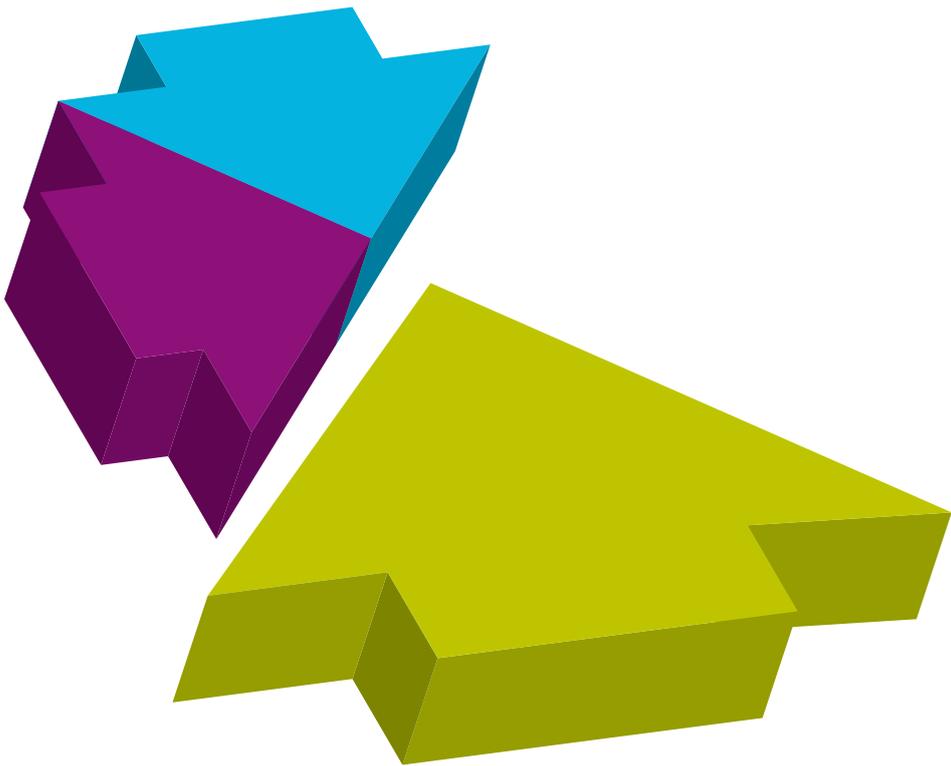


ENERGY, ENVIRONMENT & SUSTAINABILITY



IDEAS RESEARCH INSTITUTE

Innovation, DDesign And Sustainability

IDEAS is a new multi-disciplinary research centre encompassing the disciplines of Engineering, Computing, Architecture & Built Environment and Art & Design.

It builds on acknowledged international research excellence, exploiting the rich potential of the interfaces between these diverse disciplines.

Our key research theme are:

Creativity, Design & Innovation

Digital Technologies

Energy, Environment & Sustainability



**ROBERT GORDON
UNIVERSITY • ABERDEEN**

ENERGY RESEARCH GROUP



Our mission is to engage in cutting edge research to provide solutions to the current and future operational and technological challenges of the oil and gas industry.

www.rgu.ac.uk/eng/research/page.cfm?pge=43848

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OIL AND GAS CURRENT PROJECTS

- The Mare's Tail® Produced Water Management System
- Intelligent Variable Slot Screen System (VSSSTM)
- Sand Management Network (SMN)
- Unconventional Reservoir Management [Heavy Oil & Condensate]

ASSET AND INTEGRITY MANAGEMENT

- Asset Diagnostic, Prognosis, Monitoring and Management
- Non Destructive Testing (NDT)
- Integrity Management of Ageing offshore installations
- Decommissioning of offshore Infrastructures

RENEWABLES (RNW)

Robert Gordon University has been involved in renewable energy research since 1995 and continues to contribute at an international level.

We have strong capabilities in numerical resource modelling for all renewables, CO2 footprint quantification and management, energy balancing and optimal technology selection for any application, and project due diligence.

We are presently analysing the tidal current resource of Guernsey so that the States of Guernsey can build an appropriate seabed licensing system, and have just been selected as the lead academic institution (supported by Oxford & Edinburgh) for the collaborative renewable energy project between the Scottish Government and the Government of the Maldives

OIL AND GAS

Our People

Professor B. Oyenyin
Dr M. Hossain
Dr G. Oluoyemi
Ms B. Vijayakumar

Our Focus

Well & Reservoir optimisation
Sand management
Flow assurance
Drilling optimisation, Multiphase flow

ASSET AND INTEGRITY MANAGEMENT

Our People

Professor I. Steele
Dr J. Andrawus
Dr E. Adom

Our Focus

Asset integrity
Condition monitoring

RENEWABLES

Our People

Dr A. Owen
Dr M. Hossain
Dr D. Ali

Our Focus

Tidal wave energy
Wind energy
Turbine, Fuel cells

ENVIRONMENTS FOR PEOPLE RESEARCH CENTRE



www.rgu.ac.uk/sss/research

**IDEAS
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ACTIVITIES

Research in architecture and the built environment at Robert Gordon University relates to national policy and social agendas and usually involves the solution of practical problems. There is a high degree of collaboration between disciplines, with industry and with professional and public bodies. Most research is based around the 'Environments for People' Centre, with a focus on social, economic and physical resource sustainability and evaluation of the design of built environments in terms of their ability to meet the needs of people.

The centre brings together a team of surveyors, architects, social scientists, physical scientists and engineers. The Centre reflects our belief that producing successful architecture and built environments is predicated on their evaluation by reference to the widest possible group of people for whom they are designed.

The diverse issues we have dealt with include the design of assistive technology systems, the modelling, planning and design of urban open space, social issues arising from new ways of building houses, the sustainability of new housing, mapping social research on architecture across Europe, life-cycle issues in the design of hospital environments and understanding of experience in virtual environments.

Research undertaken by the centre deals with the assessment of present and future built environments in terms of their suitability for the people for whom they are designed, and is also underpinned by a practical grounding in the design, production and assessment of innovative, ground-breaking buildings, mostly in the field of housing, achieving national and international recognition.

CENTRE FOR UNDERSTANDING SUSTAINABLE PRACTICE (CUSP)



www4.rgu.ac.uk/cusp/general/

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BACKGROUND:

The Centre for Understanding Sustainability in Practice (CUSP), a £0.5 million virtual centre brings together a broad range of cross-faculty academic expertise in energy, business, architecture and social subjects from the Robert Gordon University. The newly established Centre works closely with the Centre for Research in Energy and the Environment (CRE+E), aiming to educate and inspire people to embrace sustainable practice in their daily lives.

ACTIVITIES:

CUSP will seek to change thinking, behaviour and practice, focusing on sustainable development, in all areas of activity by individuals, organisations and government. The University is committed to applying the principles of sustainable development to its estates management with particular emphasis on environmental management systems, energy sustainability, waste management, green travel planning, Fair Trade status and procurement.

CUSP will assist to develop and deliver teaching modules at both undergraduate and postgraduate level covering general sustainability issues and/or the specific application of sustainable practices in relevant degree subjects. Topics for study are likely to include: water use, treatment and reclamation; energy (renewables, technology optimisation, resource modeling, conservation) carbon management, building design and energy use; business applications; travel and transport. The research model for CUSP includes resource for PhD studentships and research undertaken by staff.

The centre also aims to form strategic partnerships with schools, colleges, local authorities, professional bodies, industry organisations and the voluntary sector with a view to incorporating sustainability as part of the policy making and strategic agenda for any organisation.

CUSP will seek to identify individuals, businesses, local authorities and institutions willing to incorporate sustainability projects into their activities. The initial work will be to understand the barriers that constrain the uptake of sustainable practices. CUSP will offer consultancy to organisations on developing sustainable practice within their environments.

THE CENTRE FOR RESEARCH IN ENERGY AND THE ENVIRONMENT



www4.rgu.ac.uk/cree

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CRE+E -THE CENTRE FOR RESEARCH IN ENERGY AND THE ENVIRONMENT

ACTIVITIES:

The Centre for Research in Energy and the Environment is a multidisciplinary group with expertise in applied research in environmental monitoring, taggant development, labels and sensors, advanced water and air treatment technology and environmental catalysis. The research is primarily directed towards solving problems and technology transfer and involves consultancy, industrial partners and national and international collaborations. Research interests have been developed in terms of National and EU Government priorities, which address many environmental challenges facing the world. The multidisciplinary Centre including physicists, chemists, biologists, mechanical and electronic engineers and environmental scientists and is split into 3 Groups: Environmental Sensing and Monitoring, Renewable Energy/CUSP and Water Sustainability. With 9 purpose built laboratories incorporating a diverse range of advanced optical/laser equipment, excellent analytical facilities, materials processing and a range of advanced water treatment reactors and sensors, our flexibility is second to none.

The Environmental & Sensing subgroup group develops environmental sensors and tracers for detecting a range of compounds in air, water and soil and has been involved in the development of reference materials and monitoring regimes. The sensors developed are mainly based on spectroscopy and electrochemical technologies allowing remote or in-situ detection. Novel taggants have also been developed which can be utilised in a wide range of applications not only in environmental monitoring and tracer studies but also as security taggants and as medical labels.

The group also carries out industrial consultancy to the oil industry developing, optimising and exploiting the chemistry/biology of target species and detection systems to solve a range of problems giving complete integrated solutions.