Energy Catalyst is an initiative aimed at encouraging Company-led, innovative solutions to developing a low-carbon economy and securing the supply of energy at an affordable cost. The Energy Catalyst initiative is targeted at supporting innovation at all stages from concept through to commercial readiness.

Energy Catalyst has been established by Innovate UK, the EPSRC and the Department of Energy and Climate Change (DECC). Funding of up to £14 million is available for the second round which opened in November 2014.

The initiative will offer awards for collaborative r&d:

- Of up to £300,000 for early-stage feasibility projects led by a research organization (in collaboration with business) or an SME (alone or acting collaboratively);
- Of up to £3 mn for collaborative, business-led technology development (including laboratory studies, testing, verification and evaluation in test environments);
- Of up to £10 mn for prototyping and pilot testing of innovative technologies

Meet with and pitch your idea to Scottish and UK-based SMEs at the Royal Society of Edinburgh on Tuesday 13th January from 10 am – 3:30 pm. To register for the remaining tickets, contact Energy@hw.ac.uk or visit https://www.eventbrite.com/e/energy-catalyst-round-2-brokerage-event-edinburgh-tickets-14661931231 but be quick. Companies registered include AECOM, Eneus Energy, Kercco Automation, Sgurr Energy, SilverHydro Ltd, Logan Energy, Sunamp, Spot Sensor Technologies Ltd, Power Textiles Ltd, GeoCapita, Aquamarine Power, QED Naval, Bio4GAS, Town Rock Energy and others like them.
Are You Interested in Undertaking Company-Driven Technical Consultancy?

From time to time, the Energy Academy receives requests for consultants to carry out fee-paid work. The Energy Academy is compiling a list of people who may be interested in principle in undertaking work of this sort. If that’s you, please write in confidence to Energy.hw.ac.uk.

We currently have a request for technical consultants able to input into projects over the New Year in the following areas:

- Biomass feedstock assessment
- Anaerobic Digestion
- Biomass CHP including gasification
- Heat pumps
- District heating networks

Send your CV to Energy@hw.ac.uk.

The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

Recovering Valuable Materials from Waste Competition Brokerage Event 14 January

Aimed at supporting businesses to enter the Innovate UK and EPSRC collaborative research and development competition ‘Recovering valuable materials from waste’ this event will offer:

- details of the competition scope and how to apply direct from the funder;
- Networking with potential project applicants to build your collaboration;
- Tips from previous competitions winners and the KTN on successful applications and projects.

Info and registration:
https://www.eventbrite.co.uk/e/recovering-valuable-materials-from-waste-competition-information-brokerage-event-registration-14451698419

Heriot-Watt Scottish Energy News Researcher of the Year Awards

The Energy Academy is working in partnership with Scottish Energy News to celebrate achievement by young researchers in Scotland. Awards of £500 will be given in each of the following categories to students and researchers who have worked in the Energy Sector for less than 10 years and who in their own or their peers opinion can demonstrate one or more of the following:

- An excellent academic record relevant to their peers at the same stage of their career at this point;
- Outstanding career progression or achievement in their chosen field of Energy research;
- For the Energy Entrepreneurship category, evidence of entrepreneurial achievement in the eyes of their peer group.

- Energy and the environment;
- Energy in the marine environment;
- Energy materials and storage;
- Energy and fossil fuels;
- Energy infrastructure and society; and
- Energy entrepreneurship.

The awards will be made in May 2015 by Scottish Energy Minister Fergus Ewing at the head office of the UK Green Investment Bank in Edinburgh.

Further information and how to send nominations
http://www.energy.hw.ac.uk/general/genHWU-SEN-Awards.cfm
Offshore Renewable Energy (ORE) Catalyst

The ORE Catapult https://ore.catapult.org.uk/ is the UK’s flagship technology innovation and research centre for offshore wind, wave and tidal energy combining world-class research, development, demonstration and testing facilities with leadership, industrial reach and engineering expertise.” ORE offers a range of services to accelerate the design, deployment and commercialisation of renewable energy technology innovation including testing https://ore.catapult.org.uk/testing; demonstrating technologies in a controlled onshore environment prior to installation https://ore.catapult.org.uk/demonstration; support for inventors, investors and developers with concept evaluation and technical expertise, determining the best route to deployment though a combination of market intelligence, engineering design and technical assessment https://ore.catapult.org.uk/advice-due-diligence and an open access facility for education and training providers to deliver RenewableUK accredited training programmes for technicians working in the wind industry both onshore and offshore https://ore.catapult.org.uk/training

Ignacio Marti is OREs Innovation and Technical Director https://ore.catapult.org.uk/executive-management/-/asset_publisher/KflygBVYaeai/content/ignacio-marti-perez, and he will be our guest on Tuesday January 20th when he will talk about the work that the Catapult carries out, and how companies and knowledge providers can engage with it. To register for this event or to meet with Ignacio, please contact energy@hw.ac.uk or P.McCarthy@hw.ac.uk

Opportunities for Video Streaming are available.

Photography Competition - Winner

The winner of the Heriot-Watt student photography competition was ICIT student Andrew Want for his composition. Spurness Solstice. Fierce tides, wind turbines, solar power & biogas! To see the winning entry and the other finalists, follow the Energy Academy on Twitter @HWUEnergy
Announcement of workshop 'Sustainable Gas Futures', Brazil, February 2015

NERC is inviting applications from UK scientists and industry representatives to attend a jointly organised workshop with FAPESP Sao Paulo Research Foundation in Brazil on 25 - 27 February 2015 to scope the science themes for this new Newton Fund programme http://www.nerc.ac.uk/research/partnerships/international/newton/.

Applicants will need to submit the attached Expression of Interest form by 12:00 (UK time) on 13 January 2015 to newtonsgf@nerc.ac.uk so that decisions can be made and outcomes known by the 16 January 2015. More information: Patrick.Corbett@pet.hw.ac.uk

Interface Voucher Scheme – PhD/Masters Initiative

Interface is offering a new scheme through which SMEs that have had a successful SFC standard innovation voucher award can apply for funding to develop the programme supported from the original standard Innovation Voucher project. This scheme is intended to support work by a PhD/Masters student within the SME to work on a clearly defined short project within a defined timeframe with the aim of more effectively translating the knowledge transferred into business value. New guidance notes and application forms for the Innovation Voucher Student Placement scheme can be found on the Interface website at: http://www.interface-online.org.uk/how-we-can-help/funding. For further information or if you are interested in applying? Email applications@interface-online.org.uk or speak to (Robert) R.J.Goodfellow@hw.ac.uk

This week’s Contributors.

Patrick Corbett
(Patrick.Corbett@pet.hw.ac.uk) – Newton Fund
Hamish Mair (J.M.Mair@hw.ac.uk) – Newton Fund
Alan Harper
(A.J.Harper@hw.ac.uk) – Materials from Waste
Patrick McCarthy
(P.McCarthy@hw.ac.uk)
Integrated Supply Chains for Energy Systems

Innovate UK is planning to invest up to £9.5m in innovations that will address the need for a diverse mix of energy sources and systems over the next three decades and beyond.

The aim of this competition is to encourage cross-sector supply chains that can deliver integrated energy solutions at different scales and projects should focus on both the demand and supply side across the energy networks of electricity, heat and combustible gases.


This is a two-stage competition with £500,000 available for a first stage of feasibility studies. These can be single-company or collaborative. Small businesses can receive up to 70% of their eligible project costs; medium-sized businesses 60% and large businesses, 50%. Total eligible costs for feasibility studies should not exceed £40,000 and projects should last no more than 3-months.

Up to £9 mn will be made available for three projects that will then be chosen for follow-on collaborative r&d (involving at least one SME).

The competition opened on January 5th and the deadline for registration is noon on 11th February. Application deadline is 18th February.

Are You Interested in Undertaking Company-Driven Technical Consultancy?

From time to time, the Energy Academy receives requests for consultants to carry out fee-paid work. The Energy Academy is compiling a list of people who may be interested in principle in undertaking work of this sort. If that’s you, please write in confidence to Energy.hw.ac.uk.

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- District heating networks

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**SU2P Energy and Environment Workshop in Partnership with SISER and the Intelligent Lighting Centre**

**OPTICS FOR ENERGY**

**Wednesday 4th February**

**14:00 – 18:30**

**Venue: The Cedar Room, Hugh Nisbet Building: Heriot Watt University.**

This workshop aims to identify opportunities for Collaborative research that might be addressed by collaborations between SU2P, SISER, (ETP), ILC, partners and others.

Register by 2nd February at https://www.eventbrite.co.uk/e/su2p---energy---and---environment---workshop---optics---for---energy---tickets---15033056276

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**Heriot-Watt Fledge Awards. Deadline 15th January 2015**

The FLEDGE Funding Awards, are intended to support energy-related projects where it can be shown that there is a reasonable chance for building long-term collaborations in energy across the University and into industry. The awards are aiming to encourage new collaborations that might lead to specific outputs such as joint publications, research outputs (e.g. scoping studies) or joint funding applications.

The Energy Academy has made around £60,000 available with individual awards not exceeding £7500 inclusive of FEC at 75%.

In addition, Research and Enterprise (RES) wishes to make a grant of £15,000 inclusive of FEC at 75% for collaborative research or R&D between the University and a Scottish SME.

Applicants from all Schools are welcome for the RES Fledge Initiative Award, though the following Schools are currently eligible for Energy Academy FLEDGE funding:

- Engineering and Physical Sciences
- Mathematical and Computer Sciences
- Energy, Geoscience, Infrastructure and Society
- Life Science

To download an application form and guidelines see http://www.energy.hw.ac.uk/general/genFledge.cfm. For more information contact Lisa Farrell (L.Farrell@hw.ac.uk)

Submit your application before the deadline to energy@hw.ac.uk
Innovation Voucher Student Placement

Aimed at building on existing relationships between SMEs and HEIs in Scotland to continue the development of an SFC standard Innovation Voucher award the initiative puts a PhD/Masters student within the company to work on a clearly defined project/timeframe with the intention that the outputs of the project can be adopted by the business and offer valuable business skills/experience to the student. The student placement can be up three months long and the student is usually based within the host company. The project can be delivered over a series of short blocks e.g. 1-2 days per week over a defined period or as a single block e.g. 4-6 weeks full time.

- Only SMEs that have had a successful SFC standard innovation voucher award are eligible to apply and they can only have 1 Voucher.
- The company should identify a clearly defined issue or opportunity that will benefit from PhD/Masters student interaction within their business to set timescales.
- The onus is on the company/academic supervisor to have a student in place prior to submission of the application.
- The student and academic supervisor will be from the same institution as the standard Innovation Voucher project.
- The project should provide an opportunity for learning outcomes for the student that will enhance their business skills and employability.
- The scheme cannot be used to finance time/expertise that could be delivered commercially.

http://www.interface-online.org.uk/how-we-can-help/funding/innovation-voucher-student-placement

Are you interested in using the Media to showcase what you do?

The Energy Academy works with Pagoda PR, the University’s PR agency to raise the profile of energy-related research carried out by Heriot-Watt researchers. One reason for doing this to let the stakeholders that are important to the University, including Government, Research Councils UK, and economic development agencies like Scottish Enterprise know about the impact of their spending. Another reason is to highlight to commerce and industry what we are doing and how we might be able to help them.

Heriot-Watt is not the only university doing this and the media can afford to be selective regarding stories it uses and how it does this. What we present to them, must be newsworthy and relevant and ideally, for our own purposes, it should focus on themes and issues that distinguish the Energy Academy from other universities and agencies working in a similar space.

A good ‘story’ is: topical and timely; it’s relevant – it’s about a subject or issue that is relevant to viewers, readers or listeners at the time; it reflects what is unusual or even better, unique about the work; it shows how what we are doing overcomes a problem and it has a human interest element.

Pagoda monitors news feeds from significant sources of influence and breaking stories present opportunities for comment but a quick (often immediate) response is necessary. The Energy Academy doesn’t have a directory of persons willing to engage with the media in this way and the help we afford Pagoda can be a bit hit and miss. We are looking to create a database of people that we can refer to Pagoda when they call us. If you are interested in becoming such a person, contact P.McCarthy@hw.ac.uk

ETP Studentship Programme

The ETP Energy Industry Doctorate Programme, funded by the Scottish Government and the SFC has supported 93 energy-related PhD studentships (to date) for collaborative research. 16 of these were at Heriot-Watt. The ETP is now lobbying for further funding. Professor Pat Corbett is seeking your good (or bad stories) with ETP studentships, in order to support the ETP case. For more information and a copy of data on this initiative please contact him at Patrick.Corbett@pet.hw.ac.uk

Managing Energy on Marine Vessels

Innovate UK in partnership with Defence Science and Technology Laboratory (dstl) has launched a funding competition for collaborative, business-led R&D projects to improve the ways in which energy is managed on ships and other marine & maritime vessels.

The focus of this competition is on the underlying technological challenges that will enable greater efficiencies in the production, management and use of energy.

Businesses within the marine & maritime sector as well as those operating outside the industry with expertise in aspects of electrical systems, energy management or performance monitoring can apply.

Projects are anticipated to be in the range £500k to £1.5m with businesses awarded 50-60% of costs.

This is a two-stage competition that opens for applicants on 12 January 2015. The deadline for expressions of interest is at noon on 11 March 2015.

For more information sign-up to the innovate webinar on January 22nd at https://connect.innovateuk.org/web/technologystrategyboard/events-view/-/events/19532905?p_p_auth=QFlSr6
The Centre for Engineering Education and Development

The Centre for Engineering Education and Development (CeeD) http://ceed-scotland.com/about is a membership-based problem solving community of businesses and academics. RES has now welcomed CeeD Business Development Manager Ralph Harkess to our offices and we look forward to working together. On Wednesday 21st January, CeeD is running its first Energy Clinic of the year at Cranhill Development Trust in Glasgow http://www.cranhilldt.co.uk/. Future clinics will look at areas such as carbon reduction, Scottish Enterprise / Resource Efficient Scotland support, heating, cooling, lighting, water saving, alternative power, PV and Solar, small scale wind, anaerobic digestion and GRID. To read more about the workshops and to register, visit http://ceed-scotland.com/civicrm/event/info?reset=1&id=378. To contact Ralph, telephone 07539 922497; e-mail r.harkess@ceed-scotland.com or pop into the office at room 3.18 Scott Russell Building.

Data Analytics in the Energy Sector
A small Scottish Company “providing insight to distribution networks for utility companies, improving efficiency and so reducing cost and waste”, is looking for opportunities to partner with and work with researchers that are looking to either use their data to add value to the efficient running of the grid. If that’s you, please contact P.McCarthy@hw.ac.uk to arrange a meeting.

This week’s Contributors.
Ian Brotherston
(I.D.Brotherston@hw.ac.uk)
Patrick Corbett
(Patrick.Corbett@pet.hw.ac.uk) – Energy Technology Partnership
Alan Harper (A.J.Harper@hw.ac.uk) – Integrated Supply Chains
Iain McEwan (I.McEwan@hw.ac.uk) – Optics For Energy
Patrick McCarthy
(P.McCarthy@hw.ac.uk)
Ralph Harkess (r.harkess@ceed-scotland.com) - CeeD
Energy Catalyst – Which Companies are Collaborating?

On Tuesday 13\textsuperscript{th} January, the Energy Academy, working with Innovate UK, hosted a brokerage event at the Royal Society of Edinburgh. Many thanks to those of you that came along. If you did or even if you didn’t but are nevertheless interested in opportunities under Energy Catalyst Round 2, material from this brokerage event plus that from a similar event held on the 7th of January in Birmingham is available at https://connect.innovateuk.org/web/energy-catalyst/article-view/-/blogs/material-from-energy-catalyst-round-2-brokerage-events-now-available?

Round 2 opened on 6 November 2014. The deadline for registration for mid- and late-stage awards is noon, 18th February 2015, and for early-stage awards is noon on 22 April 2015. The deadline for receipt of full applications for all stages is noon 29 April 2015.

A snapshot of opportunities includes:

- **Aquatera Ltd** – building a tidal bridge between Yell and Unst in Scotland seeks expertise in SPV design and creation and in structural loading on bridge structures

- **Flowave** wishes to understand how cables installed in high energy tidal sites get broken

- **City University** is interested in developing efficient grid connected converters using AI techniques

- **The University of Leeds** is looking at developing energy systems for cities and new analysis tools

- **Forth Bridge Brewery** is looking at ways of turning its waste into fuel

- **Silver Hydro** is looking to redesign its low-head hydro technology water engine

- **Smarter Grid Solutions Ltd** is interested in integrating local energy management systems

If you want to follow-up, please contact Patrick and Lisa at energy@hw.ac.uk

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**Individual Highlights**

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Tomsk Polytechnical University (TPU) is launching a new journal in collaboration with the Elsevier publishing house

The new journal - Resource-efficient technologies – will be available through ScienceDirect.

TPU would like to invite papers to the first issue of the journal in the following areas:
Sustainable energy
Biotechnology and green chemistry
Novel material technologies
Resource-efficient subsoil use
Process and utilization of waste

The manuscript can be sent to Liliya Kirianova, kirianova@tpu.ru.
The deadline for submission is the 5th of February

For a template and manuscript guideline format, contact Mercedes Maroto-Valer
M.Maroto-Valer@hw.ac.uk

The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

Heriot-Watt Fledge Awards.

Applications to the Energy Academy’ Fledge initiative reflected the wide range of research carried out within the University. This includes:

- Sustainable Energy Systems for Future Human Space Missions
- Biofouling Solutions for Marine Renewables
- Development of low-cost Wave and Tide Data Buoys
- Using Serious Games for Intelligent Management of Building Energy Demand
- Intelligent Forecasting and Control of an Integrated Wind Turbine and Storage Systems
- Development of novel carbon dioxide capture solid sorbents
- Development of new materials for next-generation PV solar cell development
- Development of model concepts for two-phase flows in porous media for enhanced oil-recovery and geological carbon storage
- Prediction of transient temperature changes caused by gas flowing in porous media towards a production or from an injection well
- Development for End of Life Plastic Waste to Hydrocarbon and Energy Feedstock by Pyrolysis
- An exploration of the use of small farm-scale biogas from food waste in cold climates; and micro-biological energy storage
- Matching supply and demand by reducing errors in wind generation forecasting in the operation of electricity networks
- Development of low-head hydro energy generation technologies

Details of the successful projects are still to be announced but if these are areas that interest you and you want to work with Heriot-Watt University’s Energy Academy, contact Lisa or Patrick via energy@hw.ac.uk

Integrated Supply Chains for Energy Systems

The aim of this competition is to encourage cross-sector supply chains that can deliver integrated energy solutions at different scales to meet the many energy systems challenges of achieving a low-carbon economy by 2050.

Projects should focus on both the demand and supply side across the energy networks of electricity, heat and combustible gases

Up to £500,000 of the total funding will be available for smaller-scale feasibility studies. These can be single company or collaborative..

Universities are eligible for 40% of project costs @ 80% FEC

Full details on the application process and eligibility can NOW be downloaded from: https://interact.innovateuk.org/competition-display-page
Energy Storage in Scotland

ICARB’s role is to identify and explore wider and emerging issues related to decarbonising our economy and society where the expertise of carbon accountants can be brought to bear. IN 2014, ICARB ran two very successful „Backcasting“ events to generate and explore future visions for Scotland’s energy systems in 2030. It asked the question “could Scotland’s energy supply be 100% renewable or low carbon by 2030, and if so what would the most likely energy system and mix to reach this target? ICARB has now released its conclusions and these are now available on its web-site at www.icarb.org

Some of the questions asked were, do (artificially) low fossil fuel prices depress the wider value of energy and dis-incentivize investment in storage? Many participants felt that this needs to be addressed by regulatory responses for example legislating for greater recovery and distribution of „waste“ heat from generation, and using the Building Regulations to leverage thermal storage technologies into new housing.

The report also addresses the identification and development of new applications to grow the wider market and normalise energy storage into everything from heavy industry to transport and IT networks. This growing diversity of technologies and applications was considered likely to pose its own problems, with potentially very different solutions competing in the same markets, for example the need for increased domestic thermal storage could be met by small scale and distributed solar, integrating liquid storage into structural elements and cladding, or off site solutions such as borehole and sealed-reservoir storage. It concluded that all this means that the biggest challenge for decision-makers will be to design energy storage at all scales using technologies that are the most appropriate both for the individual applications and for integrating with other storage solutions and an evolving energy mix. To find out more, please contact Sue Roaf (S.Roaf@hw.ac.uk) In march, the Energy Academy has been invited to address this issue at the Scottish Parliament. If you want to be part of this discussion, contact P.McCarth@hw.ac.uk or call 0131 451 3881

Textiles Future Forum

The Textile Future Forum is a new initiative funded by the Scottish Funding Council with a target of creating industry-led innovation in the textile sector and related cross-sectors, connecting to academic –HEI's.

The operational team will create linkages through events, activities, networking and feasibility studies across the academic and industry-base.

Projects identified for this collaborative approach can be supported directly through the TFF Challenge Fund or can be sign-posted to other sources of business support and research grants. The TFF Challenge Fund anticipates projects of up to £50,000 which is expected to be match-funded by industry as cash or in-kind support with the r&d undertaken by the University or HEI.

As part of the program key themes have been identified and these will be refined as the project develops. Currently, the TFF has identified the areas of textiles in energy, construction and environment as an early theme and is interested in receiving ideas for potential support. Please contact Joe Pacitti (J.Pacitti@hw.ac.uk) or call 0131 451 8425 or 07794 684137

Advances in Concentrator Photovoltaics

First announcement and call for papers: Advances in Concentrator Photovoltaics
Wednesday 9 March 2015, Imperial College, London.

To present or exhibit, please contact Sharon Henson, EPSRC SUPERGEN Supersolar Project Coordinator, CREST, School of Electronic, Electrical and Systems Engineering, Loughborough University, LE11 3TU. Tel: 01509 227128. E-mail: s.a.henson@lboro.ac.uk

Innovation Funding Seminar

Davidson House, Campus 1, Balgownie Road, Bridge of Don, AB22 8GT

09:30 – 12:00 Wednesday 25th February

OGIC and Interface are hosting a seminar to introduce the wide range of government funding available to support innovation in the Oil & Gas sector.

The seminar will include a plenary session with speakers providing an introduction to the innovation funding landscape. A parallel poster session, will set out each organization’s role and how they collectively support innovation in the Oil & Gas industry.

To register, visit https://www.eventbrite.com/e/ogic-interface-innovation-funding-seminar-tickets-15174824308

Not many tickets remain

Contact Gordon Winton
<Gordon.Winton@pet.hw.ac.uk>
Harnessing the Power Of Dung!!

Apparently, over 3 billion people cook on an open fire often in unventilated spaces, living and breathing in high levels of air pollution daily. Women and children are often the ones to suffer the most. Worldwide, indoor air pollution causes over 4 million deaths* - from pneumonia, chronic lung disease and lung cancer attributed to cooking with biomass solid fuels; 99% of these deaths occur in developing countries.

Heriot-Watt researcher Joel Chaney J.Chaney@hw.ac.uk wants to help stop this by bringing clean sustainable energy to the poorest parts of the world by training trainers and helping catalyse biogas businesses.

Joel has raised sufficient money to publish a biogas manual and travel to Kenya to deliver a 'Train the Trainers' course this Spring but he is now looking to raise further money to deliver the same training programme in partnership with a Social Enterprise in The Philippines. He has posted a project on the Crowdfunding site Crowdfunder but there’s not long to subscribe and pledge. http://www.crowdfunder.co.uk/gas-from-dung/ gives more information and allows pledges to be made.

The Energy Academy is pleased to raise the profile of his project.

This week’s Contributors.

Joe Pacitti (J.Pacitti@hw.ac.uk)
Mercedes Maroto-Valer (M.Maroto-Valer@hw.ac.uk)
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Lisa Farrell (L.Farrell@hw.ac.uk)
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Lucy Bryden (L.K.Bryden@hw.ac.uk)
Sue Roaf (S.Roaf@hw.ac.uk)
The Heriot-Watt Scottish Energy News

‘Researcher’ of the Year Awards
Deadline Extended – March 2015

We think that it hasn’t been clear what this competition is about. If so, read on.

- The competition is open to any company or individual undertaking pure or applied research and/or research and development at a Scottish university, HEI or company (irrespective of size).
- There’s no age limit.
- Six categories of awards; £500 each. Awards ceremony, Fergus Ewing Minister for Business Energy and Tourism at the Green Investment Bank, Thursday 14th May

How to apply

- Send us your CV and a good story about yourself and what you’ve done or what you are about to do – it’s as simple as that
- E-mail your application to HWU-ScottishEnergyNews-Awards@hw.ac.uk

What you should include

As well as the above, ideally, we would like to see:

- a letter of nomination (although applicants may self-nominate);
- some evidence of the quality of your work or the impact it has had or you, or your peers think that it’s likely to have (we aren’t being prescriptive about this; it’s up to you how you choose to do this);
- how you are committed to the future development of energy research and r&d in Scotland

More Information P.McCarthy@hw.ac.uk
Fraunhofer UK – Supporting Innovation in the UK

The Fraunhofer Centre for Applied Photonics (CAP) is a not-for-profit, research and technology organisation specialising in applied R&D to accelerate product development from lab to market. The Centre’s mission is to be a bridge between academia and industry in a wide variety of sectors and it collaborates with both Universities and companies throughout the UK directly or through collaborative R&D schemes (such as Innovate UK or Horizon 2020) and offers modeling/design capability, applied research and prototyping services.

The Centre is involved with both renewable and oil and gas projects focusing on areas where photonics can enable better efficiency, enhanced monitoring and sensing systems or improved maintenance and safety. Fraunhofer CAP also has a remit to train the next generation of employees through PhD and EngD studentships as an industrial host and partner.

For further information contact:
Mark Goosens
Business Development Manager
mark.goossens@fraunhofer.co.uk or photonics@fraunhofer.co.uk

The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

Fossil fuels, Climate Change, Carbon Capture and Storage

Institution of Mechanical Engineers Scottish Region - Edinburgh and SE Scotland Area

Tuesday 10 February 2015 @6:30 pm. Venue: The Royal Scots Club, 30 Abercromby Place, Edinburgh, EH6 3QE

Dr Mathieu Lucquiaud, School of Engineering, University of Edinburgh will look at climate change in a context where the world’s energy needs are predicted to be dominated by fossil fuels, despite progress in deploying renewable energy in developed countries. See: http://nearyou.imeche.org/near-you/UK/Scottish-Region/Edinburgh---South-East-Scotland-Area/event-detail?id=9683

Register through Eventbrite at https://www.eventbrite.co.uk/e/fossil-fuels-climate-and-carbon-capture-and-storage-tickets-15513492273

More information: James Ritchie (j.m.ritchie@hw.ac.uk)

Engineering YES

Engineering YES is a residential training experience for research students and staff that introduces participants to business people, business thinking, enterprising environments and illustrates how connections are made between academic research ideas and commercial realities.

Engineering YES has been proven to provide a fast paced, high pressure, rich learning environment, where researchers can find a safe space to learn all about the commercialisation of research from industry experts using the process of researching and developing their own business plan.

Participant engagement is guaranteed as they work in teams and compete to win the overall £2000 first prize.

2015 Dates

Briefing session Delivered via online MOOC – late March – Early April (Q&A session 13th April)

Training heat 1 Sunday 26 April – Wednesday 29 April (Holiday Inn Bristol Filton)

Training heat 2 Sunday 10 May – Wednesday 13 May (Holiday Inn Leeds Brighouse)

Training heat 3 Sunday 17 May – Wednesday 20 May (Holiday Inn Birmingham M6 J7)

Training heat 4 Sunday 31 May – Wednesday 03 June (Holiday Inn Milton Keynes)

Grand Final Wednesday 17 June (Birmingham Science Park Aston)

Further information: j.l.whitaker@lboro.ac.uk

To download an application form www.engineeringyes.org

If you are thinking about this Patrick McCarthy (RES 0131 451 3881; energy@hw.ac.uk) successfully coached the winners of the Scottish / Northern Heats of the BBSRC sponsored ‘sister’ competition, Biotechnology YES. Come and talk to Patrick if you are interested.
Cleantech Innovate Scotland 2015 takes place in Glasgow on 4 June.

There are 22 finalist places left. £20,000 cash prize awarded on the day.

If you are a company working in cleantech apply at:
https://www.cvent.com/events/cleantech-innovate-scotland-2015-presenters-registration/registration-697ac701cda648a3a11ef0a77d0f6ba2.aspx

Nominations to Catherine.hokin@ecoconnect.org.uk

Registration is open for all delegates

- Watch 25 low-carbon stars of the future pitch
- Network with 150 delegates actively interested in cleantech during the day & at the evening drinks reception
- Hear keynote speeches from:
  - Fergus Ewing, Minister of State Energy, Enterprise & Tourism, The Scottish Government;
  - Shaun Kingsbury, CEO Green Investment Bank;
  - Iain Gulland, Director, Zero Waste Scotland


The Cleantech Innovate Programme is sponsored by DECC & INNOVATE UK and Heriot-Watt University.

To find out more, contact Catherine.hokin@ecoconnect.org.uk

**Third SOLAR-ERA.NET call?**

Want to find new partners across Europe? Interested in presenting your ideas? Then this webinar is for you.

Register: https://www.eventbrite.co.uk/e/lunchtime-webinar-partnering-in-the-third-solar-eras-net-call-tickets-15443427708

This interactive webinar will be structured through 3 minute pitching slots for interested organisations to present their project ideas and partner requirements. The objective of the webinar is to offer the opportunity of developing new partnerships and ideas before the pre-proposal stage closes on 27th March, 2015.

Innovate UK has 15 slots to present and this will be offered on a first submitted, first serve basis (you must submit your slides to guarantee a pitching slot). Pitches will be limited to 3 per country. *Please note: the webinar will start at 12 noon GMT.*


SOLAR-ERA.NET is a FP7 funded European network of national and regional research and technology development (RTD) and innovation programmes in the field of solar electricity generation, i.e. photovoltaics (PV) and concentrating solar power (CSP) / solar thermal electricity (STE).

For more details on the SOLAR-ERA.NET call please go to: www.solar-era.net.

There is also an introductory short briefing on the competition available at: [http://www.solar-era.net/files/8314/1891/0351/webinar_solareranetresentation.mp4](http://www.solar-era.net/files/8314/1891/0351/webinar_solareranetresentation.mp4)

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**Innovation in Textiles Event**

**An invitation**

In April 2014 the Scottish Government announced the establishment of a £750,000 initiative which includes a £450,000 fund, which would, under the management of the Textiles Futures Forum, provide financial assistance for the development of collaborative projects aimed at introducing innovative new processes, products or business models into the textile industry in Scotland.

This fund is now in place and the newly appointed project manager, Joe Pacitti, j.pacitti@hw.ac.uk is keen to hear from industry with a view to supporting companies to develop ambitious, innovative projects.

A tradingZONE event will be held in the Royal Scots Club in Edinburgh on Thursday 5th March and this will be your opportunity to test your ideas, find potential business, academic or research partners and learn how the Textiles Futures Forum can help you to advance your project.

Full details of this event can be found at [http://www.stla.uk.com/event/fff-innovation-in-textiles/](http://www.stla.uk.com/event/fff-innovation-in-textiles/) together with information on how to register your attendance. Do not miss out on this opportunity to unlock the potential in your business.
Cleaner More Efficient Conventional Fuels

Innovate UK, in collaboration with the Knowledge Transfer Network will be hosting a series of events across the UK to discuss the forthcoming competition ‘Cleaner, more efficient conventional fuels’ that opens in March 2015. Briefing Event: London 10th March 2015

Fossil fuels provide some 70% of the UK’s electricity as well as much of our domestic heating and other uses of energy. More efficient and sustainable use of fossil fuels is an essential part of our transition towards low carbon energy generation. This is driven by the need for energy security and affordability and to meet CO2 targets.

There are now many more operators in the North Sea than previously. Along with the companies in their extensive supply chains, they often lack the scale to support large in-house R&D departments. However, the need for innovation in the North Sea has never been greater. Carbon abatement technologies in general, and carbon capture and storage (CCS) in particular, have an essential role in the continuing use of fossil fuels in power generation and in vital energy-intensive industries.

Up to £5m in collaborative R&D projects (with a proportion available for relevant feasibility studies) to improve efficiency, reduce cost and minimise the environmental impact of coal, natural gas and oil through their competition ‘Cleaner, more efficient conventional fuels’.

Projects should seek to address one or more of the following themes:
- oil and gas field efficiency, management and decommissioning
- advanced fossil-fuel process technologies and product innovation in power generation and energy-intensive industries
- fuel switching with lower-carbon substitutes
- carbon capture and storage in power generation and energy-intensive industries.

More Information: [https://interact.innovateuk.org/competition-display-page/-/asset_publisher/RqEt2AKmEBhi/content/cleaner-more-efficient-conventional-fuels-feasibility-studies?p_auth=1sXx1b8F](https://interact.innovateuk.org/competition-display-page/-/asset_publisher/RqEt2AKmEBhi/content/cleaner-more-efficient-conventional-fuels-feasibility-studies?p_auth=1sXx1b8F) or [https://interact.innovateuk.org/competition-display-page/-/asset_publisher/RqEt2AKmEBhi/content/cleaner-more-efficient-conventional-fuels-collaborative-r-d?p_auth=1sXx1b8F](https://interact.innovateuk.org/competition-display-page/-/asset_publisher/RqEt2AKmEBhi/content/cleaner-more-efficient-conventional-fuels-collaborative-r-d?p_auth=1sXx1b8F)
The Heriot-Watt Scottish Energy News

‘Researcher’ of the Year Awards
Deadline Extended – March 2015

We think that it hasn’t been clear what this competition is about. If so, read on.

- The competition is open to any company or individual undertaking pure or applied research and/or research and development at a Scottish university, HEI or company (irrespective of size).
- There’s no age limit.
- Six categories of awards; £500 each. Awards ceremony, Fergus Ewing Minister for Business Energy and Tourism at the Green Investment Bank, Thursday 14th May

How to apply

- Send us your CV and a good story about yourself and what you’ve done or what you are about to do – it’s as simple as that
- E-mail your application to HWU-ScottishEnergyNews-Awards@hw.ac.uk

What you should include

As well as the above, ideally, we would like to see:

- a letter of nomination (although applicants may self-nominate);
- some evidence of the quality of your work or the impact it has had or you, or your peers think that it’s likely to have (we aren’t being prescriptive about this; it’s up to you how you choose to do this);
- how you are committed to the future development of energy research and r&d in Scotland

More Information P.McCarthy@hw.ac.uk

http://all-free-download.com/free-photos/three_wind_turbines_188424.html
Showcasing Energy Research at Heriot-Watt
Focus on New Materials Research

“Data in materials science and device processing are needed to accomplish the vast majority of research work related to the disruptive technologies.” RCUK Review of Energy

At Heriot-Watt, our research uses into the development of novel materials covers improved efficiency e.g. new thermoelectric materials, smarter technologies for the conversion of existing materials and energy storage such as the development of new fuel cells and the application of energy storage materials to other forms of renewable energy generation.

For example recent developments in nanostructured materials for high-performance Thermoelectrics at Heriot-Watt has been used for the conversion of waste heat into electricity and for improvements in vehicle fuel efficiency whilst relying on less toxic and less scarce elements.

To read more about new materials research at Heriot-Watt download the presentation at https://www.dropbox.com/s/w4c8p0wlffjd6l/energy%20Academy%20Showcase%20-%20Pres%202015%20-%20N%2020%20Bennett.pdf?dl=0

The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

Low-Cost Solar Thermal Systems

Solar thermal heating systems reduce CO2 emissions by displacing the use of fossil fuels. According to the Energy Saving Trust (EST), a solar thermal panel saves between 230kg and 510 kg per year depending on which fuel it is displacing.

Most solar thermal systems have a separate antifreeze filled loop for protection against freezing and require a new tank fitted with a heat exchanger. When retrofitting, a perfectly good tank (usually copper) needs to be replaced. The Glasgow-based company, Soltropy Ltd has developed an innovative solution that allows a domestic water supply to be heated directly without the secondary fluid cycle. This increases the efficiency of the system and reduces capital and installation costs.

The company, based in Glasgow is working with Dr. Tadhg O’Donovan part of Heriot-Watt Energy Academy. Tests at Heriot-Watt University have already shown that the Soltropy system behaves differently from the “old style” systems and requires a different control strategy. The two have now received a grant from Innovate UK through the Energy Catalyst initiative to investigate what type of strategy would be appropriate https://connect.innovateuk.org/web/energy-catalyst.

To find out more about the Soltropy system, contact stuart.speake@soltropy.com

If you are interested in energy storage and working with Heriot-Watt, contact T.S.O’Donovan@hw.ac.uk or one of the Energy Academy team at energy@hw.ac.uk

The Energy Catalyst initiative supports collaborative r&d designed to develop new technologies, exploit new uses of existing technology, enhance existing technologies or develop enabling technologies. £14mn is available under Round 2. In Round 1, 40 applications were funded (ca. 20% of applications) with micro- and small SMEs particularly well represented. Renewable technologies covered included wave &tidal, solar, wind and biomass. Other areas supported were energy storage, demand-side management, system integration, sensors and new materials development and manufacture.

UKERC
International
Energy Summer
School July 2015

http://www.ukerc.ac.uk/events/ukerc-international-energy-summer-school-2015.html

This year the UK Energy Research Centre will be holding its eleventh annual Summer School from the 5th to the 10th of July 2015 at Wyboston Lakes Conference Centre near Milton Keynes

http://www.wybostonlakes.co.uk/

Over 100 students from around the world are expected. The School is specifically designed to give PhD students an opportunity to look beyond their own research and develop an understanding of energy systems as a whole and pathways to low-carbon and resilient energy systems.

Register at:
https://www.regonline.co.uk/Register/Checkin.aspx?EventID=1650416

The Thought Leadership Series is a series of interactive events that explore and debate topical but potentially transformational issues and ideas. Through these events it’s the intention of the School of Management and Languages to ignite a chain reaction of change in the way we think, work and live.

The Thought Leadership events feature high profile speakers with the aim of enabling participants to take part in lively discussion and debate that provides food for thought.

http://www.sml.hw.ac.uk/industry/cpd/thought-leadership-series.htm
Showcasing Energy Research at Heriot-Watt
Focus on Marine Resources

Marine renewable energy is a small but growing part of the renewable energy make up for Scotland and the UK.

Offshore Wind is already a significant contributor but wave and tidal energy generation is in its infancy. The Heriot-Watt International Centre for Island Technology, part of the Heriot-Watt Energy Academy based in Orkney research is a nursery for wave and tidal energy with a focus on

- The Human Dimension
- Ecological Understanding
- Dynamical Modelling
- Measurements and Technology

To see some of the work that is going on, download the presentation at https://www.dropbox.com/s/h54ze02pw8m82p2/EnergyAcademyShowcase%20Woolf.pdf?dl=0

Or contact d.k.Woolf@hw.ac.uk

SOLAR-ERA.NET

SOLAR-ERA.NET is a FP7 funded European network of national and regional research and technology development (RTD) and innovation programmes in the field of solar electricity generation, i.e. photovoltaics (PV) and concentrating solar power (CSP) / solar thermal electricity (STE)

For more details on the SOLAR-ERA.NET call please go to: www.solar-era.net.

Webinar 10th February
https://www.eventbrite.co.uk/e/lunchtime-webinar-partnering-in-the-third-solar-eranet-call-tickets-15443427708

UK Futures Programme Competition

Manufacturing firms have been invited to bid for a share of £1 million to boost UK innovation.

The UK Futures Programme competition invites employer-led proposals from businesses of all sizes in the manufacturing sector to run initiatives lasting 12 months, and that focus specifically on the skills required to manage an innovation process and exploit innovative products or services for commercial value. Proposals must be joint investments with employers investing in cash, in kind or both alongside a maximum government contribution of £150,000 per project.

The competition closes at midday on Wednesday 11 March 2015. For more information or to apply visit


Delivering our Green Energy Future – Impacts, Risks & Investment Opportunities
http://uksif.org/events/delivering-our-green-energy-future/

Location: Edinburgh Centre for Carbon Innovation, Edinburgh. 9 am – 5 pm

To register, click here:
https://www.eventbrite.com/register?orderid=395247593191&client_token=7c02f413ce6d4058ab11bd8ce6fbd00&eid=14990403701
Programme:
http://uksif.org/events/delivering-our-green-energy-future/
This week’s Contributors.

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The Marine Energy Supply Chain Expert Programme

A new programme has been launched to help companies in Scotland tap into the emerging opportunities in the marine energy supply chain, particularly in tidal energy.

The Marine Energy Supply Chain Expert programme will give companies access to up to two full days of free advice and one-to-one guidance on diversifying their business in to this growing sector.

For more information click on: www.scottish-enterprise.com/marineexpert

Scottish Enterprise and Highlands & Islands Enterprise invite you to one of two Marine Energy Supply Chain Opportunities workshops. These events will provide delegates with an overview of the global wave & tidal energy market and insight into supply chain requirements and routes to market for Scottish suppliers. You will also have a chance to hear from industry experts, guest speakers and tidal developer, Meygen.

Glasgow Workshop

Tuesday 3rd March - Glasgow
Inovo Building, 121 George Street, Glasgow G1 1RD


Inverness Workshop

Wednesday 18th March – Inverness
Eden Court, Bishops Road, Inverness IV3 5SA
To book, contact Fiona Ozdemir Fiona.Ozdemir@scotent.co.uk

“The Marine Energy Supply Chain Expert programme aims to replicate the success of the Offshore Wind Expert Supply programme which has supported over 200 companies to diversify into the sector since it was launched January 2011”.

Jan Reid, Senior Manager of low carbon technologies at Scottish Enterprise said: “We know that the global marine energy industry is set for significant growth in coming years, particularly as developers gear up for the first multi-device tidal arrays in Scottish waters. Scotland has already established itself at being at the forefront of the industry – for example work is now underway in the MeyGen project in the Pentland Firth - the world’s largest planned tidal energy project.

“This new support will help ensure that our companies gain an early understanding of supply chain requirements for projects such as these, and develop their capabilities accordingly.”

[Image: A view of a bridge over water with a view of the night sky, representing the Scottish and European flags.]
Orchestration of Renewable Integrated Generation In Neighbourhoods

ORIGIN went live last November in 3 communities – Damanhur in Northern Italy, Tamara in Southern Portugal and Findhorn Foundation Community in the North of Scotland as part of a £2.3million European Commission funded study to synchronise renewable energy production with local demand.

Analysis of community energy data shows a 20% increase in use of locally generated power since the launch of ORIGIN system.

Now researchers are developing the system further, so that it can provide personalised forecasts for individual households showing residents the best times to schedule their energy and hot water use.

This technology will help achieve progress towards meeting EU targets for reducing emissions by increasing use of renewable energy and will spread energy consumption out to avoid the peaks that put power grids under stress and can lead to black-outs.

Michael Shaw, resident and Trustee of the Findhorn Foundation said, “The renewable energy forecast has already changed people’s behaviour, and encouraged them to use energy when it’s available.”

“Using ORIGIN we can now match supply with demand, allowing communities to reap the rewards of renewable energy, especially where they own the power source. It has the potential to save households money and alleviate fuel poverty. “

Dr Edward Owens, Heriot Watt University, Energy Academy – ORIGIN Coordinator

More Information: E.h.Owens@hw.ac.uk; L.K.Bryden@hw.ac.uk

Cleaner, more efficient conventional fuels

Innovate UK, in collaboration with the Knowledge Transfer Network will be hosting a series of events across the UK to discuss the forthcoming competition ‘Cleaner, more efficient conventional fuels’.

Innovate UK are to invest up to £5m in collaborative R&D projects (with a proportion available for relevant feasibility studies) to improve efficiency, reduce cost and minimise the environmental impact of coal, natural gas and oil through the competition.

Projects should seek to address one or more of the following themes:

- oil and gas field efficiency, management and decommissioning
- advanced fossil-fuel process technologies and product innovation in power generation and energy-intensive industries
- fuel switching with lower-carbon substitutes
- carbon capture and storage in power generation and energy-intensive industries.

Innovate is particularly keen to support projects that build on an existing competitive advantage for the UK, for example in high-value manufacturing, ICT, sensors and electronics, and materials technologies.

More details:
https://interact.innovateuk.org/competition-display-page/-/asset_publisher/RqEt2AKmEBhi/content/cleaner-more-efficient-conventional-fuels-feasibility-studies?_p_auth=1sxX1b8F
The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

'Harnessing Community Energies' - Optimising the Benefits of Renewable Energy

Thursday 4th/5th June 2015; Findhorn, Scotland.

Details and to Book: http://findhorncollege.org/originconcept.php

This dissemination conference is for researchers, local authority and housing association delegates, academics, community representatives and industrial partners with an interest in optimising community scale renewable energy. The conference will feature complimentary projects specialising in integrating renewables and in end-user engagement to improve 'energy' usage behaviour.

Scottish Renewables Annual Conference 2015 – Discounted Entry Now Available

The ETP has arranged heavily discounted places at the Scottish Renewables Annual Conference (24 - 25 March in Edinburgh) for its members. These are subject to availability and are therefore on a first come first served basis. Academics, researchers and students are all eligible.

The ETP rate is £25 (excluding VAT) for each day compared to the standard "early-bird" rate for Scottish Renewables members of £290 for Day 1, £210 for Day 2 and £430 for both days. This therefore represents excellent value.

Registration - http://www.etp-scotland.ac.uk/NewsViewer/tabid/6636/articleType/ArticleView/articleId/1392/Scottish-Renewables-Annual-Conference.aspx

More Information: Anne Marie Fuller - a.fuller@hw.ac.uk

The European North Sea Alliance (ENSEA) http://www.ensea.biz/ project involves organisations representing Government, research and industry in Scotland, the Netherlands, Germany, Norway and Denmark. It is focused on enabling greater use of sustainable energy. The aim of the ENSEA project is to increase the competitiveness of involved regions through better coordination and exploitation of research and the Energy Academy at Heriot-Watt is working with Scottish Enterprise to access EU funding as much of it is tied to having 3 or more regions collaborating together.

The first ENSEA project proposal focused on recovery of waste thermal energy at industrial sites was submitted last week and (if successful) should be worth around £750,000 to Scottish companies. Several more projects will be initiated this year. ENSEA would welcome suggestions about new projects particularly in the area of Smart Grids.

We are looking for expressions of interest to join consortia with an interest in the following calls:

EE 6 – 2015: Demand response in blocks of buildings – bids due 04/06/2015
EE 10 – 2015: Consumer engagement for sustainable energy – bids due 04/06/2015
EE 11 – 2015- New ICT-based solutions for energy efficiency – bids due 04/06/2015

Want to know more? Contact energy@hw.ac.uk

For further opportunities and details look at the EU’s HORIZON 2020 WORK PROGRAMME 2014 – 2015 Part 10. Secure, clean and efficient energy (Revised). To discuss further please contact - David Butler, Scottish regional coordinator for ENSEA on 0131 313 6168
Fledge Funding

8-awards announced for collaborative research

- Bennett/Andresen; Sustainable Energy Systems for Future Human Space Missions,
- Chaney et al; Small farm-scale biogas from food-waste in cold climates; an opportunity for biological energy storage,
- Garcia et al.; Towards the Intensification and Integration of Carbon Dioxide Capture with Solid Sorbents,
- Harris/Davies; Low cost wave and tide data buoy
- Muradov/Dadzie; Prediction of transient temperature changes caused by gas flowing in porous media towards a production or from an injection well
- Peacock et al.; System Effects of Wind Forecast Error
- Porter et al.; Biofouling Solutions for Marine Renewables Knowledge Network Development,
- Fruh et al; Intelligent Forecast and Control of an Integrated Wind Turbine and Storage System

If you are interested in finding out about the research described, The Energy Academy would be pleased to hear from you.

Please write to energy@hw.ac.uk

A second Round opened this week. It is intended to make two further awards for projects designed to facilitate new collaborations. Applications should be sent to: energy@hw.ac.uk

The deadline for applications is 6th March

Applications from Energy Academy members in the following Schools are invited:
- School of Engineering and Physical Sciences
- School of Energy, Geoscience, Infrastructure and Society
- School of Mathematics and Computer Science

Further details including eligible research themes are available from the Energy Academy website - http://www.energy.hw.ac.uk/general/genFledge.cfm. Applicants may however wish to approach Energy Academy ‘Champions’ to discuss their applications prior to submission: If you don’t know who your Champion is, please write to energy@hw.ac.uk

Newton Fund

We will be producing a newsletter dedicated to Newton Funding but for members interesting in finding out more information on what funding is available and how it works, you can download presentations from the Drop Box links below

https://www.dropbox.com/s/n3z2v7ffxayw1ws/Newton%20Fund_International_Unit.pptx?dl=0
https://www.dropbox.com/s/arbcm1vwzanbtae/Newton%20Fund_The%20Academies.ppt?dl=0
https://www.dropbox.com/s/78br6itg2woet/Newton%20Fund_Overview.pptx?dl=0
https://www.dropbox.com/s/bd0kk4fevo6bxym/Newton%20Fund_RCUK_CS.pptx?dl=0
https://www.dropbox.com/s/3n4xqjby93yycyo/Newton%20Fund_Communication.pptx?dl=0
https://www.dropbox.com/s/b6w9368bmndziw/Newton%20Fund_British-Council.pptx?dl=0
UK Energy Innovation Awards 2015! –Two Nominations for Heriot-Watt

Dr. David Flynn and his colleagues at Heriot-Watt have been nominated in not one, but two categories in the UK Innovation Awards 2015 competition; Best Offshore Renewable Energy Innovation and Best University Technology.

David is an Associate Professor within the Electrical and Electronic Engineering Department of Heriot-Watt and the leader of the Prognostics and Health Management group, Deputy Director of the Microsystems Engineering Centre, Deputy Director of the EPSRC CDT in Embedded Intelligence, Course Director of Professional and Industrial Studies, and Renewable Generation and Conversion.

His work focuses on the structural and functional integration of Silicon Carbide devices for harsh environment applications.

In the area of renewable energy, his research concerns the development of holistic and intelligent asset management, designing methods to identify component interdependences and predict remaining useful of the sub-systems and asset.

David describes his work and this area as “being the next critical phase in enabling a renewable energy future due to the social and economic issues relating to fuel poverty and energy security, along with the significant technical challenges of wind, wave and tidal technologies in such challenging environments.”

In 2012, in partnership with SSE, he developed the world’s first holistic health management system for subsea power cables.

The shortlist can be viewed via the following link:


More information? D.Flynn@hw.ac.uk
What you need to know about Fledge Round 2

The second round of the FLEDGE Funding Awards is now open for applications. The awards are intended to encourage new collaborations and are expected to result in a combination of specific outputs such as joint publications, research outputs (e.g. scoping studies) or joint funding applications. There are two funds of £7,500 inclusive of FEC at 75%. For more information see http://www.energy.hw.ac.uk/general/genFledge.cfm

Lisa Farrell has compiled a list of FAQs to help you decide whether to apply:

I've applied before, but been unsuccessful, can I apply again?  Yes, having applied before does not exclude you from applying again.

If I've already had Fledge funding can I apply again? Yes. Although you are not excluded from applying again, previous funding may be taken into account by the judging panel.

Do I need to work with a company? There is no requirement in the second round of Fledge funding to work with a company though doing so may add to the impact of your project.

Can funding be spent with a company? In this Round, Fledge funding should be spent on research within Heriot Watt.

Do I need to submit an RPC? Yes, you should submit an RPC to your School, usually ten days before the deadline. If you are successful, this will then be processed through Research and Enterprise Services.

How long can my project last? All monies must be spent by end of June. Applicants will be notified by mid-March so projects should be planned accordingly.

Can anybody apply? No. This is for Heriot-Watt researchers only. We are only seeking applications from EGIS, MACS and EPS

What can I budget for? Fledge Fund is allowing spend under normal Scottish Funding Council permissible spend rules

More Information? L.Farrell@hw.ac.uk. Apply: energy@res.hw.ac.uk

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The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

EPSRC Energy Fellowships – Undersubscribed?

Recently, the Energy Academy was invited by the EPSRC to hear about the breadth and type of funding available for energy related research and to discuss the direction of future funding. The meeting was hosted by the University of Edinburgh. “One interesting take-home message was that EPSRC Fellowships, unlike almost every other fellowship opportunity, are under-subscribed.” (Thanks to David Corne for flagging this).

“EPSRC recognizes that many research disciplines within its remit may have applications in energy that may not always be obvious and that interdisciplinary research is often required for major advances in energy. EPSRC therefore welcomes Fellowship applications in Energy from candidates with a strong research track record within an individual EPSRC discipline to one of the areas detailed below:”

- Bioenergy;
- Offshore wind research;
- End-use energy demand;
- Energy networks;
- Carbon capture and storage;
- Energy storage;
- Nuclear Fission;
- Hydrogen and fuel cells;
- Marine energy research;
- solar energy.

More information: http://www.epsrc.ac.uk/skills/fellows/energy/

Innovate UK - Innovation Voucher Scheme

The Innovate UK innovation vouchers scheme https://vouchers.innovateuk.org provides funding so businesses can work with an external supplier for the first time to help them innovate, develop and grow. They can be used by businesses out with or within Scotland wishing to work with Heriot-Watt’s Energy Academy.

Any company in any industry sector may apply and the funding is received by the Company itself. Vouchers are available for any amount up to £5,000 in value and are 100% funded. Applicants are entered into a ballot from which 100 applications are chosen. Unsuccessful applicants can re-apply in later rounds.

The next deadline for Innovation Voucher applications is 22nd April 2015 so there’s time to talk to us about how we can help your business so apply now if you are a start-up, micro or small or medium sized business; have not worked with the Energy Academy (or any other nominated supplier) before or not previously had an Innovation Voucher. More information: https://vouchers.innovateuk.org

Pyrolysis and the Whisky Industry

“A team at Heriot-Watt University (Fellows Professor Raffaella Ocone and Alan Harper) in conjunction with Ordrej Masek of Edinburgh University Geosciences have been evaluating the use of pyrolysis in the recovery of process feedstock from whisky distillery by-products, post-use plastic packaging from the food industry and cellulose and plastic material deriving from healthcare. They have been encouraged by a variety of companies in the sectors quoted and specialist recycling and resource organisations.

Beyond the process studies there has been development of a simulation tool to predict the pyrolysis products of a range of materials and in particular mixed streams which characterise the recycling sector.

At this stage it is possible to specify the technology that can best meet the requirements of the recycling sector and customers for the feedstock products in a particular location. In conjunction with companies and enterprise bodies, the team are advising on a recovery plant which would be sited adjacent to a refinery. This model ensures the optimum environmental and financial benefits of the project.

The work has been funded through a grant from the Institute of Brewing and Distilling and the UK taxpayer via the Energy Technology partnership and the SFC Interface Food and Drink programme.”

More information: a.j.harper@hw.ac.uk or R.Ocone@hw.ac.uk
Could Crowdfunding Revolutionize Renewables?

“Crowdfunding has grown and developed in parallel with a number of significant developments in the renewable energy sector, with the number of innovative ideas and projects in renewable energy growing daily” suggest Joe Cox and Ryan Carter, University of Portsmouth. In an article published in Petroleum Review [https://www.energyinst.org/information-centre/ei-publications/petroleum-review/petroleum-review-february-2015] they suggest that “large scale ‘crowd-led’ projects that have taken place in Nordic countries such as Norway and Denmark, have “had the effect of reducing carbon emissions and shoring up energy supplies for the future.” Joe has shared some thoughts from this work with the Energy Academy.

“In these countries, Cooperatives and collaborative finance tend to play a much larger role in the energy markets; in Denmark one such Cooperative is 50% owned by a ‘crowd’ of 10,000 investors and 50% by a municipally utility company, which is itself also publicly owned.” “Some local cooperatives have even begun issuing community-based shares via online crowdfunding, such as the Leeds Housing Association scheme aiming to tackle fuel poverty by installing solar cells on residents’ roofs. To-date, the project has successfully raised over £3.1 million and offers returns of 7.5% on invested capital, making this the largest ever crowd funded solar energy project in Europe. Other examples are now starting to be seen up and down the UK, with examples very close to home, such as energy cooperative Hampshire Energy.”

Joe argues that the future for crowdfunding of renewable energy looks to be very exciting, with significant progress being seen in the production and consumption of energy, such as graphene-hydrogen. Green crowdfunding, they say, is not going anywhere but up. Energy crowdfunding is likely to only grow in prominence as people become aware of the possibilities and opportunities offered for a more sustainable society - and for the first time can have a real stake in it themselves.

This article abstracted from: Cox and Carter (2015). Crowdfunding and its potential to revolutionize the renewable energy sector.

More information: joe.cox@port.ac.uk

Solar Energy Research in Scotland
Wednesday 18th March @2:30pm
Post Graduate Centre - Heriot-Watt University
http://www.hw.ac.uk/student-life/campus-life/edinburgh/getting-around.htm

Anne Marie Fuller, Business Development Executive, Edinburgh Technology Partnership and Scottish Institute for Solar Energy Research (SISER)

To register: http://www.eventbrite.co.uk/e/solar-energy-research-in-scotland-tickets-15926047236

Innovation and the Smart Grid

This free workshop is offered by Scottish Enterprise and is targeted at companies interested in developing innovation in the smart grid. Information is promised about the funding available for smart grid innovation and help from Scottish Enterprise for companies wishing to apply for support.

This event is open to all companies with an interest in the smart grid area and will include an overview of available SE funding mechanisms; innovation support, R&D grants and intellectual asset specialist support

A presentation from the Energy Innovation Centre on bringing energy innovation and industry together

To apply http://www.scottish-enterprise.com/events/2015/03/innovation-and-support-for-smart-grid?sc_trk=Click%20SE%20Technologies&ec_as=D69D19D4A50B46A9BF92D7020D2F2E3B

Follow the Energy Academy on Twitter

The Energy Academy has a growing following on Twitter. You can follow what we’re doing by following us @HWUEnergy
Heriot-Watt Academics Made Fellows of the RSE

Two Heriot-Watt professors are among distinguished individuals elected to become Fellows of the Royal Society of Edinburgh.

Professor Mercedes Maroto-Valer, is the first Robert Buchan Chair of Sustainable Engineering at Heriot-Watt University and she leads the Energy Academy initiative.

Professor Vicki Stone is Professor of Toxicology and Director of the Nano-Safety Research Group in the University School of Life Sciences.

Both join the RSE in its work to place the advancement of learning and useful knowledge at the centre of public life in Scotland.

RSE President Dame Jocelyn Bell Burnell, said, “I am delighted to welcome such a wide range of outstanding individuals to the Fellowship. Each of the new Fellows is elected on the distinguished merit of their work. In joining the RSE, they strengthen our capacity to support excellence across all areas of academic and public life, both in Scotland and further afield.”

Professor Duncan Hand, Acting Deputy Principal (Research and Knowledge Exchange) said “We are delighted at this recognition of two of our leading STEM academics who have demonstrated excellence in their respective fields and whose work is having real impact.”

Professor Mercedes Maroto-Valer is also Director of the EPSRC funded Centre for Innovation in Carbon Capture and Storage (CICCS). Her work focuses on developing clean energy technologies, including carbon dioxide capture, transport, storage and utilization. Professor Stone’s work encompasses human and environmental effects of nanoparticle exposure and mechanisms of nanoparticle toxicity.

Well done to both Professors Maroto-Valer and Stone.


Heriot-Watt Energy Academy is sponsoring Cleantech Innovate Scotland in Glasgow 2015. It follows a successful showcase in London at the institute of Mechanical Engineers on February 12th when 36 clean-tech and renewable energy companies pitched for investment. More information and to register

http://www.ecoconnect.org.uk/
Scottish Parliament Invites Energy Academy to discuss Energy Storage in Scotland

Members of Heriot-Watt’s Energy Academy were the guests of Joan McAlpine MSP on Thursday 5th March in the Scottish Parliament where they discussed the future of energy storage in Scotland. We were joined by Brian Richardson, CEO at Dumfries and Galloway Chamber of Commerce and Director of Energy Storage Scotland CIC.

Brian, Professor Sue Roaf and Dr Eddie Owens told the Members present, that Scotland could not deliver its 2020 targets without using energy storage.

Professor Roaf highlighted that Scotland has “an opportunity to join world leaders in the field – but we need to embrace building and community level solar, wind and small scale hydro potentials too. In her vision, a 100% renewable Scotland by 2030 was “not a Problem!” with “a strong vision and sensible investment.”

Dr Owens described a scenario of resource depletion, rising prices and associated fuel poverty, intermittent renewable generation and ongoing concerns over climate change. Solutions such as electric cars may he said “significantly increase demand for electricity.” He argued for “efficient and effective storage solutions” to be applied “if the benefits of renewable generation are to be realised.” “Without storage - nuclear and fossil fuel generation will remain the dominant generation technology.”

Drawing attention to work at Heriot-Watt, and his work on smart metering http://www.origin-concept.eu, he made a case where scale up of this type of technology to regional or national level might increase the uptake of energy generated from renewable resources and reduce carbon emissions.

Why not he suggested “have a “renewables forecast” at the end of every weather forecast” and “provide a “free” App to millions. To see the Energy Academy presentation, paste the following url into your browser. https://www.dropbox.com/s/ixmmlv19u3ame07/Scottish%20Parliament%20March%202015.pptx?dl=0

More information: Professor Sue Roaf (S.Roaf@hw.ac.uk) and Dr. Eddie Owens (E.H.Owens@hw.ac.uk)
OGIC

Innovation Funding in the Oil and Gas Sector

Heriot-Watt is widely known for its research into conventional fossil fuels and unconventional oil and gas. To read more about the Energy Academy’s work in this area, paste the following URL into your browser https://www.dropbox.com/s/solqp4hvuzq9v4/EnergyAcademyPresentation-FossilFuels.pdf?dl=0. We work closely with industry and through established Joint Industry Partnerships.

On February 25th, the Oil and Gas Innovation Centre (OGIC) hosted a seminar to introduce the wide range of government funding available to support innovation in the Oil & Gas sector. To see the presentations from this seminar, paste the following url into your browser http://ogic.co.uk/event/ogic-interface-funding-seminar/

Heriot-Watt Student Building on Tidal Success

Pictured left is the Scotrenewables SRT250 floating tidal energy convertor (250 meaning 250kW). The successor device now being built by Scotrenewables will be around 2MW, but this earlier prototype has undergone extensive trials at the EMEC Fall of Warness tidal test site in Orkney. The success of these trials has encouraged the funding necessary to develop and build the full scale device.

The initial design for the Scotrenewables turbine arose from work by Barry Johnson, a Heriot-Watt PhD student, while he was studying on the University's Orkney Campus. The University was able to secure a Royal Society of Edinburgh and Scottish Enterprise fellowship for Barry to set up Scotrenewables, enabling him to commercialise the concept and secure further funding for its development. The University wishes Barry and the team at Scotrenewables every success with the build and trials of the full scale device. More information J.C.Side@hw.ac.uk

The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

FLEDGE Funding Attracts More Opportunity for Collaborative R&D

A further call for applications for funding under the Heriot-Watt Energy Academy Fledge Funding initiative identified an even greater depth of opportunity for SMEs and companies looking to innovate with Energy Academy engineers and scientists. If you are interested in working in the following areas of energy and energy-related research, please contact the researcher involved:

- Development of advanced functional photocatalytic materials J.Xuan@hw.ac.uk
- Development of ultra-thin solar cells and thin-film thermoelectrics J.Marques@hw.ac.uk
- Development of sustainable concrete slabs for construction applications A.Sanna@hw.ac.uk
- CO2 induced damage of wellbore Cement-Rock Systems ecc1@hw.ac.uk
- Development of sensor and control systems for energy management A.Peacock@hw.ac.uk
- High resolution subsurface imaging and its applications to application to hydrocarbon prospecting O.Laghrouche@hw.ac.uk
- Intelligent Power Electronics D.Flynn@hw.ac.uk
- Modelling of foaming in anaerobic digesters in order to maximise energy (biogas) recovery irk1@hw.ac.uk
Are you working on Solar Energy? Do you need a Test Site?

The Heriot-Watt test site includes three south-facing “bays” where solar photovoltaic, solar thermal devices can be tested in the environment (Latitude 56° N, Longitude 3°W) to make either direct comparison with other technologies and/or by reference to a fully instrumented weather station. Each bay is serviced by both an electrical and a water supply and data acquisition is housed in small enclosures. Available data acquisition includes multiple temperature, voltage and current measurements. For solar thermal applications, water pumping and draw off to match typical household or industrial demand curves can be automated. The weather station monitors wind speed and direction, air temperature and humidity, solar irradiation and report at 10 minute intervals. The test site is modelled using Polysun Software which can be used to predict the performance of either standard or bespoke solar technology. This takes local meteorological data as an input and the results of the model, once verified with the experimental testing are a useful tool to predict performance over a wider range of operating parameters.

If you are interested in working with the Energy Academy on developing solar photovoltaic, solar thermal devices, you can find more about the site at: http://www.eps.hw.ac.uk/institutes/mechanical-process-energy-engineering/renewable-energy-test-site.htm

For more information, contact: T.S.O’Donovan@hw.ac.uk

To learn more about solar energy research in Scotland from Anne-Marie Fuller Scottish Institute for Solar Energy Research (SISER) and Chairperson of the Scottish Solar Energy Group, visit:
http://www.eventbrite.co.uk/e/solar-energy-research-in-scotland-tickets-

Geothermal Energy Challenge Fund launched
Workshops Announced

The Geothermal Energy Challenge Fund has been set up to help support feasibility studies in respect of the capacity of the geothermal resource in abandoned mine workings, hot sedimentary aquifers, and hot dry or hot wet rocks to support a local market and the viability of the identified location(s) as a self-sustaining, economically attractive investment prospect.

The Geothermal Energy Challenge Fund can support up to 100% of selected feasibility projects eligible costs, up to a maximum award of £50,000.

Workshops

2 workshops have been arranged to assist potential Challenge Fund applicants and their consortium partners to better understand the objectives of the Challenge Fund, the application and assessment processes. The workshops will also provide an opportunity to network with other potential interested parties.

Glasgow March 13th

Edinburgh March 16th
http://www.scottish-enterprise.com/services/attract-investment/geothermal-energy-

Heriot-Watt Energy Academy agrees MoU with Universidad Cooperativa de Colombia

The MoU establishes a formal arrangement between Heriot-Watt and Universidad Cooperativa de Colombia regarding a mutual desire to promote teaching, research and other collaborative activity for the mutual benefit of both parties. By the year 2022, the Colombian University hopes to be “a research-teaching oriented university, recognised as one of the most important educational institutions nationwide.”

Commenting on the new arrangement, Professor James Mair said that the MoU created opportunities for “student exchange in areas such as energy engineering, ICIT, marine science and oil & gas.” “Recent funding for developing countries announced by the British Council, Innovate UK and the Newton Fund programme suggest an opportunity for welcome, potential future international collaboration funding for the Energy Academy.”

More information: J.M.Mair@hw.ac.uk
Innovation and Support for Smart Grid

As part of its series of workshops on Innovation and Support for R&D for Smart Grid Applications, Scottish Enterprise held a workshop at Innovi in Glasgow on 5th March to showcase the range of public-sector funding available for R&D in this sector. This includes SMART-Scotland; R&D Grant funding and Seek and Solve.

To view all of the presentations, paste the following Dropbox link to your browser. https://www.dropbox.com/sh/gjo6i7aswy7fo6a/AADunREwVDm3yt9mVOU3XRkga?dl=0

One initiative that may be of particular interest to companies wishing to work with the Energy Academy is the Collaborative Project Scheme that supports B2B linkages between Scottish companies but for which HEIs (the Heriot-Watt Energy Academy are also eligible for support).

Grants are made at an intervention rate of 50% for small and medium enterprises and 40% for larger companies on total eligible costs. More information on this can be obtained by calling on Andrew Ingram at andrew.ingram@scotent.co.uk

Another initiative that may be of interest is the Energy Innovation Centre established to provide links to new markets, customers and funding for SMEs, Universities and start-ups with innovations, ideas and capabilities and solutions and opportunities to its stakeholders including National Grid, Northern Gas Networks, SGN, Wales and West Utilities, Electricity Northwest, Northern PowerGrid, SP Energy Networks, Scottish and Southern Energy, UK Power Networks, AMEY and the Catapults. For more information, copy the following url into your browser http://www.energyinnovationcentre.com/ or e-mail enquiries@energyinnovationcentre.com

For information on further workshops in this Sector, e-mail Lynne Cooper Lynne.Cooper@scotent.co.uk

Heriot-Watt Energy Academy is sponsoring Cleantech Innovate Scotland in Glasgow 2015. It follows a successful showcase in London at the institute of Mechanical Engineers on February 12th when 36 clean-tech and renewable energy companies pitched for investment. More information and to register http://www.ecoconnect.org.uk/
Study Renewable Energy at Heriot-Watt’s Living Laboratory on Orkney

Postgraduate programmes on energy, environment & renewables:

Scholarships may be available

Based at the heart of the renewables industry in Stromness, the Orkney Campus is recognized as a world leader in research, training and consultancy.

The ICIT Campus has particular expertise in renewable energy, marine science and environmental resources and offers a unique opportunity to study in the “hub” of the renewable energy industry in Scotland.

Postgraduate programmes on energy, environment and renewables

- MSc Renewable Energy Development (RED) http://www.postgraduate.hw.ac.uk/prog/msc-renewable-energy-development-red/
- MSc Marine Resource Management (MRM) http://www.postgraduate.hw.ac.uk/prog/msc-marine-resource-management-mrm/7programme=293
- MSc Environmental Interaction of Marine Renewable Energy (EIMRE)
- MSc Marine Spatial Planning (MSP) http://www2.hw.ac.uk/sls/marinemsc/MSP.htm

Also offering MSc RED and MSc MRE through distance learning

For further information contact:
Orkney Campus
The Old Academy, Back Road, Stromness, Orkney, Scotland, KW16 3AW

t: +44 (0) 1856 850605 e: icit@hw.ac.uk w: www.icit.hw.ac.uk

or see http://www.hw.ac.uk/schools/life-sciences/research/icit/postgraduate-
Cleaner, More Efficient Conventional Fuels

Innovate UK in partnership with NERC is to invest up to £6m in collaborative R&D and feasibility studies to stimulate innovation in the extraction and use of conventional fossil fuels.

The aim is to improve efficiency, reduce cost and minimize the environmental impact of coal, natural gas and oil. Projects must be business-led and all must involve an SME.

To view the competition guidelines and guidance notes, type these urls into your browser:

- [https://interact.innovateuk.org/documents/1524978/1866952/Cleaner%20more%20efficient%20fuels](https://interact.innovateuk.org/documents/1524978/1866952/Cleaner%20more%20efficient%20fuels)

- [https://connect.innovateuk.org/documents/1524978/1866952/Cleaner%20more%20efficient%20fuels%20Collaborative%20R%26D%20competition%20guidance](https://connect.innovateuk.org/documents/1524978/1866952/Cleaner%20more%20efficient%20fuels%20Collaborative%20R%26D%20competition%20guidance)

Unconventional fossil fuels such as shale gas, shale oil and tar sands are outside the scope of this competition.

Energy Economics Research and Policy Centre at Heriot-Watt

Heriot-Watt University is setting up a new Centre for Energy Economics Research and Policy with funding of £1.25m over three years from BP.

The new Centre has been established with over £1.25m of funding over three-years from BP and will be involved primarily in providing the detailed statistical and analytical support for BP's Statistical Review of World Energy and its annual Energy Outlook but will also provide an opportunity for the University to engage with and develop wider industry links with other businesses.

Professor Dorrik Stow, Head of Heriot-Watt University’s Institute of Petroleum Engineering will head up the new centre along with Professor of Economics, Mark Schaffer.

Discussing the new Centre, Professor Stow said, “Heriot-Watt is well known for its strong industry links which result in innovative research and enhanced opportunities for students. This Centre will be incorporated into the University's new £20m Lyell Centre which will be the Scottish headquarters for the British Geological Survey (BGS) as well as a major joint BGS/Heriot-Watt University research centre for geological, petroleum and marine sciences.”

For more information on working with the University through the Centre, contact: M.E.Schaffer@hw.ac.uk and D.Stow@hw.ac.uk.
Systems for Extreme Dynamic Environments (SEDE)

Driven by a new frontier of exploration within extreme environments whether subsea, space, or oil and gas exploration a new era of understanding is required into how to design and fabricate systems that provide a means of reaching, assessing and performing functions within previously inaccessible domains.

We need to understand the fundamental mechanisms of how these extreme environments impact materials and cause changes that eventually result in failure in order to design transformational new materials. If we can understand the various mechanisms by which materials fail, modelling throughout the length scales can be used to understand that complex factors that attribute to failure modes, thereby, providing a new view to system design for extreme environments.

It’s hope that the type of challenge that SEDE will address include:

(i) The need for a new design paradigm that delivers reliable system technologies for extreme environments.
(ii) Innovative manufacturing, packaging and assembly solutions for systems deployed in aggressive ambient conditions.
(iii) New sensing capabilities to extend spatial coverage and reduction of data ambiguity in extreme environments.
(iv) Research into in-situ phase transformations that result from extreme dynamic changes in material’s
(v) The creation of materials with intrinsic functional properties for extreme dynamic environments.
(vi) The ability to bridge the modelling between the properties and behaviour of materials from the nanoscale to the macroscopic scale.
(vii) Utilizing nano and microfabrication methods to create materials with intrinsic functional properties for extreme dynamic environments.
(viii) The use of Prognostics and Health Management tools to support the monitoring and design cycle.

By such methods, it’s anticipated that SEDE will lead to new knowledge and the means of applying methods to increase the performance and lifetime limits of systems by an order of magnitude or more and thereby realise the full potential of a new generation of technologies specifically designed for extreme dynamic environments.

Work within SEDE is focused on world-leading, discovery-class research in the fields of material science, computational modelling, system design and prognostics and health management, to create this next generation of systems.

If you are interested in finding out whether you can join SEDE, contact David Flynn by e-mail (D.Flynn@hw.ac.uk) or telephone (0131 451 3942)

Meet Three of Heriot-Watts Female Fellows of the Royal Academy of Edinburgh

Heriot-Watt has three female FRSE’s Professor’s Mercedes Maroto-Valer, Raffaella Ocone, and Vicki Stone. Recently Tina Donnelly Heriot-Watt’s Athena Swan Officer interviewed all three and you can see what she discovered by following Tina on Twitter @HWU-Athena-SWAN or by downloading the following urls into your browser:

http://www.hw.ac.uk/about/careers/athena-swan/interview-prof-mercedes-m-valer.htm
http://www.hw.ac.uk/about/careers/athena-swan/interview-prof-raffaella-ocone.htm
http://www.hw.ac.uk/about/careers/athena-swan/interview-prof-vicki-stone.htm

Business growth opportunities around microgrids

On 30 April, Scottish Enterprise will host a half-day workshop at the Power Networks Demonstration Centre (PNDC) in Cumbernauld to explore opportunities around Microgrids.

Microgrids have global applicability and Scotland is one of the unique places where testing and implementation of new innovations is happening. The workshop will examine the rise of microgrids as an innovative concept for secure and efficient electrical energy provision and highlight how the PNDC can act as a focal point for accelerating developments in this area. It will also examine the international context and landscape of microgrids and business growth opportunities.

The event is aimed at Scottish companies with Smart Grid capabilities e.g. ICT, sensors, monitoring, data analysis or those with a general interest in microgrids.

For further information and to register attendance, please go to the following web link or contact Lynne Cooper, Scottish Enterprise lynne.cooper@scotent.co.uk or 0141 242 8241

Scottish Enterprise Collaborative Projects Funding

In last week’s Newsletter we described funding that is available from Scottish Enterprise for collaborative r&d between businesses but which can also be received by a Research Organization too.

We’ve received some more information from Scottish Enterprise on this initiative and how it works. You can download a link to this information at https://www.dropbox.com/s/o9romwt883e6i52/Collab%20slides.pptx?dl=0

If you are an SME or larger business and you are considering working with Heriot-Watt Energy Academy, this may be of interest.

If you are a researcher and looking for an instrument to facilitate your work with a Scottish company, you can receive funding either as:

- A subcontracted service provider
- A research organization per se. This can be at up to 50% of costs but the lead applicant must be a company
- A commercial partner (where the intention is not to publish the results. In this case you would then be eligible for up to 40% support (25% large co, 15% collaborative bonus if an SME is in the collaboration).

Other key points include:

- This is not a new grant. It is extension of the existing R&D Grant and standard R&D Grant maximum intervention rates apply with potential uplifts.
- An uplift of up to 15% may be awarded if there at least two independent companies in the collaboration undertaking R&D and one is an SME, or if one of the companies in the consortium is based in another EU member state.
- Only the costs of Scottish based partners are supported and the majority of costs should be incurred in Scotland to maximise economic benefit.

All intervention rates quoted are against eligible costs. In the case of research organizations, eligible costs will be no more than 25% of the total consortium project cost. More information: Andrew Ingram <Andrew.Ingram@scotent.co.uk>
Towards a Hybrid Energy Storage System to Balance Energy Supply and Demand

Communities in places not connected to a grid or where the electricity grid has limited capacity face serious challenges to utilize local electricity sources effectively. Most local energy sources are variable and at the same time the local demand varies rapidly over time. To balance supply and demand in a place where only limited amounts of electricity can be imported or exported, any solution has to use an electrical storage unit, a back-up generator, or both.

Heriot-Watt and Gaia Wind Gaia-Wind, the world leading Scottish manufacturer of small scale, high performance wind turbines are working together towards a solution to this problem. The Heriot-Watt team led by Valentin Robu, Wolf Gerrit Fruh and David Corne supported by a grant from innovate UK will apply research carried out at Heriot-Watt for the design and control of a novel wind turbine and storage system being developed by Gaia-Wind. A recent initiative of Gaia is to develop and commercialise a novel system for “weak grid” environments, where the connection to the electricity grid is poor or non-existent, e.g., remote communities or islands. Such a system could include, besides a wind turbine, an electrical storage unit (a battery) as well as a back-up generator (a diesel generator).

The project is challenging which is where the University hopes to be able to augment the knowledge within the Company.

One challenge the team will address is to design the system to balance the electricity not only over short time scales such as a day but also over a seasonal time scale. For this, the wind speed and its variability has to be predicted at the location where the system is installed, to predict the output of the wind turbine over a short and medium time horizon.

A second challenge comes for operating the system: If more electricity is needed than the wind turbine provides, the team will ask of it is better to make use of the battery or is it better to leave the charge in the battery for future use and use the back-up generator instead?

If you are a company and you think that expertise like this could supplement your own internal research and R&D, you might want to contact the Energy Academy @energy.hw.ac.uk. For more information on the project described, contact V.Robu@hw.ac.uk or [need a contact at Gaia]
Energy Storage Research Network (ESRN) Grants Available for PhD Students

The Energy Storage Research Network, in collaboration with the Energy Superstore, the UK’s Energy Storage Research Hub, will fund a number of opportunities to help PhD students registered at UK universities attend events relating to Energy Storage. More information: http://www.esrn.co.uk/latest-news/esrn-student-sponsorships-2015/

DFID Funded Research Programme. Maximising the Economic Development and Poverty Reduction impacts of Large-Scale Energy Infrastructures in Developed Countries

The Energy Academy seeks applications from within Heriot-Watt to build a programme of research in response to a £15 mn call from DFID. If you have expertise in any of the following fields, send your CV, a short biography describing your work and your publications/citations list to energy@hw.ac.uk
- The linkages between electricity supply and economic growth;
- The financial and policy instruments and governance structures that encourage the development and better utilisation of appropriate large scale power infrastructure;
- The role and potential of electricity supply and energy efficiency measures in supporting sustainable urbanisation;
- The constraints in use of large-scale renewable energy sources, or “greener” energy sources;
- An improved understanding of the role of extractives and electricity/energy provision and sustainable development;
- The barriers and opportunities for innovative and appropriate design of larger-scale, centralised energy infrastructure to respond to evolving demand and support inclusive growth.
More information: p.mccarthy@hw.ac.uk or energy@hw.ac.uk

The pan-university Energy Academy, research excellence ranges from solar energy and energy-focused materials through to energy economics, use, policy and logistics.

5th UK Algae Conference

Friday the 10th of July, 2015
John McIntyre Room 201, University of Glasgow, University Avenue, Glasgow, G12 8QQ

The Systems, Power and Energy Research Division at the University of Glasgow will host the 5th UK Algae Conference.

The event registration webpage will open shortly but for more information: j.mcmillan.1@research.gla.ac.uk

Delivering Balancing Services to the Grid

The Energy Academy has opened discussions with Upside Energy a company aiming to build a cloud service that enables households & SMEs to coordinate the energy stored in uninterruptible power supplies (UPS), PV arrays, electric vehicles, heating systems, etc., to create a “virtual energy store” (VES). Upside aims to use this VES to deliver balancing services to the grid, “distributing 75% of (the) revenue back to the original equipment owners.” By doing so, the Company hopes that this will “significantly increase the UK’s capacity for demand response.

The Energy Academy met with Upside Energy at Cleantech Innovate 2015 in London where the Company was pitching to an investor audience http://www.cleantechinnovate.com/presenting-companies/upside-energy/ the audience heard that the Company currently aims to build a 360MWh VES in the UK by 2025, rising to 29GWh globally by 2050 but aims to increase these to 530MWh & 54GWh respectively through collaborations and open innovation.

To do this, the Company’s business model includes an open innovation platform that they have called openVES for developing new algorithms for the VES, which is where the Energy Academy comes in. Upside “intends to make the data & platform available to researchers, PhD students, etc., to develop such algorithms and as better algorithms emerge, they ‘will put them into production and share the benefits with their developers. The Company recently won funding under the DECC Energy Entrepreneurship Fund initiative, a £35 million grant programme for cleantech innovation.

More information: Graham Oakes <grahamdoakes@email.com>

Smart Energy Pricing – Preparing for the Future System

To see the presentation by Chris Stark, Head of Energy, Scottish Government at Geo:Big 5 - Smart Energy, 26th February 2015, type the following link into your browser:
https://www.dropbox.com/s/z8z9xiazm6jmsi/01_ChrisStark.pdf?dl=0

Reproduced with permission of the author. For more information on Chris’ presentation or on Scottish Government policy for renewable energy in Scotland, contact: Chris.Stark@scotland.gsi.gov.uk

UK Life Sciences Launches First Single Site for Searching Government Funded Life Science opportunities.

OK, so not targeted at energy or energy-related R&D per se, but the Energy Academy recognizes that some of its readers are working in areas of science, engineering and manufacturing activities available to the health life sciences industry including bio-pharmaceuticals; medical biotechnology; or medical technologies (devices and diagnostics) and we think that this site may be of interest to them. Funding may also be available indirectly through collaboration with academic or other industry partners. For more information https://www.lifesciences.ukti.gov.uk/access-funding/
SHFCA-ETP 'Energy Conversions & Energy Storage'
Glasgow 6th March 2015

Presentations now available

Links published with permission of the SHFCA


More information: nigel.holmes@shfca.org.uk or http://www.shfca.org.uk/

Research into Fuel Poverty

The Eaga Charitable Trust is inviting grant applications for its next funding round. The Trust provides financial support for work that contributes to understanding and addressing the causes and effects of fuel poverty. It aims to promote a sound evidence base to underpin decision-making in relation to the public’s health and wellbeing and combating fuel poverty.

For more information on the Eaga Charitable Trust’s 2015 grant programme and its priority areas, and for details of how to apply for a grant, please visit the Trust’s website at http://www.eagacharitabletrust.org/index.php/grants-offered.

For an application form and details of intervention rates, please visit http://www.eagacharitabletrust.org/index.php/how-to-apply-for-a-grant.

The Trust will accept the inclusion of “an appropriate and reasonable share of overhead costs within a project budget (in addition to the project’s direct costs) on condition that the applicant explains to the Trustees’ satisfaction:

- what the overhead costs include;
- how the applicant analysed the full costs; and
- how the allocation was calculated.”

The bid deadline is 5pm on Monday 1 June 2015.

Initial Potential Capacity Assessment for the Implementation of a Scotland-Wide Solar Water Heating Systems Installation Plan in the Domestic Sector

As a follow-up to the Energy Academy’s presentation to MSPs at Holyrood on March 5th, in this edition of the Newsletter, we offer a link to a report written by Heriot-Watt’s Professor Sue Roaf and George Andreadis (EGIS) on initial estimate of the potential installable capacity of water heating systems (SWH) in Scotland to give decision makers a feel for the cost, energy and carbon emission reduction impacts of mass installation. This was a private & confidential technical report funded by ICARB (www.ICARB.org) and undertaken by a research team at Heriot-Watt University for the Scottish Government and is reproduced here by kind permission of the author.

To read the article Download it from here: https://www.dropbox.com/s/4ne9r1w4bwu75qw/ICARB%20Report%20on%20SHW%20carbon%20emission%20reductions%20potential%2028RevA%29.pdf?dl=0. For more information, contact: Professor Susan Roaf: s.roaf@hw.ac.uk and/or George Andreadis: georandr1@gmail.com.
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Are You Developing Hydrogen Storage?

In this edition of the Newsletter we’ve opened up the last page to Marc Stanton, Commercial and Marketing Director for Clean Power Solutions Ltd. Marc is looking for companies interested in developing hydrogen storage and has provided the Energy Academy with information on the Company’s technology. We take no responsibility for, or offer any warrants on the technology described but Marc writes:

“A new energy system created by Clean Power Solutions Ltd, Smart Power Ltd, ActaSpa Hydrogen Electrolysers, and Giacomini hydrogen boilers, has found a solution to the problems of providing fuel to remote locations or those locations off the gas grid. This development offers the ultimate solution to all small to medium scale, heat and power problems. The revolutionary system means that properties could now use rainwater to create Hydrogen which can be used as heating or even vehicle fuel.

The system takes the excess power produced by renewable energy systems and converts rainwater through a membrane electrolyser into Hydrogen. The Hydrogen is then used in a Giacomini, Hydrogen central heating, catalytic boiler to heat the property. For larger installations, the Hydrogen can also be used as vehicle fuel in suitably converted vehicles.

This means that a property could be energy self-sufficient and never have to pay electricity or heating bills again or even fill up the car and would in fact create a government guaranteed income for the next 20 years.

Clean Power and Smart Power have based their research department at the Fife Research and Innovation Centre in Methil and they are interested to hear from companies interested in developing Hydrogen storage and use.

For more information: Marc Stanton marc@cleanpowersolutions.co.uk

To see a video of the system download the File from DropBox at https://www.dropbox.com/s/7wd7d2w1ooh3vz5/Clean%20Power%20Solutions.mov?dl=0

If you want the Energy Academy to feature your innovation in our Newsletter, particularly if you are looking for B2B collaboration in Scotland or R&D support from our Energy Academy researchers and engineers, write to: Energy@hw.ac.uk