Workshop – building interdisciplinary working across the University

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Prof Jon Fairburn

Started as a Geographer, then studied Geographic Information Systems. Worked in Geography Department – multiple EU projects working with engineers, health, business, law and film disciplines

- Working with staff across disciplines
- Working with University service staff
- Working with students across disciplines

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Prof Jess Power NTF 2016
Associate Dean Students
Creative Arts and Engineering
Twitter - @Jess__Power__

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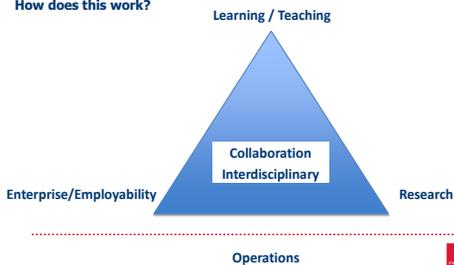

- **Background Varied**
  - Design / Engineering (Inter-discipline)
  - Fashion, Knitwear (Jaeger), combined knowledge of both disciplines
  - Technical textiles (PhD), DTI funded project
  - Teaching Post (various positions both in research, T&L and student experience)
  - Leadership

- **Breakthrough – Project based in Art and Design (RAE)**
  - Entrepreneurial mind-set
  - Project was a real success: impact (student, staff, commercial sector, university)
  - MBA – Interdisciplinary in HE
  - NTF and chair (underpinning research)

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How does this work?

Learning / Teaching

Collaboration Interdisciplinary

Enterprise/Employability   Research

Operations

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What do we mean by "collaboration"?

- **Cross disciplinary: viewing one discipline from another**
- **Multidisciplinary: same problem independent perspectives**
- **Interdisciplinary: integration of disciplines**
- **Transdisciplinary: problem specific integration**
  - **joint problem solving, science & society**

Interdisciplinarity: Involves the combining of two or more academic disciplines into one activity. It is creating something new by crossing boundaries, and thinking between them.

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Concept of interdisciplinary

Interdisciplinary working has been recognised as a key contributor in solving complex social problem (DIUS, 2008; QAA 2012, BIS 2016)

- DC promotes design led approaches to problem solve / co-create (Feb 2018)
- The RAE - individuals who can work together in multidisciplinary teams are better equipped to deal with complex challenges (RAE, 2012).
- Grant (2012) engineering and design graduates need to be exposed to stimulating environments that promote entrepreneurial mind sets and cultures leading to novel ideas to expose creative flair but also sustainable networks and connections to bring them into fruition.
- The Design Council advocates "design" as a means to addressing complex social issues and offers multidisciplinary as a solution with "design" placed as the foundation of discipline integration (DC, 2015).
- The Academy of Management stressed the importance of expanding research and teaching interest beyond business to support complex problem (1970)

Benefits
- **Sustainable solutions to complex problems**
- **Refining current research problems at their interface**
- **Providing stimulus to discipline area**
- **Challenge current knowledge and understanding**
- **Develop new methodical approaches**

Challenges
- **Discipline silos**
- **Understanding epistemological perspectives**
- **Commercial sector (trust)**
- **Cross-fertilization across discipline boundaries**
- **Interdisciplinarity is largely a new concept on UK HE**
- **Skill set in HE underdeveloped**

Farmers on film project

Local business woman – Sarah Gayton wants to promote Staffordshire food in the year of Olympics 2012. So
- Wrote a bid to get a small sum of money £3K
- Working with James Fair (Film Lecturer) we set a brief for 150 L4 (First year) film students.
- To produce a 3 minute film

Aim

To produce a high quality film to support and promote farming, food producers and tourism in Staffordshire for the 2012 Olympics.

You will be involved with filming some or all of the following:
  a. farmers and food producers
  b. butchers, bakers
  c. local pubs/hotels that make use of local produce
  d. farmers markets
  e. food festivals
  g. Organisations such as Young Farmer meetings, National Farmers Union, Tourist office

- 4 to 5 in a team (approx. 150 students)
- Pitch of idea in wk4/5 to academics and farming reps
- Had to include – team roles, risk assessment, research on the topic, interview questions, research on previous student films, timeline for production
- Feedback at pitch and possible contacts
- Internal showing of film in week 12
- Showing of all films at Stoke Your Fires Film Festival – invitation to all people who were in the films and presentation by the Vice Chancellor to winning team

https://vimeo.com/channels/farmersonfilm/

Winning Film for Red Lion Farm

https://vimeo.com/33020160

- Press release on winninig Podium Award - http://www.staffs.ac.uk/news/farmers-on-film-scoops-olympic-award-win-tcm4246017.jsp

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Task

- Allocate teams
- Introduce yourselves and your roles at your University

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Turning Problems into Opportunities

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Task – Sustainability

- Devise a programme for a week at a University
- Identify stakeholders
- Identify what different parts of the University could do
- Think about the offer from different disciplines AND university services
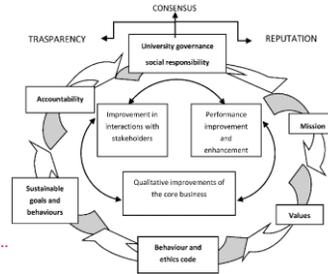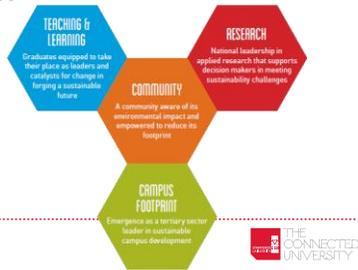- Include any examples form your own University that you are doing

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Hint

www.unglobalcompact.org

EU Sustainable development goals 2030

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Feedback from teams

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Some examples

- **TEACHING & LEARNING** — Graduates equipped to take their place as leaders and catalysts for change in forging a sustainable future
- **RESEARCH** — National leadership in applied research that supports decision makers in meeting sustainability challenges
- **COMMUNITY** — A community aware of its environmental impact and empowered to reduce its footprint
- **CAMPUS FOOTPRINT** — Emergence as a tertiary sector leader in sustainable campus development

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Some ideas

- What is taught ?
- What is the operation of the University? Waste, energy, travel….
- What is researched?
- What can the services offer?
- What new products or services could be developed?
- What University policies support staff and students? Communication is a big part

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Resources for Sustainability Week

- Degrees that Matter: Climate Change and the University (2007) by Rappaport A & Hammond Creighton S https://mitpress.mit.edu/books/degrees-matter - fantastic book, very practical and identifies problems that you may face

- EU Sustainable Development Week late May https://www.esdw.eu/
- EU Sustainable Energy Week every June https://www.eusew.eu/

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Further Reading

- Design Council (Feb 2018) Designing in the public sector. https://www.designcouncil.org.uk/sites/default/files/asset/document/Design_in_public_sector_evaluation_feb18.pdf
- Elsevier, (2015). A review of the UK's interdisciplinary research using a citation-based approach. HEFCE.
- Evans, S. (2016) Latest Insight into Graduate Recruitment: AGR Survey 2016 Discovery graduates http://www.discovery-graduates.com/latest-insight-into-graduate-recruitment-agr-survey-2016/
- Power, E. J. (2016) 24 hour interdisciplinary Challenge, Experiential Entrepreneurship Exercises Journal - Enabling More Active Entrepreneurial Classrooms Through Sharing, Learning & Doing ISSN: 2374-4200 (online) Volume 1, page 70-75. Issue SI-ETC (special issue is a collaboration with "ETCToolkit" www.etctoolkit.org.uk). http://launchideas.org/wp-content/uploads/2016/05/EEEJ-Issue-ETC-Special-Issue.pdf
- Power, J. and Handley, (2017) J. A best-practice model for integrating interdisciplinarity into the Higher Education student experience "Studies in Higher Education".
- Power, E.J. 'Experiential learning in Practice''. In: Experiential Learning for Entrepreneurship. London, UK: Palgrave Macmillian. June 2018).
- RAE (2012) Educating engineers to drive the innovation economy, The Royal Academy of Engineering - www.raeng.org.uk/innovationeconomy
- Thomas, L., Hill, M., O' Mahony, J., Yorke, M. (2017) Supporting student success: strategies for institutional change. What works, HEA

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Innovative Creative Exchange (ICE)

- **VPI – Jonathan Sand (Vexillifer)**
- **Interdisciplinary /challenge-led collaborations (complex and commercial)**
- **Dynamic and unique environment**
  - **outside the traditional curriculum**
  - **UG (second years) engage in challenges-led learning**
  - **challenges cross discipline boundaries (newness)**
- **Disruptive parameters to impact on learning**
  - **time controlled environments**
  - **challenging students both creatively and technically (competitive)**
  - **developing entrepreneurial skills – mindset**
  - **co-creation**

ROYAL ACADEMY OF ENGINEERING

Honeypot ICE

7 hour commercial challenge

It's a fun and creative event. I really enjoyed it. Very useful event, we should have more interdisciplinary activities to encourage the type of idea generation that has happened today."

...today was thoroughly interesting and very relevant to my studies…I feel informed and [it] will leave me with a lot to think about, and a fresh boost of creativity

"We were told in a guest lecture how SPEED is crucial – so this is great practice and an awesome piece to put in my portfolio

https://www.youtube.com/watch?v=kweKC560BP4

24-hour Wicked challenge

"judging the 24-hour design challenge was a pleasure and revealed an impressive arsenal of talent the University of Huddersfield has amongst the students. ...... When placed under pressure, right brain instinct coupled with pragmatic decision making, causes inventive and exciting concepts and solutions. Events like the 24hr Design Challenge are a great example of where you'll see this in action." David Bailey UX BBC

"It has been an unbelievable experience that has offered me the chance to not only meet new people and make **forever friends,** but **learn things in industries** that I have no knowledge of at all. I would recommend it to anyone not only as a **confidence building** experience but also the chance to pursue an idea or concept that you wouldn't otherwise get the opportunity to even look at **(VALUE)."** Student

Analysis

...To my surprise the value of the ICE challenge has been not only in the high pressure work itself, but in the experience & highlighted importance of cross discipline student **collaboration**. Personally as a designer, Project Blue has demonstrated an ability to not only craft and develop an idea into strong brand identity but then weave that brand into a styled companion digital role out & animation, all of which have become highly **transferable skills** when working in **industry.** Student

"The ICE project for me has been such a beneficial experience **(VALUE).** I've learnt **skills** which I would never have gained through my degree and I'm still being offered brilliant opportunities and **meeting new people** due to taking part in this project. I am very grateful to the university staff members who mentioned it to me – it has definitely been worth it." Student

BLUE BIN
-Interior Design – Heather Braddock
-Graphic/Animation – James Betts
-Electrical Engineering – Philippa Hazell
-Product Design – Alex Li

- **Friendship**
- **Commercial**
- **Skills**
- **Collaboration**
- **Value / benefit**

Bridging the gap between Engineering, Design and Business

- Embedding Interdisciplinarity
- Partners with the commercial sector
- Networking
- Funded by ROYAL ACADEMY OF ENGINEERING

Finalist - WAAA "The Wearables for Good Challenge" 2015

Honeypot | ICE