ANNUAL RESEARCH REVIEW 2015-2016

Department of the Natural and Built Environment

Architecture
Construction
Environment
Geography
Housing
Planning
Real Estate
Surveying
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INTRODUCTION

Welcome to the annual review for the Department of the Natural and Built Environment at Sheffield Hallam University, for 2015-2016.

Our department provides a home for academics and students who want to understand, design and shape our world. We bring together the disciplines of architecture; planning; housing; construction; real estate; surveying; geography; and the environment. We also have a national and international reputation for our applied, industry-focused research. Our established partnerships with industry and the professional sectors promote the transfer of knowledge, and underpin teaching and learning across the department.

We often work in partnership with our associated research centre, the Centre for Regional Economic and Social Research (CRESR). In collaboration with CRESR, our subject area was ranked first among 23 modern universities and eleventh of all UK universities in the Research Excellence Framework (REF) 2014 exercise.

This annual review provides a summary of how we approach our research, and notable research achievements during 2015-16. These include maintaining high level outputs and conference presentations, a flourishing doctoral research programme, book awards, invited national and international lectures, and new invitations to join prestigious organisations and professional bodies both regionally and internationally.
DNBE RESEARCH OVERVIEW

The Department of the Natural and Built Environment (DNBE) includes a diverse range of academic disciplines, but with one purpose - to contribute to making the world a better place. We aim to find practical solutions to real world problems. Our research and scholarship activities seek to understand the impact of social, environmental and economic changes on society, focusing on both local and global trends and challenges. Drawing on this understanding, we contribute to the better design and planning of spaces and places. We hope to benefit individuals, communities and society through social, economic and environmental improvement - sustainable development in its widest sense.

In collaboration with CRESR, our subject area (Architecture, Planning and Built Environment Unit of Assessment 16) was ranked first among 23 modern universities and eleventh of all UK universities in the Research Excellence Framework (REF) 2014 exercise. Over 80% of our research was assessed as "world leading" (4*) or "internationally excellent" (3*).
In order to support and extend our research activities, staff focus their research through six informal research groups, from the strategic and global level, to local solutions to practical problems:

- **Space and Place** (led by Dr Luke Bennett)
- **Environmental Science and Environmental Management** (led by Dr Kevin Spence)
- **Planning** (led by Rob Stevens)
- **Housing and Neighbourhoods** (led by Dr Angela Maye-Banbury)
- **Sustainable Design, Architecture and Construction** (led by Gabriel Tang)
- **Construction Materials** (led by Steve Hetherington)

Each of these groups has a programme of research aims and activities, and each group supports staff to further develop and extend their own research and scholarship.

During 2015-16, DNBE staff achieved some notable personal successes in relation to their research activities. Liz Laycock was awarded her chair in the field of stone conservation, and joins our existing six professors - Lynn Crowe, Barry Goodchild, Julian Marsh, Paul Stephenson, Ian Rotherham, and Norman Wienand. Luke Bennett gained his PhD last year based upon his extensive record of peer reviewed publications (and is now a Reader). Dr Richard White was also awarded a Readership during 2015-16.

The department continues to support the following members of staff to enable them to complete their research degrees:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Work based learning in non-standard delivery courses, including the new Degree Apprenticeships</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Examining the cultural practices of international students with respect to assessment strategies within the UK higher education system.</td>
</tr>
</tbody>
</table>

Gary Dacosta  
Sarah Dickinson  
EdD  
PhD
<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Research Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Grant</td>
<td>PhD</td>
<td>Aquaponics: A food production method to help realise a domestic dwelling's environmental autonomy.</td>
</tr>
<tr>
<td>Kaeren Harrison</td>
<td>PhD</td>
<td>Place and the interface in late 20th century mass housing.</td>
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<tr>
<td>Anna Hawkins</td>
<td>PhD</td>
<td>Problematic consumption practices and change.</td>
</tr>
<tr>
<td>Daniela Hawryliuk</td>
<td>PhD</td>
<td>Focusing on academic and vocation education in the housing industry.</td>
</tr>
<tr>
<td>Tim Howarth</td>
<td>PhD</td>
<td>Construction project bank accounts and supply chain emancipation: A critical exploration.</td>
</tr>
<tr>
<td>Andrew Jones</td>
<td>PhD</td>
<td>Influence of ice sheet bed morphology on ice flow in Greenland.</td>
</tr>
<tr>
<td>Paul King</td>
<td>PhD</td>
<td>Digital fabrication and methods of making in relation to the future practice of architecture and education of architecture students.</td>
</tr>
<tr>
<td>Frances Robertson</td>
<td>PhD</td>
<td>The future practice of Architectural Technology: informing practice and education</td>
</tr>
<tr>
<td>Rob Stevens</td>
<td>PhD</td>
<td>Understanding the processes of policy agenda-setting for planning and economic development within city regions as locations of policy.</td>
</tr>
<tr>
<td>Gabriel Tang</td>
<td>PhD</td>
<td>The use of deployable grid shells as reusable, reconfigurable and intuitive formwork for concrete shell construction.</td>
</tr>
<tr>
<td>Jonathan Took</td>
<td>PhD</td>
<td>Sensory design in construction.</td>
</tr>
<tr>
<td>Sam Vardy</td>
<td>PhD</td>
<td>Approaches to re-politicising the production of urban space, through a study of self-organised spatial practices.</td>
</tr>
<tr>
<td>Micah Wilson</td>
<td>DBA</td>
<td>Key Performance Indicators in the construction industry</td>
</tr>
</tbody>
</table>

All DNBE staff are supported and encouraged to undertake research and scholarship activities, and all our staff have individual profiles, which can be viewed on-line at - [www.shu.ac.uk/about-us/academic-departments/natural-and-built-environment/staff](http://www.shu.ac.uk/about-us/academic-departments/natural-and-built-environment/staff).
CENTRE FOR REGIONAL ECONOMIC AND SOCIAL RESEARCH

Our staff work closely with our associated research centre in the Faculty of Development and Society - the Centre for Regional Economic and Social Research (CRESR).

As a leading UK policy research centre, CRESR seeks to understand the impact of social and economic disadvantage on places and people, and assess critically the policies and interventions targeted at these issues. CRESR clients include government departments and agencies, local authorities, charities and foundations, international organisations, and the private sector.

DNBE academics are often involved in CRESR research projects focused on communities, regeneration, and planning. During 2015-16, we were also pleased to welcome Aimee Ambrose to the department, on secondment from CRESR, in order to strengthen our research links. In a further development, Dr Angela Maye-Banbury was seconded for a short period from DNBE to CRESR to develop our expertise in sourcing and applying for funding, and to promote research collaboration between DNBE and CRESR colleagues.

More information about the work of CRESR can be found on their web site - www4.shu.ac.uk/research/cresr/.
DNBE RESEARCH AND CONSULTANCY PROJECTS

DNBE research and scholarship activities seek to understand the impact of social, environmental and economic changes on society, and then to draw on this understanding to contribute to the better design and planning of spaces and places. Ultimately, this leads to the creation, management and maintenance of improved built and natural environments. An important focus of our work is to develop contract research in partnership with government agencies, private industry and non-governmental organisations, and to provide support to community groups.

Working with communities and non-governmental organisations to understand and improve local environments

- Professor Ian Rotherham is continuing a collaboration utilising citizen science with the British Ecological Society and the Peak District National Park Authority, focusing on landscape history, peatland management and engaging urban communities with their local environment.

- Professor Lynn Crowe and Dr Catherine Hammond are undertaking a research study funded by the Campaign for National Parks, the National Trust, and the Campaign for the Protection of Rural England, to investigate trends in the application of the major development test in planning proposals in English and Welsh national parks. This report will provide recommendations to develop policy to better protect these nationally significant landscapes.

- Dr Angela Maye-Banbury and Dr Rionach Casey are jointly leading an oral housing history research project with the Irish communities in Leicester and Manchester. Since 2014, Angela has acted as Consultant Oral Historian with the Emerald Centre on their Heritage/Lottery life history project. In autumn 2016, Angela will complete further interviews with the Irish community in New York in partnership with the New York Irish
Centre. Angela is also working on the collation and analysis of further oral housing histories of people in China.

- Dr Angela Maye-Banbury is also working on an on-going study of the women who collaborated with Le Corbusier. The project entitled 'Souls of the Machine' focuses on the hidden stories of a number of women who worked closely with Le Corbusier, namely Eileen Gray, Charlotte Perriand, Reiko Hayama and Jane Drew. A series of events is intended (in collaboration with Paul King) in December 2017.

- During 2015-16, we were pleased to welcome Aimee Ambrose to the department, working with us on secondment from CRESR. During the last year, Aimee has continued to work on projects such as a review of affordability initiatives for the Consumer Council for Water; research into tenancy failure amongst social housing tenants aged under 35, with the Hyde Housing Group and partners; an evaluation of the Wigan Deal for Warmth programme for Wigan Council; and a review of energy efficiency in the private rented sector for the Eaga Charitable Trust.

**Supporting Government Agencies and Local Authorities**

- Paul King and Sam Vardy are working in collaboration with Patrick Murphy of MADE NORTH, as part of Sheffield Design Week 2016 and the Sheffield Institute of Arts Catalyst festival. They are designing and fabricating a series of pavilions which will be displayed throughout the City of Sheffield to promote architecture and design.

- Professor Liz Laycock is undertaking a project with Historic England looking at replacement stone for the temple of Concord at Audley End in Cambridgeshire. Liz has also been asked by Historic England to assess the use of hydrophobic coatings to better protect and maintain the structures of historic buildings.
• Simon Kincaid works with the cultural heritage section of the Peak District National Park Authority, including quinquennial inspections of listed buildings within the National Park. Simon has also recently contributed to a consultation on the protection of non-listed heritage assets: the English Heritage Historic Farmsteads Project. This aims to develop a toolkit for assessing the significance of farmsteads based on their character, form and function. He has also been involved in a project to set up a new form of 'Buildings at Risk Survey' for South Yorkshire Buildings Preservation Trust (again working in partnership with the Peak District National Park Authority).

**Partnerships with industry and our professional sectors**

• Dr Kevin Spence has been developing an Enhanced Mentored Internship in collaboration with Network Rail over the last year.

• Professor Liz Laycock and Steve Hetherington have completed a programme of durability testing of Magnesian limestone samples to determine a suitable replacement stone for the Palace of Westminster. Steve Hetherington has also published in *Masonry International* on a comparative study into the performance characteristics of natural hydraulic lime and Portland Cement mortars.
• Dr Barry Haynes is working on two potential research projects with Mitie (a leading facilities management services provider) to explore a trial of SHU energy, asset and workplace analytics solutions, alongside a knowledge transfer partnership to share expertise across energy and workplace disciplines.

• Simon Kincaid is undertaking research at Chatsworth House Estate in Derbyshire, to investigate recent upgrades to fire safety and interactions between these requirements and the restrictions imposed by conservation concerns (because of the importance of the Grade I listed building fabric and character); and how this potential conflict has been resolved by cooperation between Chatsworth, the local authority and the architect.

**International research collaboration**

Of course, much of our research work has an international dimension, and we have worked closely with institutions and agencies from around the world over the last year.

• Dr Luke Bennett convened a series of sessions at the 2014 Royal Geographical Society’s Annual International Research Conference in London, at which 18 international researchers met to present their studies of public engagements with the ruins of Cold War military bunkers. Luke was commissioned to coordinate and edit the session’s proceedings - *In the ruins of the Cold War bunker* (due for publication in August 2017). This project has required Luke to co-ordinate contributors from the US, China, Norway, Germany, the Netherlands, Albania and the UK, who are working in disciplines including art, architecture, anthropology, archaeology, history, tourism studies, real estate, performance studies and cultural geography.

• Dr Barry Haynes completed a research project with Nick Nunnington (Nottingham Trent University) for the RICS looking at workplace productivity in the Middle East, leading to the production of specific design guidance for inclusion in the next
Best Practice Guide produced by the Middle East Council of Offices.

- Since 2014, Dr Angela Maye-Banbury has acted as Consultant Oral Historian with the Emerald Centre in Leicester on their Heritage/Lottery life history project. In autumn 2016, Angela will complete further interviews with the Irish community in New York in partnership with the New York Irish Centre. Angela is also working on the collation and analysis of further oral housing histories of people in China.

- In March 2016, Angela was appointed visiting Professor of Applied Research Ethics at the Centre for Applied Research Ethics University of Linköping, Sweden.

- Dr Rionach Casey is leading the Multi-generation Households (MGHs) Project in Britain and internationally. The team, which includes Angela Maye-Banbury, commenced field work in July 2016 and will undertake further international fieldwork in Australia or New Zealand in summer 2017.

- Aimee Ambrose is a Newton Fund and British Council bursary holder for knowledge transfer between UK and Turkey under the International Energy Security theme 2016. Aimee has been a UK National Expert Advisor on the International Energy Agency since 2012. Aimee is also Visiting Fellow at the Centre for Sustainability, University of Otago, New Zealand, 2015.

- We were pleased to welcome Professor Xiaorong Qian, Director of the Chemical Experiment Centre, Yancheng Institute of Technology, China to our department, as a visiting international scholar in July 2016. Xiaorong will be working with Mike Heath for three months, particularly focusing on water quality and environmental monitoring systems.
• Gabriel Tang is working in collaboration with the Sheffield Institute of Arts to design and build timber grid shells within the SHU city campus. This project involves ARUP Sheffield, research specialists from ETH Zurich (Switzerland) with potential funding from the Dutch government, expertise from Herzog and de Meuron's architectural office (Switzerland) as well as Edinburgh Napier University. This construction project aims to popularise innovative lightweight structures as a sustainable construction typology.

• We also work pro-actively with our research colleagues in European institutions through funded programmes such as Erasmus. Dr Mike Heath has developed a link with the University of Chemistry and Technology, in the Czech Republic, supporting PhD students in their work on contaminated land remediation. In a further development from that collaboration, Mike is assisting colleagues at a geotechnical company, Teramed, to create a Eureka proposal to develop an in situ tool for measuring ground moisture in relation to slope stability. Fieldwork is planned near Prague and at Mam Tor, in the Peak District, in partnership with Mike's Czech colleagues and Teramed. Eureka is a European network for industrial research and development, funded by the EU.
• In Finland, we have an Erasmus link with the Tampere University of Applied Science (TAMK), where Dr Mike Heath is an invited lecturer providing geological teaching support and participating in their annual International Week for Engineering. Mike’s Finnish colleague, Dr Eeva-Liisa Viskari, visits Sheffield each year to lecture on our postgraduate courses, with a particular focus on sustainable sanitation.

• Professor Ian Rotherham was an invited guest of Masaryk University, Brno and the Czech Botanical Society, for a week-long lecture tour in 2016.

• We also welcomed Dr Gintaras Stauskis from Vilnius Gediminas Technical University, Lithuania, working with our Architecture group. Dr Stauskis is developing a Horizon 2020 bid for next year, working with our colleagues, Aimee Ambrose and Marie May.

Interdisciplinary Research

We also collaborate with other researchers in different faculties across SHU on a variety of interdisciplinary projects:

The cross-University **SHU Space and Place Group** is run from within DNBE by Dr Luke Bennett. The group aims to identify, showcase and promote cross-disciplinary scholarship on the theme of space and place. The group has been running for four years and its themed workshops (for example on spatial methodologies; sound and place; educational spaces) have attracted participation from across the institution (and beyond), fostering innovative collaborations and conversations.

**Built Environment Energy and Consumption Research Group**

The Built Environment Research Group provides a link between our Department, the Centre for Regional Economic and Social Research, and the Materials and Engineering Research Institute. Its focus is on the sustainability and liveability of cities, considering these issues in
relation to energy efficiency, access to energy and social inclusion. Within this broad remit, the group investigates a number of themes, each pursued by different researchers. The following projects have been led by DNBE research staff:

- **Resilience and flood risk** - Dr Rebecca Sharpe is leading on research in urban water engineering and management. Her research is particularly focused on human interactions with manmade (clean and waste water supply networks) and natural water systems (river water quality and flooding). An example of her current research activity is the resilience of small firms and their dependent communities to flood risk.

- **Sustainable consumption** - John Grant's research focuses on establishing an adaptive and resilient strategy for domestic housing, through the concept of the "Autonomous House", including on-site energy production, thermal comfort, water consumption and waste water treatment, and on-site food production.

- **Urban planning** - Professor Barry Goodchild is our main researcher in relation to urban planning in this group. Barry’s view of urban planning is as a means of shaping the physical form of the lived environment. Urban planning is therefore an integrating activity, but also an exercise in governance. Much of Barry’s work has been about land, housing development and housing design. Recent work has focused on planning theory and socio-environmental theories of risks and sustainable development.

**Outdoor Recreation Research Group**

The Outdoor Recreation Research Group was launched at SHU in 2015 as a cross-faculty group bringing together academics with an interest in outdoor recreation issues - economists, ecologists, social scientists, behavioural scientists, and tourism experts. Professors Lynn Crowe and Ian Rotherham of DNBE are closely involved in the network.
Two pieces of research from the ORRG have been undertaken in the last year -

• **Sheffield Outdoor Economy Report** - commissioned by Sheffield City Council, and led by the Sports Industry Research Centre at SHU, with Lynn Crowe acting in an advisory capacity. This has resulted in Sheffield City Council developing a promotional campaign for Sheffield as the Outdoor City, and we remain closely involved in that initiative.

• **National Outdoor Recreation Strategy - Preliminary Review of Strategies** - a report for the Department of Culture, Media and Sport, undertaken by Lynn Crowe, Maxine Gregory and Rob Copeland, and feeding into the development of a new national outdoor recreation strategy.

**Nature Connections Research Group**

Professor Lynn Crowe is working with colleagues in the Department of Psychology, Sociology and Politics, supporting the Nature Connections Research Group. Lynn presented a paper at a recent NCRG conference in Derby, based on research undertaken by one of her students, Nick Heath, investigating how different characteristics of the natural environment can improve mental health and well-being. Academics and agencies involved in similar work across the UK set up this national network to further promote research in this field ([https://www.facebook.com/groups/382340125223528/](https://www.facebook.com/groups/382340125223528/)).
Academics in the Department of the Natural and Built Environment have published a wide range of books, journal articles and reports during 2015/16, as well as presenting at many different conferences around the world. The following list is organised under our research group themes, and the DNBE authors are highlighted in each reference.

**Environmental Science and Environmental Management**

**Books and Book Chapters**

Journal Articles and Reports


### Conferences and Presentations


Planning, Housing and Neighbourhoods

Books and Book Chapters


Journal Articles and Reports

- **Ambrose, A.,** Eadson, W and Pinder, J (2016), *The role of actor-networks in the early stage mobilisation of low carbon heat networks*, Energy Policy online first


• **Goodchild, B.** (2015) *Once Upon a Time...How to tell a good energy efficiency story that 'sticks'*, Proceedings of the ECEEE Summer Study, European Council for an Energy-Efficient Economy, Presqu’île de Giens, France (Sea Rotmann, lead author).


Conferences and Presentations


- **Ambrose, A.** (2016), *Understanding user perspectives in low energy housing in the UK*. VGTU Vilnius, May 2016


- **Maye-Banbury, A.** (2016) *Story telling and the Irish Housing Pathway Experience - The Evolution of An Inductive an


**Space and Place**

**Books and Book Chapters**

- **Bennett, L** (2016) Chapter 4: *Thinking like a brick: Posthumanism and building material* in Taylor, C. & Hughes, C.


**Journal Articles and Reports**

- **Bennett, L.** & Layard, A. (2015), *There are eight million stories in the Naked City – an editorial to the Law & Geography Special Issue*, International Journal of Law in the Built Environment, 7(1), 1-2.


• **White, R.J. & Williams, C.C.** (2016) "*Beyond capitalocentricism: are non-capitalist work practices 'alternatives'?*", AREA, doi: 10.1111/AREA.1226

**Conferences and Presentations**

• **Bennett, L.** (2016) *Meaning making in abandoned quarries’ at the ‘Cultural Geologies of Ston,’* panel session at the Royal Geographical Society Annual Conference, London (August 2016)

• **Bennett, L.** (2016) *On going too quickly through walls* at the Perec's geographies/Perecquian Geographies Symposium, University of Sheffield, May 2016.


• **Bennett, L.** (2015), *Archaeology & Real Estate* at the CHAT 2015 (Contemporary and Historical Archaeology in Theory) conference, Sheffield, October 2015.

• **Patterson, A.** (2016) *Restructuring Water Management: from private... to public... to private... to 'not for profit*. American Association of Geographers Annual International Conference, San Francisco, 30 March, 2016.

• **White, R.J.** (2015) *Critical Animal Geographies and Anarchist Praxis: a call to move beyond the animal “question” and toward the animal “condition”*. Critical Animal Geographies Panel,


- **White R.J.** (2016) *On the need to recognise the Beautiful Flowers of Anarchy (as well as the seeds beneath the snow)*, Association of American Geographers (AAG) Conference, San Francisco, April 2016.


**Sustainable Design, Architecture and Construction**

**Books and Book Chapters**


**Journal Articles and Reports**


**Conferences and Presentations**


Congress for Architectural Technology, 15 May, 2016, Alicante, Spain. Published in the conference proceedings.


OTHER INDICATORS OF ESTEEM

We take pride in both our academic scholarship and our contribution to our relevant professional sectors through applied research and knowledge transfer activities. These indicators of esteem demonstrate the impact which our research has finding solutions to real world problems.

Our Head of Department, Professor Norman Wienand, is Chair of Research in the Chartered Institute of Architectural Technologists and a Member of the QAA sub committee responsible for rewriting the QAA Subject Benchmark Statement for Architectural Technology. Norman is also a Member of the Royal Institute of British Architects (RIBA) Validation Panel, Affiliate Member of RIBA (via the Academic Membership Programme), and a Member of the Standing Council of Heads of Schools of Architecture (SCHOSA).

Professor Lynn Crowe continues to act in an advisory capacity to a range of UK government agencies, including Natural England's Science Advisory Committee, and various non-governmental organisations.

During 2015-16, Lynn was an active member of the South Yorkshire Local Nature Partnership, and an invited member on the Sheffield Green Commission. The Sheffield Green Commission's final report Sheffield's Green Commitment was published in February 2015, and provides a view of Sheffield's future as a truly sustainable city. The report's recommendations focus on sustainable travel; a green outdoor city; secure and sustainable energy and housing; and a learning city. Lynn is currently working with the SHU Sustainability team to take the report forward within our University.

Professor Barry Goodchild was invited to join the expert panel for planning on the UK Economic and Social Research Council in 2015.
Barry is also one of three UK national experts for the International Energy Agency demand-side management programme, essentially concerned with behaviour change and sustainable consumption. He was invited to chair the conference 'Building Quality, Affordable Starter Homes in the UK' organised by 'Inside Government' and held at the Royal College of Surgeons, central London, 17 March 2016.

Professor Liz Laycock has been elected to the Council for the International Masonry Society.

Professor Paul Stephenson was appointed to the Scientific and Technical Committees of several national and international conferences and professional bodies during the past year, including: the International Structural Engineering and Construction (ISEC) 2015, Sydney, Australia; the Construction Applications of Virtual Reality (CONVR) 2016, Hong Kong, China; and the Sustainable Ecological Engineering Design for Society (SEEDS) 2016, Leeds, UK.

Dr Angela Maye-Banbury is on the editorial board of the Journal of Resistance Studies, and is a member of the Oral History Society and the Oral History Network of Ireland. Angela is also a member of the European Network of Housing Researchers, and the Scientific Ecological Engineering Design for Society (SEEDS) international committee with Leeds Beckett University.

Dr Luke Bennett's cross-disciplinary research on the afterlives of modern ruins ranges across contemporary archaeology, cultural geography, real estate, urbanism, environmental law and risk studies. In recognition of his novel expertise in both law and cultural geography, Luke was invited to be a co-investigator on a £1million grant bid to the Arts & Humanities Research Council for funding of a major research project to study the stabilisation of the former St Peter’s catholic seminary at Kilmahew, near Glasgow. The proposed project would study the ways in which aesthetic engagements with ruins can be balanced with concerns for site safety and security within the proposed stabilisation works to be carried out across a four year period. The proposed study would feature embedded ethnography amongst the professional team, alongside evaluation of
experimental and aesthetic interventions at this internationally renowned iconic modernist ruin during the works programme. At the time of writing (September 2016) the bid has received strong commendation in peer review and is currently awaiting final decision.

Gabriel Tang has undertaken a range of activities related to sustainable design, including being interviewed by the BBC on 15 September 2015 for a programme entitled "Nine Incredible Buildings Inspired by Nature". Gabriel was also an invited speaker at a symposium/workshop entitled Making Homes, Making Rural- Artist in Residence in Berwick-Upon-Tweed: Sanders van Raedonck organised by the Centre of Rural Economy, University of Newcastle and Northumbria County Council, 17 March 2016.

Gabriel Tang was also a keynote speaker at the Fabric Formed Concrete Workshop/Symposium 2016 at Nanking Southeast University, China. In addition to delivering his keynote address, Gabriel is part of an international panel of academics and practitioners invited to supervise the experimental construction of a fabric-formed seismic/anti-earthquake concrete wall as part of a research project for the duration of his invited two week visit to China.

Coinciding with the British release of Gabriel's book entitled Timber Gridshells: Architecture, Structure and Craft (co-written with Prof John Chilton, University of Nottingham), is a public lecture series where academicians and practitioners reflect and share their experience and insight into innovative lightweight structures construction. Parallel to these lectures, and supported by TRADA (Timber Research Association UK), there will be an exhibition at Sheffield's Millennium Gallery to showcase innovative timber construction.

Sam Vardy has been an invited speaker at East Street Arts, an arts organisation in Birmingham, with a guest lecture entitled Micro-politics of Spatial Self-Organisation. Sam was also a co-organiser of the Family Activist Network, Paris, France as part of COP 21, the Paris climate change conference in November, 2015.
Dr Richard White is on the editorial board of ACME: an International E-Journal for Critical Geographies, and is a reviewer for the following journals Antipode, AREA, Gender Work & Organisation, Peace Studies, International Journal of Sociology and Social Policy. In 2015-2016, Richard also reviewed proposed monographs and new book editors for the following publishers in Oxford University Press, Rowman & Littlefield, Routledge, and acted as a reviewer for the Economic and Social Research Council (ESRC, UK) First Grants Competition 2015/6.
DOCTORAL RESEARCH PROGRAMME

DNBE has a broad programme of doctoral research, with 21 research students from around the world working under supervisors in DNBE (and some based in CRESR). Six students successfully completed their research degrees in 2015-16. These students work on collaborative research with industry and governments, or research which is centred on staff interests and the requirements of our professional sectors and other stakeholders.

Research students are appointed based on research proposals that are seen to relate to the department and its supported research themes, or as part of funded research through Knowledge Transfer Partnership, government and other external funding bodies and associations.

The Graduate School within the Faculty of Development and Society provides support and training for our postgraduate research degree candidates in order to equip them with the skills, knowledge and techniques required for carrying out their research.

Applications can be made on-line with intakes normally in September and May each year: - (https://www.shu.ac.uk/study-here/find-a-course/graduate-school).
# COMPLETED AND CURRENT PHD/MPHIL RESEARCH

We would like to congratulate the following research students, who successfully completed their research degrees in 2015/16:

<table>
<thead>
<tr>
<th>Student</th>
<th>Degree</th>
<th>Supervisory Team</th>
<th>Thesis Title</th>
</tr>
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<tbody>
<tr>
<td>Huwaida Tahir</td>
<td>PhD</td>
<td>Paul Stephenson Barry Haynes</td>
<td>A Project Control Framework for the Libyan Construction Industry</td>
</tr>
<tr>
<td>*Lindsay McCarthy</td>
<td>PhD</td>
<td>Kesia Reeve (CRESR) Rionach Casey</td>
<td>(Re)Negotiating the Self: Homeless Women's Constructions of Home, Homelessness and Identity</td>
</tr>
<tr>
<td>Khalifa Elawej</td>
<td>PhD</td>
<td>Mike Heath Keith McCoy Adrian Pitts</td>
<td>A Framework for the Evaluation of Air Pollution Caused by Motor Vehicles</td>
</tr>
<tr>
<td>Fatma Saeed</td>
<td>PhD</td>
<td>Paul Jones Jane Eastham (SBS) Andy Jobling</td>
<td>The Libyan Fisheries Sector: A Critical Application of Porter's Diamond Model</td>
</tr>
<tr>
<td>Barry Wright</td>
<td>PhD</td>
<td>Ian Rotherham John Rose</td>
<td>A Critical Assessment of Botanical Indicators as Historic Markers in Wooded Landscapes</td>
</tr>
<tr>
<td>Mohammed Gasim</td>
<td>PhD</td>
<td>Paul Stephenson, Barry Haynes</td>
<td>A framework for evaluating material management performance in Jordanian concrete building projects</td>
</tr>
<tr>
<td>Mohammed Alzohbi</td>
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<tr>
<td>Athina Zisi</td>
<td>PhD</td>
<td>Paul Stephenson, Barry Haynes, Adrian Pitts</td>
<td>Criteria for success in developing sustainable neighbourhoods</td>
</tr>
<tr>
<td>Intesar Ibrahim</td>
<td>MPhil</td>
<td>Ian Rotherham Paul Stephenson Lynn Crowe</td>
<td>A comparison between two national parks in Libya and England.</td>
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(* Students based in CRESR)

The following research students are continuing with their studies:

<table>
<thead>
<tr>
<th>Student</th>
<th>Degree</th>
<th>Supervisory Team</th>
<th>Thesis Title</th>
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<tr>
<td>Iman Laeirj</td>
<td>PhD</td>
<td>Kevin Spence Liz Laycock</td>
<td>A Holistic Approach to Identify Important Factors within Housing in Eastern Libya</td>
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<tr>
<td>Claire Beaumont</td>
<td>PhD</td>
<td>Paul Stephenson Barry Haynes</td>
<td>The Principles and Practices of Shallow Depth Soil Stabilisation/Solidification</td>
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<td>Osama Sasi</td>
<td>PhD</td>
<td>Kevin Spence Elizabeth Freeman</td>
<td>Design of a healing residential environment for Libyan veterans</td>
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<td>Name</td>
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<td>Supervisor(s)</td>
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<td>Kiri Langmead</td>
<td>PhD</td>
<td>Richard White, Peter Wells</td>
<td>Exploring the Performance of Democracy and Economic Diversity in Worker Co-operatives</td>
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<td>Chris Dayson (CRESR)</td>
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<td>Ali Maimon</td>
<td>PhD</td>
<td>Barry Goodchild, Paul Hickman</td>
<td>Housing Quality in Malaysia: An Assessment of Current Practice</td>
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<td>Aimee Ambrose</td>
<td>PhD</td>
<td>Barry Goodchild</td>
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<td>Peter Wells</td>
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<td>Speake Beth</td>
<td>PhD</td>
<td>Kesia Reeve, Rionach Casey</td>
<td>Welfare Reform as Structural Violence: Women and the Impact of Benefit Sanctions</td>
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<td>Elmansuri Seham</td>
<td>PhD</td>
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<td>Courtyard Housing in Tripoli: Tradition, Modernity and Users' Perceptions</td>
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<td>Russell Moore</td>
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<td>Bangkok's mass-transit system: Gentrification, displacement and housing preferences</td>
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<td>Sarah Chittenden</td>
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<td>Spatial Planning’s Role in Implementing Biodiversity Protection through Green Infrastructure</td>
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<td>Ali Allafi</td>
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<td>Wilter Malandi</td>
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<td>The Ecological Impacts of Recreational Trails in a Tropical Protected Area</td>
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<td>Suzanne Leckie</td>
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<td>Faysal Shaba</td>
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<td>Sadeg Kamouka</td>
<td>PhD</td>
<td>Michael Heath, Stephen Jay</td>
<td>Environmental Impact Assessment (EIA) Application to Oil and Gas Projects in Libya</td>
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SHARING OUR RESEARCH

As a leading applied University, we aim to share the findings of our research widely - to benefit our own students through teaching and their own research, to contribute to growth and sustainable development within our region, and to support our professional sectors nationally and internationally. During 2015-2016, we have undertaken a series of seminars, workshops, professional events and conferences, alongside departmental publications, in order to disseminate our research more widely.

Our department publishes two in-house journals - Built Environment Research Transactions and Natural Environment Research Transactions. These journals showcase research work by our students and staff. Copies are available on-line at http://research.shu.ac.uk/ds/bert/ and http://research.shu.ac.uk/ds/nert/.

Our associated research centre, CRESR, also publishes an online journal People, Place and Policy (http://extra.shu.ac.uk/ppp-online/) to provide a forum for academic debate around issues of urban policy, social and economic regeneration, housing and the labour market. Articles deal with the situations and experiences of people and places struggling to negotiate the opportunities, constraints and risks within contemporary society.
As well as our own internal monthly research seminar series, sharing ongoing research and scholarly activity by our staff and research students, we also organise an annual DNBE Student Research Showcase, to celebrate the best research by our undergraduate and postgraduate students. This event provides an opportunity for students to share their research work with colleagues at the beginning of their own research careers and creates a shared research culture across the whole Department.

Alongside our annual Student Research Showcase, our architecture and architectural technology students display their final design projects at their annual Summer Show in June. This event is also open to professional practitioners and the public. The show celebrates our students' innovative approaches to social and environmental challenges in the built environment.

A programme of events, conferences and workshops throughout the year allows us to share our research findings and professional expertise with a wider audience. The following events were held in 2015-2016:

- **21 Oct. 2015**  |  *Regenerating Town Centres* - RTPI Conference Series in partnership with DNBE.
- **29 Oct. 2015**  |  *The Grand Alpine Tour* - with Mark Allen - A joint guest lecture with the Royal Geographical Society and the Geographic Association
- **11 Nov. 2015**  |  *It's the little details that make a place* - SHU Space
and Place Research Group workshop

13-14 Nov. 2015  *Oliver Gilbert: A Life in Ecology* - a conference to celebrate the work and inspiration of Ollie Gilbert, with a focus on his great contribution to the field of urban ecology and post-industrial landscapes.

19 Nov. 2015  *Living with Istanbul's Earthquake Threat* - with Professor Iain Stewart - A joint guest lecture with the Royal Geographical Society and the Geographical Association


8-10 Feb. 2016  *SHU Communities Week* - Sheffield Winter Gardens

15 March 2016  *Digital data and technology in outdoor recreation research* - Annual research conference in partnership with the Outdoor Recreation Network.

16 March 2016  *Spatial Planning for Resilient Places* - RTPI Conference series in partnership with DNBE

6 April 2016  *Sustainable Homes Discovery Event* - in partnership with Green Homes Sheffield.


As well as organised events and publications, many of our staff work closely with our professional sectors and with the media to disseminate and share our research findings more widely. DNBE staff appeared on television and radio, and in other local and national media throughout the year, providing expert opinions on issues of both local and national significance.

Professor Ian Rotherham is well known for his appearances emphasising the importance of our natural and cultural heritage. Ian has a regular weekly column in the local Sheffield Star newspaper and a monthly public phone-in programme on BBC Radio Sheffield.

Professors Ian Rotherham and Lynn Crowe, and their DNBE colleague, John Grant, featured in the Sheffield Green Commission's `SHED Talks` in July 2015 at Sheffield Hallam University. These short presentations from a wide range of academic and industry experts were delivered to a public audience to help share research findings and raise awareness about environmental issues. All the presentations can be watched again on https://www.youtube.com/watch?v=nrgGRRFF0E4&feature=youtu.be

Other DNBE staff have undertaken outreach work with our related professional bodies and other organisations. For example, Dr Naomi Holmes works as a STEM ambassador, talking about her research expeditions to local schools. Naomi has also run workshops (with British Exploring) at the Royal Society Partnership Grants Conference, and coordinated the science programme for a youth expedition to the Indian Himalayas. One of the expedition projects is in collaboration with Dr Rob Storrar, and the results from this project will be presented at the British Society for Geomorphology conference in September 2016.
CONCLUDING REMARKS

As a department we are determined to support the development of our staff as researchers. This document demonstrates our continued success in this pursuit in maintaining links with industry and a strong emphasis on applied research. It is also central to our mission that we continue to nurture strong links and synergies between research and teaching, thus contributing to a high quality teaching environment and student experience. The very positive ambition is that all staff and students are part of a research culture that is shared with the region and beyond, fuelled simply by curiosity and a thirst for knowledge. This is a position that is driven by a clear understanding of the vital role of research in a modern, teaching focussed university.

Professor Norman Wienand

Head of the Department of the Natural and Built Environment
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