular gas cloud breaking up during gravitational collapse into a population of multiple fragments. The mass and the spatial distribution of these are consistent with magnetic support controlling the fragmentation, rather than just gravity and turbulence as commonly assumed.


(MEMARC) Liu, S., Zhou, Y., Xing, X., Wang, J., Ren, X., Yang, Q. (2016), “Growth characteristics of primary M7C3 carbide in hypereutectic Fe-Cr-C alloy” Scientific Reports, 6, 32941. DOI: 10.1038/srep32941

OTHER ITEMS

(ARI) Dr. Ben Davies chaired and was PI of the month-long workshop "The Chemical Evolution of Galaxies", funded by the Munich Institute for Astronomy and Particle Physics.

The ARI beat major international competition to host the 2018 European Week of Astronomy and Space Science (EWASS) at the ACC in Liverpool. EWASS is the largest astronomy-related conference in Europe attracting ~1200 delegates. The meeting will take place 3rd to 6th April 2018 and is sponsored by the European Astronomical Society, the Royal Astronomical Society, STFC at Daresbury and the MTC within FET, amongst others. The event will be a major opportunity to showcase the work of ARI and LJMU to a wide European audience of astronomers, space scientists and engineers.

The University has been shortlisted in three categories of the prestigious Times Higher Education Awards 2016, which celebrate the achievements of universities during the 2014-15 academic year:

- ARI has been shortlisted in the Research Project of the Year category for the EAGLE project, for research with far-reaching academic impact on its field, and for catching the imagination of the public.
- ARI’s RHS 2015 Chelsea Flower Show entry has also been shortlisted in the Widening Participation or Outreach Initiative of the Year category for extending the reach of the Institute to new areas of activity.

The THE Awards dinner and ceremony will take place on 24 November at the Grosvenor House Hotel, Park Lane, London. More than 1,000 guests are expected to attend, including politicians, senior sector figures, and academic and professional university staff from across the UK.
Dr. Paul Fergus has been invited to be a Vice Chair for the H2020 Future and Emerging Technologies OPEN Programme covering Novel Ideas and Radically New Technologies.

Dr. Thar Baker has been awarded one of eight grants by the British Council/Newton-Bhabha Fund, to study at the India-UK Advanced Training School (IUATS) in the Indian Institute of Technology (IIT) Gandhinagar, Gujarat. The theme of the 10-day study visit in November is ‘Optimal Design and Control of Smart Community: New Ideas for Off-Grid Communities’. The training is designed to give early career and postdoctoral researchers a critical understanding of the main concerns related to the emerging idea of energy-smart communities.

Dr. Baker was also invited to contribute to the International Workshop on Smart Micro-Grids for Autonomous Zero-Net-Energy Communities in Birmingham. The British Council-funded workshop was organized by the Centre for Renewable Energy Systems Technology (CREST) at Loughborough University and Indian Institute of Technology Mandi (IIT Mandi).

In September, the Faculty welcomed world-renowned maritime economist Prof. Paul Tae-Woo Lee from RMIT University, Australia, who delivered a talk entitled ‘21st-Century Maritime Silk Road’ at the FET research seminar. Prof. Lee is an LJMU visiting professor and has been working with the LOOM Research Institute since 2013.

Research Cafes
Katherine Stephan is LJMU’s research support librarian who currently organises research cafes for each faculty, where PhD candidates, researchers and faculty members can present their work (either on-going or completed) over lunch in an informal environment. There are usually three speakers each delivering 10-15 minute talks, followed by some questions.

This year’s FET research cafe will be Wednesday, 8 February, 12.30-2.00pm, Room 322 James Parsons Building. If you would like to speak at the event, please contact Katherine or to attend, please sign up via Eventbrite.

University Funding Application Process

The PVC (Research) is asking that all research-active staff become familiar with, and adhere to the University’s formal funding application process, to ensure that all applications are fully supported and of a good standard that reflects well on the University.

All staff applying for external funding for research and other activities must have their application formally approved by the University prior to submission. This comprises approval by 1) Head of School/Department, 2) Finance and 3) Research & Innovation Services (RIS).

Following discussion with your Head of School/Department, please contact Finance and RIS as soon as you plan to apply for funding, for guidance through the process.

LJMU’s funding application procedure applies to ALL external grant applications including electronic submissions. Whilst it is recognised that some grants (especially small travel grants) do not require detailed funding breakdowns or in some cases the levels of funding are predetermined by the funding body themselves (e.g., a fixed grant value or even fixed salary levels), you must still seek Finance approval prior to the submission of such applications.

In addition, Peer-review is required for all bids that either over £20k in value; and/or submitted to any of the following organisations: UK Research Councils, EU, Leverhulme Trust, Wellcome Trust, British Academy, Royal Society, Newton Funds, NIHR and Innovate UK (formerly Technology Strategy Board). Peer-review should aim to provide feedback on the proposed research in terms of the main criteria against which the bid will be judged within the discipline (typically covering the novelty and clarity of the proposal, the appropriateness of the methodology/approach and the expected deliverables etc.). Please help your colleagues out with this.

The bids will continue to be reviewed by non-subject experts in Research & Innovation Services who will seek to provide feedback on aspects such as structure and style, clarity of writing, timescale, costs, eligibility and ethics.
EXTERNAL RESEARCH GRANTS SECURED (THRESHOLD: £10K)

ARI/REF UoA 09/Physics
£125k allocated to LJMU, STFC grant to support Liverpool Telescope Operations, Prof. Iain Steele, Dr. Chris Copperwheat, Dr. Robert Smith, and Stuart Bates. Oct 2016 - March 2017.

PROTECT/REF UoA 11/Computing Science
£100k allocated to LJMU, SYNC: Synergistic Network Policy Management for Cloud Data Centres, EPSRC First Grant, Dr. Posco Tso, 2016-2017.

£30k allocated to LJMU, Royal Academy of Engineering Visiting Professor in Risk Assessment and Marine Technology, to Prof. Jin Wang and Prof. Ian Jenkinson, funded by Royal Academy of Engineering, 2016-2019.

BEST/UoA 16/Built Environment
€450k to LJMU, from FTI Pilot/H2020 for BioDie2020, Prof. Andy Shaw, Dr. Steve Wiley, 2 year RA post and Dr. Phil Riby (SCS), 2016-2018.

AWARDS/PRIZES/KEYNOTE ADDRESSES (AT RECOGNISED INTERNATIONAL CONFERENCES)

Dr. Gyu Myoung Lee was invited to deliver a tutorial entitled “Overview - Trust in ICT Infrastructure and Services” at the ITU Workshop on "Future Trust and Knowledge Infrastructure” Phase 2, Geneva, Switzerland, 1 July 2016. He also served as a session chair and a panel for discussion on action plans for future ICT infrastructure at this workshop.

LOOM – Prof. Zaili Yang delivered a keynote speech on “Resilience and Sustainability of Container Supply Chains – A Risk Analysis Perspective” in the 6th International Conference on Logistics, Informatics and Services Sciences (LISS 2016), on 24-26 July, 2016, Beijing China.

LOOM – Prof. Jin Wang delivered a keynote address on “Data uncertainty modelling in maritime transport” in 2016 International Conference on Quality, Reliability, Risk, Maintenance, and Safety Engineering (QR2MSE 2016) in conjunction with 11th World Congress on Engineering Asset Management (WCEAM 2016), on 25-28 July, 2016, Sichuan, China. The speech attracted more than 300 attendees.

FET enjoyed considerable success at the University’s Annual Research Day on 24th June at the Everyman Theatre.

VC awards for Social and Economic Engagement
Prof. Mike Bode, Prof. Andy Newsam and Alison Keen (ARI) were Medal Winners for the Dark Matter garden at the RHS Chelsea Flower Show.

The Inaugural Research Spotlight Award
Winner: Dr. Steven Longmore (ARI) and Serge Wich (NSP) won the LJMU Research Spotlight Award of £25,000 for their proposal 'Astronomy Meets Conservation Biology'. This award has resulted in the submission of a grant for £62,500 to the STFC 21st Century Challenges Exploration and Concepts 2016 call. Dr Longmore also received the Library Services Emerging Impact Award for Open Access compliance.

Research Spotlight Award runners up: Carl Chalmers, Dr. William Hurst, Dr. Michael Mackay and Dr. Paul Fergus, (Department of Computer Science), took second place and £2000 for their project titled “Getting smarter with smart devices to assist health monitoring and allocation of resources across an ageing population”. The team have also submitted a UK, European and Americas patent application for their research concept.

The Faculty extends its congratulations to all award winners and to all the research staff and PGR students who contributed to the success of the day.
IMPORTANT ITEMS FOR POSTGRADUATE RESEARCHERS INCLUDING PHD COMPLETIONS AND RESEARCH INITIATIVES AT FET

Computer Science PhD student Bandar Al-Dawsari has been awarded the Distinctive Research Student Award from the Saudi Arabian Cultural Bureau (SACB) in London for the number and quality of the research papers he has published since he started his PhD study in Feb 2014. Bandar’s supervision team is Dr. Thar Baker, Dr. David England, and Dr. Martin Randles.

INTRODUCTION TO NEWLY APPOINTED RESEARCH ACTIVE MEMBERS

Dr. Christos Kontovas joined the Department of Maritime and Mechanical Engineering as a Senior lecturer in Maritime Economics as of July 1st, 2016. Christos holds a Diploma (2005) in Naval Architecture and Marine Engineering (NA&ME) and a Ph.D. (2011) in the area of maritime safety and environmental protection from the National Technical University of Athens (NTUA). He was previously (2013-2016) Assistant Professor at the Department of Transport and the Department of Management Engineering of the Technical University of Denmark (DTU). Christos is very active in the field of maritime transport, economics and logistics. His research has also focused on quantitative methods, including cost-benefit, decision and risk analysis, to health, safety and environmental protection (mainly oil spills and ship air emissions). Christos holds an extensive experience from participation in several large-scale EU projects as well from being a member of the Greek delegation to the International Maritime Organization (IMO). Christos has been awarded a highly competitive Marie Curie Career Integration Grant by the European Commission within FP7 for a project on green shipping (2014-2016).

Dr. Musa Bashir joined the Department of Maritime and Mechanical Engineering as a Lecturer/Senior Lecturer in Marine and Offshore Engineering in July 2016. Musa obtained his MSc in Marine Structures and Integrity and a PhD in Naval Architecture from Newcastle University. Prior to joining LJMU, he has worked at the School of Marine Science and Technology, Newcastle University on a number of projects for clients that included SMD Ltd, Siemens Transmission and Distribution Ltd, Almarintec Ltd and Trelleborg Offshore Ltd. He also has offshore oil and gas industry experience while working for Subsea7 (UK) Ltd and CD Group (Northern) UK Ltd. His research interests include structural design of marine systems and offshore structures, integrity management of offshore and subsea systems and hydrodynamics of marine vehicles and offshore structures, autonomous and remotely operated underwater vehicles, installation of risers and umbilical and offshore energy devices.

Dr. Geoffrey Parker joined the Department of Built Environment as a Senior Lecturer in Water Engineering on 15th July 2016. Geoffrey obtained his PhD in Environmental Engineering from the University of Ottawa, Canada. Prior to joining us he was Senior Fellow in Water Resources at the University of Cambridge where he led a research group at the Parker Lab. He has been a contributor and named researcher on several major grants, including the successful 2014 (~£4.5M) award for the Centre for Doctoral Training (CDT) in Future Infrastructure and the Built Environment (FIBE) funded by the UK Engineering and Physical Sciences Research Council (EPSRC). His group’s research has yielded partnerships with organisations such as the Foreign and Commonwealth Office and the European Bank for Reconstruction and Development. He has visited as an Asst. Professor at the American University of Sharjah in the UAE, and previously acted as a sessional lecturer at the University of Ottawa, Canada. He is also currently the Principle of BioFlame, and has helped to start two other successful engineering consultancies.

Dr George Kamaris recently joined the Department of Civil Engineering as Senior Lecturer in Civil Engineering. Prior to LJMU, he worked as Lecturer at the University of Derby, as Marie Curie Post-Doctoral Research Fellow in the School of Engineering at the University of Warwick and as Post-Doctoral Researcher in C.E.A. (Commissariat à l’Energie Atomique et aux Energies Alternatives) in France. He holds a MEng in Civil Engineering (2004), an MSc in Structural Engineering (2006) and a PhD in Structural Dynamics and Seismic Design of Steel Structures (2011) from the Department of Civil Engineering of the Univ. of Patras (Greece). His research interests lie in the areas of earthquake engineering, resilient damage-free structural systems, probabilistic seismic assessment of structures and finite element analysis. Dr. Kamaris has 7 journal papers, 14 peer reviewed papers in international conferences and book chapters.

Dr. Yog Upadhyay has joined the department of Built Environment as a Senior Lecturer in Construction Law. He gained his PhD at the University of Sheffield in 2011. He joins us from Derby Law School, University of Derby, where he was a lecturer in law and admission tutor for MPhil /PhD. Yog’s research is focused on the relationship between science and society and is focused around the issues of regulation and sustainability of the science and technology. He is also interested in intellectual property and international law, particularly looking at the operation of the law for developing countries in the area of agriculture food. Yog has been involved in EU-funded research projects looking at issues of science and society, including working as part of the team drafting the EU’s Genetically Modified Food Labelling Regulation and EU policy on coexistence of genetically modified and non-modified food. Yog has published in the area of liability. He is currently working on legal research around global resilience, food sustainability and the responsible governance of science from the perspective of international legal framework and human rights.
Here are some headlines from the independent (Stern) review of the Research Excellence Framework. Please note these are currently recommendations and are subject to debate within the HE sector:

- All research-active staff should be returned to the REF: in previous research quality assessments, universities had autonomy to select the staff returned, and in REF2014 LJMU submitted 26% of eligible staff.
- There would not be a requirement to submit 4 outputs per person/FTE: within a Unit of Assessment (UOA), submission of an average of 2 outputs per research-active FTE/individual is proposed; individuals could submit between 0 and 6 outputs.
- Research outputs would not be portable: outputs should only be submitted by the institution where the output was generated. Outputs produced by staff prior to joining the University cannot be submitted, although some publications produced by staff who then leave the institution ahead of the next REF can be included.

These recommendations have varying implications for the University, and will be discussed across various forums in coming months, including FET FRSC.

Universities will be consulted on Lord Stern’s recommendations before the end of the year and we should know the full arrangements for the next exercise (assessment date of 2021 at the latest) before the end of 2017.

Do get in touch and share your thoughts on the above.

Dr. Diana Leighton, REF Manager
dj.leighton@ljmu.ac.uk

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**EXTERNAL COLLABORATION**

We welcome Dr. Thi Hien Nguyen from Le Quy Don Technical University, Vietnam who will start their research visit in LOOM in August 2016. Dr. Nguyen will work with Dr. Trung Thanh Nguyen on optimization for transport and logistics systems, as a part of a project funded by the Royal Academy of Engineering.

This month the Faculty welcomes Prof. Xiaoli Ji from Nanjing University, China, who is visiting the Microelectronics Group.

Dr. Duncan Casey has been awarded a Collaborative Research Fellowship grant to develop his research with Dr Annela Seddon at the Bristol Centre for Functional Nanomaterials, University of Bristol. The partnership will be used to characterise and exploit a novel two-dimensional nanomaterial recently developed by Dr. Casey in association with Drs Chris Coxon and Mark Murphy of SCS.

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**NOTABLE PUBLICATIONS**

ARI: Dr. Chris Copperwheat, Prof. Iain Steele and PhD student Andrzej Piascik led a paper now accepted for publication in Monthly Notices of the Royal Astronomical Society of Liverpool Telescope (LT) spectra of proposed electromagnetic counterparts to three potential gravitational wave sources in 2015. In total LT obtained spectra of 27 different objects, one third of the total observed by all the telescopes in the world combined.


Five joint FET-Faculty of Science PhD studentships have been awarded for 2016-17, to the following Directors of Studies who are leading cross-faculty supervision teams:

Dr. Olga Korostynska (Civil Engineering)
Dr. Steven Longmore (ARI)
Dr. Farhan Saeed (MME)
Dr. Francis Lilley (GERI)
Dr. Martin Hanneghan (Computer Science)

ARI: Dr. Rob Crain is part of the team awarded 96 orbits of Hubble Space Telescope time; believed to be the largest time allocation made to any team working on extragalactic astronomy in this cycle. Their program is focused on investigation of the relationship between galaxies and the large scale distribution of gas in which they are embedded. The team is a collaboration of researchers from Durham, Edinburgh, LJMU, Swinburne University (Australia), the University of California Santa Cruz (USA), Leiden University (Netherlands) and the European Southern Observatory (pan-European).

Software Engineers Neil Clay and Chris Mottram (ARI Liverpool Telescope group) have added the capability for the telescope to make spectroscopic observations triggered by computer with no “human in the loop” for the first time. Previously this was only possible with imaging observations.

Civil Engineering: Dr. Duncan Casey represented LJMU at July’s Blue Dot festival at Jodrell Bank in association with the Royal Society of Chemistry, demonstrating optical physics and chemistry to some five thousand visitors. Dr. Casey’s single-cell biophysics research was also recently featured as a highlight in SPIE Newsroom, who published invited, technical articles describing novel research for the International Society for Optics and Photonics.

Drs. Duncan Casey, Brett Lempereur and David Jordan are leading a project funded by the Low Carbon Eco Innovatory, to develop small-footprint optical instrumentation for Red Star Brewery in Formby. This will be employed to provide real-time measurements of critical parameters such as specific gravity, protein concentration and particulate distribution for the company, and will form the basis of several undergraduate student projects in 2016/7.

Dr. Paul Fergus (Computer Science) has been awarded a prestigious Newton Fund Research Collaboration award with the RAE/Academy of Sciences Malaysia. The award is worth £5,980 for the project titled “Blueprint for a Decision Support System for Classification and Early Prediction of Polygenic Obesity in Humans Using Genetic Loci”.

Prof. Xun Chen, Dr. Yue Huang and Dr. Trung Thanh Nguyen delivered FET’s fourth experience sharing workshop on Grant Applications - Charity.

LOOM - Dr. Constantine Michailides has been appointed as Executive/Chair member of the Offshore Technology Symposium of the annual ISOPE conferences in San Francisco, USA and Sapporo, Japan for the next two years.

LOOM – The success of a funded PhD summer school project between LJMU and Beijing Jiaotong University through an EU FP7 MC project coordinated by Prof. Zaili Yang £4000 (approx.) received from the Chinese Government to support three PhD students, (Hani Alyami, Maurice Asuquo, Cameron Luke) from LOOM to attend the 10 day summer school on logistics and supply chain management on 24 July to 2 August in Beijing, China.

LJMU Institute of Health Research (IHR): Health and health-related research is the largest area of research within Liverpool John Moores University with research activity embedded in all four Faculties. The IHR was created in 2006, driven by strategic developments in line with national and international health policy, but also as a reflection of the vibrancy of LJMU’s research culture and its commitment to interdisciplinary activities.

A decade on, the IHR is taking the opportunity to redefine itself in terms of the leadership and research activities in light of changes to the internal and external research community and research priorities over the years. Dr Gillian Hutcheon from the School of Pharmacy and Biomolecular Sciences has recently been appointed as Head of the IHR.

The IHR provides a platform to integrate health research across the entire University; facilitating and promoting all research related to health, education, knowledge transfer activities and collaborative partnerships across LJMU and with key external partners. Health research activity is currently ongoing within the Public Health Institute, Pharmacy Innovation Centre, Research Institute of Sports and Exercise Science, Research Centre in Brain and Behaviour, and within research groups in nursing, education, engineering, built environment, computing, psychology, pharmaceutical, biomedical and natural science research.

Over the summer Gillian will be working closely with staff across the University to assemble a new IHR board and to define common research interests that will be progressed by workshops and meetings to enable the exchange of research ideas leading to new collaborative projects and funding applications.

Please contact Gillian (g.a.hutcheon@ljmu.ac.uk) for further information or if you want to discuss your research interests in relation to IHR activities.

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August 2016
Faculty of Engineering & Technology
Liverpool John Moores University
Liverpool, L3 3AF, UK

FET Research, Scholarship and Knowledge Transfer Committee
(Contact: Laura Bellinger, l.bellinger@ljmu.ac.uk)
EXTERNAL RESEARCH GRANTS SECURED (THRESHOLD: £10K)

ARI/REF UoA 09/Physics

£125k allocated to LJMU, STFC grant to support Liverpool Telescope Operations, Prof. Iain Steele, Dr. Chris Copperwheat, Dr. Robert Smith, and Stuart Bates. Oct 2016 - March 2017.

£20.7k allocated to LJMU, to support ARI staff travel to make astronomical observations at international telescope facilities, Dr. Toby Moore and Prof. Chris Collins, STFC, Oct 2016 - Sept 2018.

External Engagement Team

£1.25m allocated to LJMU, ‘LCR 4.0 – increasing SME productivity by developing smarter products, processes and supply chains’, Anthony Walker. LJMU as a consortium partner for the grant of £4.5m funded by the European Regional Development Fund, 2016-2019.

BEST/UoA 16/Built Environment

€360k allocated to LJMU, ‘Laser systems for the prevention of food chain poisoning and minimization of chemical exposure to the environment’, Dr. Alex Mason (PI), Dr. Martin Sharp, Dr. Paul French and Dr. Jenny Sneddon (NSP). LJMU as lead partner for the grant of €1.8m funded via the EC LIFE programme, 2016-2020 (40 months).

€175k allocated to LJMU, ‘The use of microwaves as a pre-treatment to enhance the anaerobic digestion of pig slurry’, Dr. Andy Shaw (PI), Dr. Montse Ortenada and Dr. Steve Wylie. LJMU as a consortium partner for the grant of €2.6m funded by the H2020 Fast Track to Innovation Pilot, April 2016 – March 2018.

£100k allocated to LJMU, ‘Through water wireless sensor platform for water and wastewater contamination detection (proof of concept)’, to Dr. Andy Shaw (PI). United Utilities, June 2016 – May 2017.

£69k allocated to LJMU, ‘Upgrading woody biomass to bio coal using a novel microwave induced plasma technology’, Dr. Andy Shaw (PI), Dr. Steve Wylie and Patryk Kot. LJMU as a consortium partner for the grant of £200k funded by the Industrial Biotechnology Catalyst/Innovate UK/EPSRC, June 2016 – May 2017.

£45k allocated to LJMU, ‘24/7 Monitoring of Grazing Animals’, Dr. Alex Mason, Dr. Jenny Sneddon (NSP) and Dr. Olga Korostynska, Bomford Trust, 2016-2019.

AWARDS/PRIZES/KEYNOTE ADDRESSES (AT RECOGNISED INTERNATIONAL CONFERENCES)

Dr Rob Crain (ARI) gave keynote contributions at three international conferences:

- ‘Computational Galaxy Formation’ - an invitation-only symposium organised by the Max Planck Society, Schloss Ringberg, Germany, 9-13 May, 2016.

Prof. Maurizio Salaris (ARI) presented an invited review talk titled ‘The (quest for the) progenitors of Type Ia supernovae’ at the Astronomical Distance Determination in the Space Age workshop organised by the International Space Science Institute, 23-27 May, Beijing, China, 2016.

Prof. Jin Wang (LOOM) delivered a keynote address on “How can risk assessment and decision-making be used in
smart and green marine industries?” at the International Conference on Smart and Green Technology for the future of Marine Industries (SMATECH 2016), 25–26 April 2016, Glasgow, UK.


IMPORTANT ITEMS FOR POSTGRADUATE RESEARCHERS INCLUDING PHD COMPLETIONS AND RESEARCH INITIATIVES AT FET

The following research staff have received a FET-funded PhD studentship: Prof. Xun Chen, Dr. Eduardo Blanco Davis, Dr. Karl Jones, Dr. Olga Korostynska, Dr. Vida Maliene, Dr. Denis Reilly, Dr. Posco Tso, Dr. Steven Webb, Dr. Po Yang and Prof. Jian Zhang. Dean’s PhD studentships have been awarded to Prof. Hassan Al-Nageim, Dr. Oobrad Dordevic and Dr. Lisa Li. LJMU-funded PhD studentships have been awarded to Dr. Frederic Bezombes, Dr. Vida Maliene, Dr. Ben Matellini and Dr. Thanh Nguyen (2 studentships).

Civil Engineering PGR student Ameer Jebur was awarded Best Paper at the World Academy of Science, Engineering and Technology (WASET) 18th International Conference on Civil and Building Engineering, May 2016. Ameer was also a finalist in the Association of British Turkish Academics (ABTA) 2016 Doctoral Researcher Awards, which attracted 213 applications from 56 UK universities.

Built Environment PGR Christine Unterhitzenberger was awarded Best Paper at the second British University in Dubai (BUiD) Doctoral Research Conference in May, Dubai, 2016. Fellow PGR students presenting papers included Hannah Wilson (in person), Anmar Dulaimi, Khalid Hashim, Hassnen Jafer, Ameer Jebur, Hayder Shanbara, Ali Alzeyadi and Ali Al-Attabi (via Skype).

Ivan Zoric and Engku Ahmad Rafiqi Bin Engku Ariff, PhD students in the Electric Machines and Drives research group, have each been awarded a student participation travel grant of €270 by the European Centre for Power Electronics (ECPE) to attend the European PhD Summer School "Power Electronics, Electrical Machines, Energy Control and Power Systems” in Gaeta, Italy. The Summer School provides a unique opportunity for PhD students to meet and discuss their research with industry leaders including representatives from General Electric, Siemens, Bombardier, Toyota, Semikron and Alstom Grid. The grants are assigned to a maximum of two registered PhD students from each European country, meaning that LJMU was awarded the entire UK allocation.

Built Environment PGR Khalid Hashim was runner up in the 3 Minute Thesis competition, organized by the Graduate School, 22 April 2016.

Engineering PGRs Onye Erim and Quang (Daniel) Nguyen will be presenting posters of their research at the Next Generation Rail conference, Northampton, 29th June – 1st July. Daniel’s abstract has been nominated for the best poster award, which will be announced at the conference.

The second Faculty Research Week took place 9 – 13 May. It was a busy, successful week with 70 oral presentations, 10 elevator pitches and 50 poster presentations from PGR students across the Faculty. FET also welcomed 6 keynote speakers from industry and academia from the UK, Malaysia and Ukraine. They spoke on subjects ranging from “Astronomy from the Canary Islands Observatories” to "Fracking and other Unconventional Fossil Fuel Extraction Processes" and “Planet of the Apps: How the Internet of Things Will Affect Your Future”.

Prof. Robin Leatherbarrow, Pro-Vice-Chancellor (Scholarship, Research & Knowledge Transfer), attended the conference on the final day to present awards in 5 categories:


**INTRODUCTION TO NEWLY APPOINTED RESEARCH ACTIVE MEMBERS**

**Dr. Qian Zhang** recently joined the Department of Electronics and Electrical Engineering as a Senior Lecturer in Engineering Systems. Prior to LJMU, he was a Lecturer in Control Engineering at the University of Kent and a postdoctoral researcher at the University of Sheffield, where he received his doctorate (2008). Dr. Zhang has a BEng degree from Zhejiang University (2003). His research interests lie in the areas of robotics and control, data-driven modelling, multi-objective optimisation, and their applications in manufacturing and industrial problems. His research projects range across the fields of metal processing, autonomous systems and Unmanned Aerial Vehicles (UAVs), the rail industry and structural engineering.

**REF UPDATE**

LJMU’s Impact Tracker software provider Vertigo Ventures, has led research commissioned by HEFCE to develop guidance on research impact evidence. Following the introduction of impact case studies to REF2014, it is very likely that policy around research funding will continue to focus on this aspect of assessment. Universities will need to be able to articulate the impact of their research beyond academia effectively and comprehensively, both for such assessment and as part of wider stakeholder engagement.

The guidance document explains the collection, management and use of sources of impact evidence and is a result of a HEFCE-commissioned activity to produce a guidance document for the sector.

**EXTERNAL COLLABORATION**

**Dr. Gyu Myoung Lee** organized the workshop for international collaboration on trust technology on 28 April, University of Geneva (UoG), Switzerland; in collaboration with Dr. Jean-Marc Seigneur from the UoG’s Augmented Human Trust research group and key experts from the Trusted Information Infrastructure Forum, Korea.

LJMU is collaborating with the University of Liverpool, Hartree Centre, Sensor City and Liverpool City Region (LCR) Local Enterprise Partnership on a business support project, ‘LCR 4.0’. The project aims to embed digital manufacturing in the LCR to increase the productivity of small manufacturing companies, through the development of smarter products, processes and supply chains and via knowledge transfer from the research base. Further information from **Anthony Walker** (a.r.walker@ljmu.ac.uk) or **Lee Lambert** (l.lambert@ljmu.ac.uk).

As part of the British Council-funded UK-Ukraine Exploratory Grant, **Dr. Olga Korostynska** and **Dr. Alex Mason** welcomed Dr. Anton Popov to LJMU 9-13 May. Dr. Popov is Head of Biomedical Electronics and Signal Analysis Group and Associate Professor of Department of Physical and Biomedical Electronics at the prestigious National Technical University of Ukraine (NTUU), Kyiv, Ukraine. During his visit, Dr. Popov delivered a keynote speech “Biomedical signal analysis for evaluation of human functional state”, and met with FET staff and researchers. The aim of the visit was to develop the Higher Education System in Ukraine to EU levels and to establish long-term cooperation in both teaching and research between LJMU and NTUU.

**Dr. Olga Korostynska** and **Dr. Alex Mason** have established collaborations with Dr. V. Pohrebennyk from Lviv Polytechnic National University, LPNU, Lviv, Ukraine and Mariush Cynar from Technical Institute State Higher Vocational School, Nowy Sacz, Poland in the area of soil and water pollution monitoring systems. Joint publication will be presented at the International Scientific GeoConferences (SGEM).

The Faculty welcomes Matteo Soprani from the Department of Life Science, University of Modena and Reggio Emilia, Modena, Italy. Matteo is pursuing an Erasmus+ Traineeship with the RFM Sensors Research Group headed by **Dr. Alex Mason**. A long-term research collaboration is being established in the area of sensors for environmental and food...
quality monitoring between Dr. Alex Mason, Dr. Olga Korostynska, Veronica Sberveglieri (4CNR-INO SENSOR lab Brescia, Italy) and Giorgio Sberveglieri (University of Brescia, Brescia, Italy).

A visit to LJMU by the President and Vice President of Le Quy Don Technical University, one of Vietnam’s best in engineering and technology universities, was organized by Dr. T. T. Nguyen in June. The delegates met with the PVC (External Engagement), the Dean, Associate Deans, heads of department and FET’s lab teams for potential collaboration opportunities. The Faculty welcomes Prof. Lam Thu Bui and Dr. Chi Trung Ha from Le Quy Don Technical University, who are starting their research visit in LOOM in June 2016. Prof. Bui and Dr. Ha will work with Dr. Trung Thanh Nguyen on optimization for transport and logistics systems, as a part of a project funded by the Royal Academy of Engineering.

### NOTABLE PUBLICATIONS

**ARI** - Helen Jermak, led the ARI contribution to a ground-breaking campaign to measure accurately the rotational rate of one of the most massive black holes in the universe: the powerhouse behind blazar OJ287. Her RINGO 3 observations using the Liverpool Telescope are described in Valtonen et al (2016) http://adsabs.harvard.edu/abs/2016ApJ...819L..37V. She will also present the observations at the JET2016 conference in Malaga (30 May - 3 June).

**ARI** - Oppenheimer, Crain et al., (2016), "Bimodality of low-redshift circumgalactic O VI in non-equilibrium EAGLE zoom simulations" MNRAS (mp.845). The study is the subject of press releases by Colorado University and LJMU, and is currently on the front page of the University's website.


Apologies to Prof. Ian Jones for the error in the April newsletter. The correct entry should have read:


### OTHER ITEMS


**ARI:** The Liverpool Telescope (LT) and LT2 projects will feature at three major astronomy conferences this summer with an exhibition stand at the international SPIE conference "Ground-based and Airborne Telescopes VI" in Edinburgh (26 June – 1 July), and talks at the UK National Astronomy Meeting (NAM) in Nottingham, UK on 27 June – 1 July, and the European Week of Astronomy and Space Science (EWASS) in Athens, Greece on 4–8 July. Further information about the LT/LT2 conferences can be found on the telescope website news page.

**ARI:** The 10th Merseyside Astronomy Day took place on the 30th of April at the World Museum Liverpool to a sell-out audience of amateur astronomers and the general public. Featuring speakers from LJMU and other universities, the talks highlighted the current research undertaken at the ARI and the history, science and technology behind the LT project.

**Computer Science:** Dr. Paul Fergus has been invited to be Vice Chair for H2020 FET OPEN Research & Innovation Actions for the second time. Prior to H2020 he was an Expert Evaluator for EU FP7 FET OPEN from 2012-2014.

**Computer Science:** Dr. Chelsea Dobbins has been awarded a Rising Star Learning and Teaching Award in the 2016 University honours. Dr. Dobbins has been invited to present her research at the ESF Science Meeting on Evaluating
Personal Lifelogs, in conjunction with the NTCIR-12 conference, University of Glasgow, 2016.

**Computer Science:** Dr. David England, as co-founder of the Art.CHI (Computer Human Interaction) initiative of the ACM Special Interest Group on CHI (SIGCHI) group, organised the Art.CHI II workshop at the CHI 2016 conference in San Jose, CA. He has also co-produced the catalogue accompanying the first CHI conference digital art exhibition and his book “Curating the Digital” has been published by Springer. Dr England has chaired the steering group of the ACM Creativity and Cognition conference, to be held in Singapore in 2017.

**LOOM:** €305k allocated to LJMU, ‘Health Innovation Experimental Landscape through Policy Improvement’, LJMU as a partner of this INTERREG project. Dr. Trung Thanh Nguyen from LOOM is a member of the LJMU team, led by Grahame Smith from Faculty of Education, Health and Community, 2016-2019.

**MEMARC:** Prof. I. S. Jones has been appointed to the Register of Expert Peer Reviewers by the Italian Ministry for Education, University and Research (MIUR). As an international expert in his field, Prof. Jones has been appointed as a foreign external reviewer of grant proposals. Prof. Jones has also been invited by the EPSRC to become a member of its Peer Review College, which comprises experts from all areas of the EPSRC remit.

**MEMARC:** A pilot project in developing nano-particle based sensors (£4k) has been awarded to Prof. James Ren by the Nuclear Security Science Network, STFC.

**FACULTY:** Dr. Paul French, Space Debris Removal; Dr. Steven Longmore, Astronomy Meets Conservation Engineering and Science; and Carl Chalmers, Smart Devices Computing have been shortlisted for this year’s LJMU Research Spotlight Award.
EXTERNAL RESEARCH GRANTS SECURED (THRESHOLD: £10K)

ARI/REF UoA 09/Physics
US$141K to a Hubble Space Telescope (HST) programme (Space Telescope Science Institute), supporting Searching For Multiple Populations in Massive Young and Intermediate Age Clusters, Prof. Nate Bastian, 2016.

£45K for capability building in astronomical instrumentation and public outreach at the National Astronomical Research Institute of Thailand, Prof. Iain Steele, Prof. Chris Collins, Prof. Mike Bode, Prof. Andy Newsam and Dr. Chris Copperwheat. STFC Newton Fund, 1 Jan – 1 April 2016.

Correction and apologies:
US$93K to a Hubble Space Telescope (HST) programme (Space Telescope Science Institute), Supporting the analysis of HST observations of a remarkable ‘recurrent nova’ within the Andromeda Galaxy, Dr. Matt Darnley, 2016.

Apologies to Dr. Darnley for incorrectly attributing his award to 2006 in the February newsletter.

PROTECT/REF UoA 11/Computing Science
£166k allocated to LJMU, Worldwide Interoperability for Semantics IoT (Wise-IoT), Dr. Gyu Myoung Lee, LJMU as the consortium partner for the grant of £1.5M funded by H2020/EU-South Korea Joint Call, June 2016 – May 2018.

Electrical Engineering & Electronics Research Groups/REF UoA 13/Electrical and Electronic Engineering, Metallurgy and Materials
£18K allocated to LJMU; Development of accurate circuit reliability simulator. Dr. Zhigang Ji (PI) and Prof. Jian Zhang, funded by Royal Academy of Engineering, 2016-2017

GERI/REF UoA 15/General Engineering
£330K allocated to LJMU, to investigate and progress mass finishing technologies, Prof. Michael Morgan, funded by Engineering and Physical Sciences Research Council (EPSRC), May 2016 – April 2019.

£45K of industry funding allocated to LJMU, to support research programmes in Surface Finishing, Mass Finishing and Additive Manufacturing. Prof. Michael Morgan, funded by the Manufacturing Technology Centre, Finishing Techniques Ltd. and Potters-Vibraglaz, May 2016 – April 2019.

BEST/REF UoA 16/Built Environment
£15k allocated to LJMU, Proof of Concept Tyre Scanner (Boston Garages), Dr. Alex Mason and Prof. Ahmed Al-Shamma’a, 2016.

£106k allocated to LJMU, Diabetes Monitoring using Non-Invasive EM Sensors (NHS Liverpool Clinical Commissioning Group), Dr. Olga Korostynska, Dr. Alex Mason and Prof. Ahmed Al-Shamma’a, 2016.

AWARDS/PRIZES/KEYNOTE ADDRESSES (AT RECOGNISED INTERNATIONAL CONFERENCES)

Prof. Nate Bastian (ARI) presented a review talk at an international conference on “From Stars to Massive Stars” in Gainesville, Florida, 6th - 9th April, 2016.

An ambitious international project to simulate the formation and evolution of galaxies, led by a team including Dr. Rob Crain and Dr. Ian McCarthy (ARI), has been awarded "Research Project of the Year" at the 2016 Educate North awards, by a panel that recognises excellence in the education sector.

Crain and McCarthy are core members of the EAGLE project, which used two of Europe's most powerful supercomputers to create unprecedentedly realistic simulations of the evolution of the Universe. The project's lead publication was referenced nearly 200 times by other scientific studies last year, making it the world's second most highly-cited astrophysics publication of 2015, from a total of nearly 23,000 publications that year.
**RESEARCH IMPACT GENERATING ACTIVITIES**

**Dr. Olga Korostynska** awarded £2,300 by the British Council to explore bilateral collaboration with the National Technical University of Ukraine (KPI), Kyiv, Ukraine, in the field of Biomedical Sensing.

**Dr. Alex Mason** awarded £2,300 by the British Council to explore bilateral collaboration with the Food Resources Institute of National Academy of Agrarian Sciences, Ukraine, in the field of Food Safety Sensors.

A LOOM team (Dr. T. T. Nguyen, Dr. S. Kavakeb, Mr. M. Ha, Dr. M. Abou-Elkawam, Dr. S. Bonsall, Prof. Z. Yang) has developed a scientific tool for the Port of Liverpool, to identify the key performance indicators for its lock systems.

**Dr. T. T. Nguyen** and his team from LOOM will work with Peel Ports to develop simulation and optimization tools to improve the company’s operational performance. The expectation is that the tools will be commercialised and implemented in Peel Ports’ network of ports in the UK and Ireland.

**EXTERNAL COLLABORATION**

A Memorandum of Understanding between LJMU and the Instituto de Astrofisica de Canarias (IAC) has been signed by the Vice Chancellor and the IAC Director to collaborate on the development of the new 4-m robotic telescope, Liverpool Telescope 2 (LT2).

**Dr. Alex Mason** and **Dr. Olga Korostynska** are collaborating with CNR-INO Sensor Lab, University of Brescia, Italy, through the ERASMUS programme, to investigate new methods for food quality monitoring and shelf-life prediction.

A visit by Dr. Matt Taylor to the ARI was organised by PhD student Helen Jermak on the 2nd March. Dr. Taylor is the lead scientist for the European Space Agency Rosetta mission to comet Churyumov-Gerasimenko. He was especially interested to find out about the observations of the comet made with the Liverpool Telescope and ARI’s plans for LT2.

We welcome **Dr. Sharifah Fatmadiana Bt Wan Muhammad Hatta** from the University of Malaya, Malaysia, who will start her 5-month research visit in EEE in April 2016.

Supported by the UK Trade and Investment (UKTI) and FET’s Pump Priming Fund (to **Dr. T. T. Nguyen** and **Dr. S. Kavakeb**), Dr. S. Kavakeb attended the Smart City Summit and Expo in Taiwan, March 2016 to promote FET research on smart cities. The LOOM team was able to establish new

**REF UPDATE**

It’s a little quiet on the REF-front at the moment as Lord Stern reviews the responses to his consultation on the Research Excellence Framework on behalf of the Government. It appears as though the Higher Education sector is divided in opinion as to what framework the next REF will adopt…….watch this space for more news.

Research & Innovation Services will shortly be announcing an Impact Award to acknowledge impactful research projects conducted by staff (staff award) and recognise where the potential for impact lies (early career researcher award). Look out for an email about this in your Inbox very soon. The awards will be made at the University’s Research Day on Friday 24 June, at the Everyman Theatre, Hope Street, Liverpool. Research Day is also when staff pitch to win a single prize of £25,000 – the LJMU Spotlight Award - to take forward a novel or unusual project. Contact Prof. Jin Wang to discuss your ideas.

Another date for your diary:

**Maximise your REF-readiness:**

**Wednesday 8th June, 1pm – 4pm, Redmonds Building Room 520**

In this session, LJMU’s REF Manager will use the framework adopted for REF2014 (in the absence of precise details about the next REF) to help you to consider what excellence looks like for each of the main pillars of the assessment. Come prepared to evaluate your research presence and to leave empowered to maximise your readiness for the next REF. For more information and to book a place go to:

https://www.eventbrite.co.uk/e/maximise-your-ref-readiness-tickets-22736260768
international collaborations, including a joint grant submission to the Taiwanese government.

Dr. Trung Thanh Nguyen and Dr. Dhiya Al-Jumeily recently attended the International Higher Education Day in Vietnam, and held discussions with six universities/HE institutions to explore potential partnerships in research and academic programme development. Dr. Nguyen and Dr. Al-Jumeily also discussed a proposed agreement on Vietnam government’s scholarships for PhD candidates to study in FET with the country’s Ministry of Education and Training, and introduced/promoted FET’s research to prospective Vietnam scholarship candidates. Several candidates have indicated LJMU as their preferred destination in their applications for the Vietnam PhD scholarships.

NOTABLE PUBLICATIONS


ARI – Prof. Iain Steele, Dr. Chris Copperwheat and PhD student Andrzej Piascik led the ARI contribution to the first paper describing the search for an electromagnetic counterpart to the first ever gravitational wave source discovered. Involving over 1,500 authors, the paper combines the results from 26 different observatories worldwide, including the Liverpool Telescope, and was submitted for publication on 26th February. A pre-print is available at [http://arxiv.org/abs/1602.08492](http://arxiv.org/abs/1602.08492)


OTHER ITEMS

Prof. Nate Bastian, with Dr. Rob Crain as co-organiser, has been selected by the Royal Society to organise a meeting on “Globular Cluster Formation and Evolution in the Context of Cosmological Galaxy Assembly” at Chicheley Hall, Buckinghamshire, in 2017.

Prof. Bastian is also organising a workshop of national and international interest on “Multiple Populations in Globular Clusters” in Liverpool, from April 25th - 27th and co-organising two international conferences at the Sexten Centre for Astrophysics, in Sexten, Italy, in July 2016. The first on “The Role of Feedback in Stellar Cluster Formation, Evolution and Interaction with the Host Galaxy”, and the second (chaired by Dr. Carmela Lardo, ARI/LJMU) on “Multiple Populations in Globular Clusters”.

Prof. Michael Morgan has been appointed to the Scientific Committee of three international conferences: The 18th International Conference of Technology Knowledge and Information 2016, 3-4 February 2016, Prague, Czech Republic; 12th Asia-Pacific Conference on Materials Processing (APCMP2016), 16-19 June 2016, Qingdao, China; and the 2nd International Conference on Materials Processing Technology (MPT 2016), July 25 - 27, 2016, Suzhou, China.

Prof. Andy Newsam, Dr. Stacey Habergham and Martin Coulby from the National Schools’ Observatory (NSO) led workshops at the 2016 Irish Science Teachers Association (ISTA) conference in Limerick from 8th – 10th April, and visited local schools to deliver lessons using data from the Liverpool Telescope. The visit proved to be a significant opportunity to promote the NSO project in Ireland, as
imminent changes to the Irish curriculum will see teachers now having to cover astronomical material. The NSO offers schools in the UK and Ireland free access to the Liverpool Telescope (LT), the world’s largest fully robotic telescope. It is a novel curriculum resource and was very well-received in Ireland.

Dr. Chelsea Dobbins, from the Department of Computer Science, has been recognized as one of the University’s most diligent researchers in compliance with REF guidelines and her continued support of LJMU Research Online. The ‘REF Update’ section of the February 2016 FET research newsletter included an item about the implications for REF of depositing manuscripts in the LJMU institutional repository, via Symplectic.

Dr. Mike Nieves of the Mechanical Engineering and Materials Research Centre (MEMARC), recently organised and chaired two symposia at the British Applied Mathematics Colloquium in Oxford, addressing (i) Multi-physics models and damage in structured solids, and (ii) Waves in structured solids and transformable media. This annual conference is the UK’s major gathering of applied mathematicians.

Prof. Zaili Yang delivered a talk on the “Development of Risk Studies in Maritime Supply Chains” at the symposium on “Sino-Euro Logistics Network and its Evolution under the Background of the Maritime Silk Road” held 21st-23rd March in Dalian, China. The symposium, funded by the National Nature Science Foundation of China and German Research Foundation, attracted around 100 delegates from 20 countries.

Dr. Trung Thanh Nguyen was the co-organiser of the 19th European Conference on the Applications of Evolutionary and bio-inspired Computation, Porto, Portugal, 30th March – 1st April 2016. Dr. Nguyen also chaired the EvoSTOC conference track (Evolutionary Algorithms and Meta- heuristics in Stochastic and Dynamic Environments).

Innovate UK Delivery Plan 2016/17

Innovate UK is to reorganise its funding programmes to address concerns that they are too complex, and to make it easier for the agency to work with universities, businesses and the research councils.

The 2016/17 Delivery Plan details the breakdown of its £561m budget, which includes a new focus on four ‘sector groups’ (emerging and enabling technologies (15%); health and life sciences (21%); infrastructure systems (27%); and manufacturing and materials (24%) with the remaining 13% of its budget set aside for an open programme that will accept proposals from any field.

There will be two calls in each of the five streams each year. The first calls will be May 2016 (manufacturing and materials), June (the open programme), July (infrastructure systems), September (health and life sciences) and October (emerging and enabling technologies).

Innovate UK is aiming to increase its role in the Newton Fund during 2016/17.

LJMU Grant Submission Procedure

The Faculty Associate Dean for Research requests that all research-active staff familiarize themselves with the University’s Grant Submission Procedure and that a Grant Approval Record is completed for all funding applications.

The benefits for researchers are twofold:

1) Early contact with the Grants Policy & Projects team can result in stronger and better quality applications.
2) A completed Grant Application Record will accelerate the internal processing of successful funding applications, enabling you to start your research as rapidly as possible.

If you are unsure of the procedure or have a question, please contact Martyn Harby on X6469, or email: m.harby@ljmu.ac.uk.
EXTERNAL RESEARCH GRANTS SECURED (THRESHOLD: £10K)

ARI/REF UoA 09/Physics
US$93K to a Hubble Space Telescope (HST) programme (Space Telescope Science Institute), Supporting the analysis of HST observations of a remarkable ‘recurrent nova’ within the Andromeda Galaxy, Dr. Matt Darnley, 2006.
Dept. of Applied Mathematics/REF UoA 10/Mathematical Sciences
£124K allocated to LJMU, An identification of the circumstances where xenobiotic chemicals can perturb thyroid hormone homeostasis sufficiently to produce an adverse effect to nervous system development (in utero and infant) in humans (BBSRC industry CASE 4 year PhD studentship with Syngenta), Dr. Steve Webb, 2016-2020.

PROTECT/REF UoA 11/Computing Science

BEST/UoA 16/Built Environment
£32k allocated to LJMU, Detection of boar taint (Norwegian Research Council); Development of proof of concept sensor for detection of boar taint during food production, Dr. Alex Mason and Dr. Olga Korostynska, 2016-19.

£12k allocated to LJMU, Monitoring of fodder beet growth to detect root/canopy dimensions (AgResearch, New Zealand), Dr. Jeff Cullen, Dr. Alex Mason, Dr. Olga Korostynska and Dr. Jenny Sneddon, 2016

AWARDS/PRIZES/KEYNOTE ADDRESSES (AT RECOGNISED INTERNATIONAL CONFERENCES)

Dr. Rob Crain, Royal Society University Research Fellow and one of the world’s foremost experts in supercomputer simulations of galaxy formation and evolution, will be speaking at the Royal Society’s biennial Fellows’ Conference on 22 March 2016.

Prof. Abdennour El Rhalibi delivered a keynote on ‘Peer-to-Peer MMOG Development and Security Challenges’ to the International IEEE Conference on Computing and Network Communications (CoCoNet), Trivandrum, India, 16-19 December 2015.

Prof. Abdennour El Rhalibi has been invited to deliver a keynote on ‘Coarticulation and Speech Synchronization in MPEG-4 Based Facial Animation’ to the IEEE 3rd International Conference on Control, Decision and Information Technologies in Malta, 6-8 April 2016.

Prof. Emil Levi has been elected a Foreign Member of the Academy of Engineering Sciences of Serbia.

Prof. Paulo Lisboa presented a plenary talk at the IEEE Symposium Series on Computational Intelligence, Cape Town, 8-10 December 2015. The talk is part of a series that is opening-up neural networks and other flexible models from being black boxes into transparent mathematical models to be validated using application-specific expert knowledge. As part of this conference Prof. Lisboa chaired the track on Computational Intelligence in Big Data (CIBD) and took part in a Panel Discussion on Reproducibility and Reliability of Non-linear modelling methods.

Prof. Emil Levi delivered an invited talk at the Industrial Electronics Workshop, organised by the Harbin Institute of Technology (PR China) and the IEEE Industrial Electronics Society, January 2016.

Prof. Jian Zhang delivered an invited talk on NBTI-induced time dependent variation and its prediction at the IEEE 11th International Conference on ASIC, Chengdu, China.
RESEARCH IMPACT GENERATING ACTIVITIES

ARI’s National Schools’ Observatory (NSO) is allotted dedicated time on the Liverpool Telescope, allowing UK and Eire schools to submit observation requests alongside professional astronomers from across the globe. The NSO now has over 2,500 registered schools, 15,000 individual student registrations and a website that receives over 1 million "hits" every year. It received more observation requests last month than during its entire first year of operation in 2004. The 100,000th observation request was made in December 2015, and taken by the telescope on the 6th January of the Crab Nebula (M1). The observation request was made by a student at a Swindon secondary school. To mark this notable milestone, the NSO will be visiting the school to run a series of workshops and talks, and will present the student who requested the observation with a prize and certificate.

Dr. Eduardo Cordova-Lopez hosted a series of visits and seminars in January 2016 from the Professor Francisco Cerceda Director of Centro de Tecnologías Ambientales (CETAM), Chile, and submitted a cross-faculty British Council Expression of Interest to develop collaboration in Air Quality Monitoring.

The following Faculty research staff have been given financial support to generate research impact from FET’s Pump Priming Funds:
- Dr. Andre Batako (£2,000); Prof. David Harvey (£4,000);
- Dr. Princy Johnson (£5,000); Dr. Denise Lee (£5,000);
- Dr. Angelos Marnerides (£5,000); Dr. Alex Mason (£1,715);
- Dr. Thanh Trung Nguyen (£5,000); Dr. Steven Webb (£5,000);
- Dr. Po Yang (£5,000); Prof. Zaili Yang (£3,000).

IMPORTANT ITEMS FOR POSTGRADUATE RESEARCHERS INCLUDING PHD COMPLETIONS AND RESEARCH INITIATIVES AT FET

LOOM PhD student Ayman Alghanmi received the best (engineering subjects) poster presentation award for his work ‘Criticality Assessment of Maritime Petroleum Transportation Network’ at the 9th Saudi Student Conference (SSC9), Birmingham, 13-14 February 2016.

Collaborations between the Dept. of Applied Mathematics and the Football Exchange, part of the Research Institute for Sport and Exercise Sciences, Faculty of Science: Niels Nedergaard was awarded with one of the ‘Young Investigator Awards’ to attend the Aspire Monitoring Athlete Training Loads Conference, Doha, Qatar from the 23–25 February 2016. This award recognises the work done as part of Niels’ PhD thesis on biomechanical modelling of ground reaction force and its relationship with 3-d accelerometry.

Jasper Verheul was recently appointed to a co-sponsored PhD on ‘Predicting Cumulative Soft-Tissue Loading from Accelerometers in Elite Football Players’, which is jointly funded by Manchester United Football Club.

LOOM PhD student Ran Wang (supervisors: Dr. Nguyen, Dr. Kavakeb, Prof. Yang) has been awarded an EvoStar bursary to support her presenting a paper at the EvoStar 2016 conference in Portugal at the end of March. EvoStar is Europe’s leading bio-inspired computation event.

INTRODUCTION TO NEWLY APPOINTED RESEARCH ACTIVE MEMBERS

Dr. Constantine Michailides joined the Department of Maritime and Mechanical Engineering as a Lecturer/Senior Lecturer in January 2016. Constantine holds a BSc, MSc and PhD in Civil Engineering from Aristotle University of Thessaloniki, Greece. His PhD is in Offshore Engineering, on the hydroelasticity of floating structures and wave energy production. In May 2013, he joined the Department of Marine Technology at the Norwegian University of Science and Technology (NTNU). His postdoctoral research focused mainly on experimental and numerical investigation of combined offshore wind turbines and ocean energy devices. Constantine has experience in numerical, experimental and field data analysis of offshore and coastal structures and systems. His research focuses on numerical analysis of offshore structures and systems; fluid-structure interaction; hydro -dynamics –elasticity; offshore wind energy; ocean energy; combined energy systems; physical model testing; structural health monitoring; optimization; genetic algorithms; and floating bridges/tunnels, as well as computational fluid dynamics and reliability analysis for offshore engineering applications.
The Research Excellence Framework is currently undergoing a UK-wide review. This is to ensure that research assessment is fit for purpose, efficient and carries the confidence of the UK academic community. The review is being led by Lord Stern (Chair of the British Academy) on behalf of the UK Government; LJMU is feeding into this process by responding to a consultation exercise https://www.gov.uk/government/consultations/research-excellence-framework-review-call-for-evidence.

The review is seeking views on: the increased use of metrics in research assessment; possible reconfiguration of Units of Assessment (UOA); whether the REF should take a different approach to that adopted in REF2014; how information gathered through the REF is used; and whether the REF process influences the choices of researchers and institutions. Lord Stern will announce his findings in Autumn 2016.

Ensure your research papers are eligible for the next REF - Deposit Your Work!

As you know, all researchers must deposit article manuscripts in our institutional repository, via Symplectic https://symplectic.ljmu.ac.uk/login.html.

The University requires this to happen within 3 months of acceptance by the journal - to meet HEFCE’s Open Access requirements and the general push to improve the accessibility of research. In most cases it is the final/accepted manuscript for journal articles (and conference proceedings that have an ISSN) that is made available openly available.

Our 'Open Access Monitor' allows us to see which research papers are being deposited to our institutional repository within 3 months of the date of acceptance. Looking at data for the period November 2015 to January 2016, we see compliance rates in FET are quite varied – we must achieve more UOAs at 100%........:

Electrical Engineering (UOA13) & General Engineering (UOA15) 100%
Physics (UOA9) 75%
Built Environment (UOA16) 50%
Mechanical Engineering (UOA12) 50%
Computer Science (UOA11) 43%

Once your paper is accepted by the journal, create a record of the paper in Symplectic and then deposit the appropriate electronic version to the repository. For assistance:
- You can access online resources: https://ww2.ljmu.ac.uk/lea/128041.htm
- Contact Cath Dishman (Open Access and Digital Scholarship Librarian) to demystify Open Access c.l.dishman@ljmu.ac.uk
- Contact Dr Diana Leighton (REF Manager): d.l.leighton@ljmu.ac.uk if you have queries concerning the REF.

EXTERNAL COLLABORATION

Dr. Dhiya Al-Jumeily and Dr. Sud Sudirman recently visited eight universities/HE institutions throughout Indonesia, to explore potential partnerships in research, staff development and programme development.

Earlier this month, Prof. Chris Collins and PhD student Kate Furnell were invited to a European Space Agency meeting in Lausanne, Switzerland, to present a review of the ARI participation in the next major astronomical X-ray satellite survey mission eROSITA, due for launch in January 2017. The eROSITA satellite will perform an all-sky survey detecting 100,000 galaxy clusters, which will be the major focus of the ARI participation in the project.

Prof. Abdennour El Rhalibi, from the Department of Computer Science has been appointed Visiting Professor at Jilin Animation Institute, in Changchun, China.

Prof. Ian Jenkinson was invited to give a presentation in Brussels on the progress of the Liverpool Maritime Knowledge Hub to the DG-MARE Director for the Atlantic, Outermost Regions and Arctic, Bernhard Friess.

(LOOM) Dr. Shayan Kavakeb and Dr. Trung Thanh Nguyen have received a travel grant from UK Trade and Investment (UKTI) North West to attend the Smart City Summit and Expo in Taiwan, 22-25 March 2016. This is the most comprehensive smart city trade show in the Asia-Pacific region, and Dr. Kavakeb and Dr. Nguyen will promote FET’s research on smart cities and IoT at this global event.

Dr. Sotiris Tasoulis organised and co-chaired an EPSRC funded Workshop on ‘High Dimensional Big Data Engineering’ on 22 January 2016, Computer Laboratory, University of Cambridge in collaboration with Dr. Liang Wang and Prof. Jon Crowcroft from the University of Cambridge.

https://sites.google.com/site/hdbigdataengineering/home
NOTABLE PUBLICATIONS


DOI: http://dx.doi.org/10.3847/0004-637X/817/2/143

Impact: The first determination of the ‘red giant nova rate’ of an entire galaxy (M31). Previous ‘best’ estimates from our own Galaxy indicated that only 3% of novae were red giant nova. This study has shown that around 1/3 of all novae are ‘red giant’ novae and potentially Supernovae Ia progenitors.


OTHER ITEMS

Together with research colleagues from the School of Pharmacy and Biomolecular Sciences at LJMU, Dr. Steve Webb (Dept. of Applied Mathematics) is part of a consortium led by the University of Sheffield that has made a successful Phase 1 application to the MRC’s Metaboderm CRACK IT Challenge (£6k allocation to LJMU). The consortium’s project ‘Defining skin xenobiotic metabolism using a combined in vitro/in silico approach’ is aiming to develop ways to measure the activity of xenobiotic metabolising enzymes and the quantity and location of their metabolites in the biopsies of human skin or artificial skin grown in the laboratory upon treatment with xenobiotics. The team will have the opportunity to compete for £800K Phase 2 funding in July 2016.

Prof. Abdennour El Rhalibi, (Dept. of Computer Science) co-organised as track-chair the 13rd IEEE CCNC 2016 (IEEE Consumer Communications and Networking Conference), co-located with CES in Las Vegas, US, January 2016. Prof. Abdennour also chaired several sessions on Networking and Applications in Computer Games, and in Computer Security.

27 January: FET’s second faculty research seminar ‘Emerging issues and challenges in the regulation of safety systems for civil nuclear reactors’ was delivered by Steve Frost, Principal Inspector with the Office for Nuclear Regulation.

10 February: Prof. Mike Morgan led FET’s third experience sharing workshop on Innovate UK, Knowledge Transfer Partnerships and industry grant applications. Please contact e.hoare@ljmu.ac.uk for copies of Prof. Morgan’s presentation.

Prof. Abdennour El Rhalibi, organised as co-chair the 12th IEEE Network Issues for Multimedia Entertainment (NIME 2016) workshop, Hawaii, USA, February 2016. Prof. Abdennour El Rhalibi is organising:

- As General co-Chair, the 10th International Conference on Learning Technology and Edutainment 2016, in Hangzhou, China, April 15-17, 2016.
- As General co-Chair, the 5th International Workshop on Digital Entertainment, Networked Virtual Environments, and Creative Technology (DENVECT’16), Messina, Italy, June 27-30, 2016, co-located with the 21st IEEE Symposium on Computers and Communications (ISCC 2016).
- As co-Programme Chair, the Third International Symposium on Computer Vision and the Internet (VisionNet’16), September 21-24, 2016, in Jaipur, India.

Prof. Paulo Lisboa has been appointed co-chair of the H2020 Advisory Group on Health, Demographic Change and Wellbeing.

Dr. Po Yang (Department of Computer Science) is Chief Guest-Editor for a Pervasive and Mobile Computing (Elsevier) special issue on ‘Internet of Things for Personalised Healthcare System’. The special issue is currently accepting paper submissions until August 31, 2016.