



**Interdisciplinary Learning and Teaching
Conference**

7 April 2022

Liberal Arts and Natural Sciences

University of Birmingham

Mapping Interdisciplinarity

Thank you to Liberal Arts and Natural Sciences at the University of Birmingham for hosting this event.

This is the 6th year of the conferences and it is great to see how they continue to go from strength to strength.

Liberal Arts and Natural Sciences – University of Birmingham

The School of Liberal Arts and Natural Sciences has been at the forefront of teaching multi-, inter-, and transdisciplinary for the past eight years. Integrative thinking is at the heart of what we do and we have established a thriving and diverse community of interdisciplinarity practitioners.

The School offers programmes at both undergraduate and postgraduate research opportunities.

We have a vibrant extra-curricular set of activities, including a guest speaker seminar series, an annual research festival which showcases student enquiry and entrepreneurship success, and a cultural programme of events which range from jazz performances to woodland excursions.

Liberal Arts and Natural Sciences, University of Birmingham, is proud to be hosting the sixth Interdisciplinary Learning and Teaching conference.

Keynote Speaker

We are especially delighted to welcome our Keynote Speaker, Samuel Abraham, who rector/President of the Bratislava International School of Liberal Arts and Managing Director of ECOLAS – the European Consortium of Liberal Arts and Sciences. He is a native to Czechoslovakia, but studied in Canada between 1980 and 1990, first at the University of Toronto (1984-1988) and then at Carlton University (MA 1990), obtaining his PhD in Comparative Politics and Political Philosophy also at Carlton University.

He returned to Czechoslovakia in 1990 and helped to establish the first political science department in Slovakia at Comenius University in Bratislava where he taught for 14 years on topics related to political theory, comparative politics, and post-communist transformation. In 1996, he founded the *Society for Higher Learning (SHL)/Výberový vzdelávací spolok (VVS)* and he is the publisher and editor-in-chief of journal *Kritika & Kontext* (www.kritika.sk) published in English and Slovak. In 2009, he co-founded and has served as managing director of ECOLAS -- European Consortium of Liberal Arts and Sciences which is a network of liberal arts schools and programs throughout Europe (www.ecolas.eu).

Interdisciplinary Learning and Teaching Conference 2022

Mapping Interdisciplinarity: Finding Our Way

PROGRAMME

Please note that this is subject to change

09:00	Arrival and Coffee	
09:30	Opening Address and Welcome	
09:35	Keynote: Interdisciplinarity in a Liberal Arts Context: the Reform of the Bachelor Degree in Europe after the Pandemic, Samuel Abraham, Bratislava International School of Liberal Arts (BISLA)	
10:50	Refreshments - Break	
11:10	Papers	
11A1	Helping students find their bearings on an interdisciplinary Foundation Year	David Ibitson and Madeleine Newman, Lifelong Learning Centre, University of Leeds
11A2	Sharing experience across disciplines: a resource for helping students be 'inter-'	Scott McLaughlin, University of Leeds
11B1	Navigating Interdisciplinarity through a Sustainability Lens	Salma Alarefi and Kashmir Kaur, University of Leeds
11B2	Playing with interdisciplinarity in liminal spaces: an institutional perspective	Elaine Brown and Beatriz Acevedo, Anglia Ruskin University
11C1	Assessing by doing	David Earle and Katrine Lindvig, Co-Navigator
11C2	Application of CoNavigator to facilitate interdisciplinary integration as part of the Interdisciplinary Research Process	Rianne van Lambalgen and Febe de Vos, Utrecht University
11:50	Change	

12:00	Workshops	
12AW	Integration through Coaching	Mattia Gallotti, Isaiah Wellington-Lynn, Ash Brockwell, María Angelica Madero, The London Interdisciplinary School (LIS)
12BW	From 'what if?' to 'what is'	Debby Gerritsen and Katusha Sol, University of Amsterdam
12CW	Choreometry - realising interdisciplinary pedagogies in choreography and geometry	Kathryn Pugh, University of Bedfordshire
12:40	Lunch/Networking	
13:30	Papers	
13A1	Taking postgraduate science students out of their comfort zone: challenges, approach and reflections on one interdisciplinary unit	Alison Harvey, University of Manchester
13B1	Reflections on facilitating student-led, undergraduate, inter-disciplinary research projects; Design, Challenges, and Outcomes	Daniel Edmondson, University of Bolton
13B2	Personal-Knowledge Relationships: Understanding Undergraduate Relations to Knowledge beyond Disciplinary Boundaries	Meerav Shah, Durham Ex-Student
13C1	Possibilities and Practicalities of the Interdisciplinary Maths Classroom	Joanna Stell, University of Cambridge
13C2	Integration as and Emergent Property of Interdisciplinarity	Sharon Woodill, University of Central Florida, USA
14:10	Change	
14:20	Papers	

14A1	Co-creation on an interdisciplinary degree for mature students: becoming postdisciplinary	Catherine Bates, Lifelong Learning Centre, University of Leeds
14A2	Teaching wicked problems: interdisciplinary approaches to thinking in complex systems	Jillian Terry, London School of Economics and Political Science
14B1	Levering into a three-part conception of sustainable development when teaching 'population'	Romain Chenet, University of Warwick
14B2	Collaboration, shared grades and group accountability in Midwifery education	Christopher Little, Jodie Preston and Julia Farrington, Manchester Metropolitan University
14C1	It's good to talk: developing professional learning through an interdisciplinary community of practice	John Parkin and Deborah Caws, Anglia Ruskin University
14C2	Students as Change Agents: Mapping interdisciplinary learning at Edinburgh Futures Institute	David Overend, Seongsook Choi and Andy Cross, University of Edinburgh
15:00	Refreshments and Change	
15:20	Workshops	
15AW	Interdisciplinary exploration of your campus	Katusha Sol and Rosanne van Wieringen, Institute for Interdisciplinary Studies, University of Amsterdam
15BW	Interdisciplinarity in practice: From delivery to assessment	Leda Mirhahai, Dawn Collins, Farhan Noordali, Helen Nolan, Richard Clay, Filipa Alpeza, Rebecca Campbell, University of Warwick
15CW	Becoming interdisciplinary: reflecting backward, designing forward	Morven Shearer and Laura Meagher, St. Andrews University
16:00	Final Comments – Plenary Session	
17:00	Networking	

Presentations – Abstracts – Biographies

11A1

Helping students find their bearings on an interdisciplinary Foundation Year

David Ibitson and Madeleine Newman, Lifelong Learning Centre, University of Leeds

Mapping Interdisciplinarity
Foundation Year - Level 0 UK

The Arts and Humanities Foundation Year at the University of Leeds provides an interdisciplinary introduction to subject-specialist degree study for learners from widening participation backgrounds at Level 0. We have integrated a framework to make module learning interdisciplinary, but importantly to help students get their bearings and to understand its usefulness and purpose. With our students intending to progress onto a specific degree, interdisciplinarity ensures students are equipped with wide-ranging perspectives to give them control over their own development. A quest towards being ‘truly interdisciplinary’ frames our reflections year-on-year. However, recent curriculum adaptations following the COVID-19 pandemic have led us to integrate interdisciplinarity in new and unexpected ways. We will explore established strategies and those we developed for module delivery during the pandemic lockdowns of 2020, and how we as tutors have had to find out what interdisciplinarity means to us through trial and error.

While interdisciplinarity engages and inspires undergraduate learning journeys, we must also navigate practical considerations. Our paper will address what we have learnt about interdisciplinarity in practice using case studies from three modules: ‘modernity and the body’; ‘communication and social media’; ‘gender and the renaissance’. Our students have space to explore how these concepts can be explained in interdisciplinary ways, and to learn to articulate this. As a result, our students are in a unique position to start their degree having found their bearings in a number of subjects; from this they are able to navigate their own way in their future degree, rather than pre-set paths.

Dr David Ibitson is a Teaching Fellow in Arts and Humanities at the Lifelong Learning Centre, University of Leeds.

Dr Madeleine Newman is Programme Manager for Arts and Humanities in the Lifelong Learning Centre at the University of Leeds. She has led the Arts and Humanities Foundation Year programme since 2013.

11A2

Sharing experience across disciplines: a resource for helping students be 'inter-'

Scott McLaughlin, University of Leeds

Methods of Integration

Undergraduate, Taught Postgraduate, Postgraduate Research

This paper will discuss aims-of and responses-to my resource 'Interdisciplinary Learning: Working Across Disciplines'. The premise for developing this resource was to provide students with the tools to successfully navigate working in any interdisciplinary context. The core of the resource aims to facilitate understanding of the variety of perspectives and assumptions we carry in relation to our disciplinarity; in terms of to both normative practices (what is done in different disciplines) and knowledge (how do different disciplines value knowledge). The activity of the resource includes relevant and foundational reading, but leans significantly on the student cohort sharing their own disciplinary perspectives to learn from each other.

This resource exists in two forms: (1) a standalone two-week FutureLearn MOOC; and (2) a single-semester module at level-1 that begins with the FutureLearn MOOC, then proceeds to explore that knowledge by auditing four further two-week MOOCs across a range of disciplines. The module was designed to be introductory-level, but because interdisciplinarity can be encountered for the first time at any level of study/research the module is suitable for any level. As such, the presentation discusses responses from three different contexts: non-Leeds students taking the MOOC; level-1 Leeds students taking the single-semester module; PhD students on an explicitly interdisciplinary Doctoral Training Programme using it as a training resource.

Scott McLaughlin is an Irish composer and improviser based in Huddersfield (UK). He started out as a shoegaze/experimental guitarist before studying music in his 20s at University of Ulster then MA/PhD University of Huddersfield. Scott lectures in composition and music technology at the University of Leeds, and co-directs CePRA (Centre for Practice Research in the Arts). His research focuses on contingency and indeterminacy in the physical materiality of sound. Scott recently completed an AHRC Leadership Fellowship, the Garden of Forking Paths project, on composing for contingency in clarinets — forkingpaths.leeds.ac.uk.

11B1

Navigating Interdisciplinarity through a Sustainability Lens

Salma Alarefi and Kashmir Kaur,
University of Leeds

Methods of Integration

Pre sessional for Undergraduate and Taught Postgraduate

In the wake of CO26, higher education institutions have a key role to play in equipping students with sustainability literacies and competences to enable them to drive the net-zero greenhouse gas emissions transition. The UK higher education, the world most international, have the potential to accelerate a Global transition through youth empowerment. Arguably, most existing efforts on sustainability education are infused in silos and remain to be limited to the curriculum periphery. This talk therefore presents an interdisciplinary case study outlining how sustainability was the chosen vehicle to navigate a diverse range of postgraduate pre-sessional students – engineering (Mechanical, Electronical & Electrical and Chemical Processing), computer science and transport – to develop their academic literacies to enable them to fully contribute to an interdisciplinarity environment.

The theme of sustainability broke down barriers and engaged students to develop their agency and student voice through peer learning and group critical reflection in an inclusive manner embodying a sense of belonging. Learning through the cultural lens of interacting with others is a key factor in knowledge construction (Vygotsky, 1962/1978; Piaget, 1985; Bandura 1977).

While peer learning provided the students a social space to restructure and reformulate new understandings and simultaneously collaboratively developing their academic discourse and confidence in their abilities (Woolfolk, 2001), Weekly group reflections on the learning enabled a supportive and interactive interdisciplinarity environment for multi-perspective critical reflections and possibilities for transformation - potentially leading to new appreciations and understandings and changed perspectives – and challenging themselves and others (Boud et al., 1985; Schon, 1991).

Dr Salma MS Al Arefi holds a PhD in Computing and Electronic Systems from the University of Essex (2018). Salma is an award-winning teaching fellow in Electrical Power Systems and fellow of the Higher Education Academy. She is the Academic Inclusivity and Student Success Lead at the School of Electronics and Electrical Engineering and a Fellow of the Leeds Institute for Teaching Excellence. The focus of her pedagogy is largely concerned with inclusive STEM education and sustainable development education.

Kashmir Kaur is a Lecturer in English for Academic Purposes at the University of Leeds where she currently teaches on the pre-sessional PGR programme and leads the Language for Engineering summer programme. Kashmir convened the Language in Context Sustainability module, an interdisciplinary module embedding the United Nations Sustainable Development goals and Critical EAP, which was recognised in the 'Building Knowledge and Capacity' category at the University's 2019 Sustainability Awards. Kashmir also received the 2021 Leeds Partnership Feedback Award which recognises 'the person who provides invaluable and supportive

academic feedback, in both content and delivery method, which helps others to develop and excel in their work’.

Kashmir’s scholarship intersects student identity, engagement and internationalisation including aspects such as Critical EAP, ‘criticality’ in higher education and self-directed learning and latterly ‘decolonising’ the curriculum and language and digital literacies. Kashmir is involved in pedagogical collaborations and is a Fellow of the Higher Education Academy.

11B2 **Playing with interdisciplinarity in liminal spaces: an institutional perspective** Elaine Brown and Beatriz Acevedo, Anglia Ruskin University

Mapping Interdisciplinarity
Undergraduate

As part of an institutional initiative articulated within its Education Strategy, Anglia Ruskin University introduced interdisciplinary, breadth modules to all students at undergraduate study level 5 from September 2021. Designed to bring together students from different disciplines to tackle ‘wicked’ problems, the experiences of these ‘Ruskin modules’ were also envisaged to enable students to question perceptions, broaden perspectives, develop flexible mindsets, and hence be better prepared for uncertain, ambiguous and changeable futures.

From December 2019 colleagues from both faculties and professional services expressed an interest in designing, developing and facilitating Ruskin modules. A suite of continuing professional development (CPD) activities was designed for leaders of the first Ruskin modules (‘Trailblazers’) to make explicit epistemologies and experience interdisciplinary thinking not just to scaffold the design of modules but also rehearse tools and activities that could later be used with students.

Working together with the community of Trailblazers, CPD comprised both art-based Ruskin Module Open Studios and a set of three Bringing Interdisciplinarity to Life workshops that enabled the transition of interdisciplinarity from theory and ideas to innovation and implementation. Through playful activities in slow, safe spaces Trailblazers made explicit their own understanding of interdisciplinarity that co-created constructive alignment with the scheme. In this way interdisciplinarity could be scaffolded through the architectural narrative of the module, the activities and experiences of students, and approaches to assessment.

This paper presents our experiences as Institutional Lead and Academic Developer to support the design, develop and facilitate institution-wide, interdisciplinary breadth modules – Ruskin modules.

Previously an academic lecturing in User Experience Design, Director of Studies and then Acting Deputy Dean (Student Experience) in the Faculty of Science and Engineering, Elaine continues her passion for experience design and its applicability to interdisciplinary education through her role as Institutional Lead for Personal Development Tutoring and Ruskin Modules within Anglia Learning and Teaching at ARU. Elaine's curiosity to map experience extends to her research exploring the experiences of interdisciplinary breadth modules. Elaine is a University Teaching Fellow and was recently awarded the Vice Chancellor's Award for Outstanding Leadership (Excellent Education) 2021.

Dr Beatriz Acevedo is an artist-academic, passionate about education for sustainable development and action learning. She is a National Teaching Fellow 2020, Principal Fellow of the Higher Education Academy and Academic Developer for Ruskin Modules. Beatriz is passionate about exploring the intersections between creativity and learning and teaching. She believes in the power of art and beauty to transform lives and enhance learning. Beatriz is not an art teacher, but for 20 years she has taught in management schools and academic development. Her life-purpose is to rekindle and activate the creative talents of students, educators and communities to empower them to live beautifully and in a sustainable manner.

11C1

Assessing by doing

David Earle and Katrine Lindvig,
Co-Navigator

Assessing Interdisciplinarity
All levels

In this paper the CoNavigator team will draw on a recent case study of how their tool is being used to invite discussion on the best practices for assessing and evaluating interdisciplinarity and how the tool might best be aligned with more traditional assessment methods.

The University of Maryland, Baltimore County has recently embarked on an ambitious NFS-funded 5-year graduate training programme, aiming to prepare under-represented minority students for careers in environmental problem-solving. Each student is placed into an interdisciplinary team which includes an academic supervisor, a professional scientist from a regional agency and a community stakeholder. To help steer the process, and to help students learn about interdisciplinary collaboration by doing, teams will use CoNavigator – a hands-on interdisciplinary collaboration tool – near the beginning and end of the programme's lifespan. Students will also use the tool separately to self-evaluate the interdisciplinary process. All participants can revisit the outcomes of the tool via augmented reality 'recordings' of the collaboration process.

While the students will be assessed via final (summative) project reports and oral examination in their primary disciplines, there are undoubted difficulties in how best to assess the interdisciplinarity aspects of their studies. We would like to share our experiences, and explore how assessing interdisciplinarity in a real-time interdisciplinary setting might be a valuable method for doing so.

Katrine Lindvig is Assistant Professor at the Department of Science Education, University of Copenhagen, and a co-founder of CoNavigator. Her main field of research is the translation of policy in higher education, and how concepts such as interdisciplinarity, innovation and digitalisation translate and travel from research into the curriculum of higher education courses and programmes.

David Earle is a Creative Director and co-founder of CoNavigator. David has been drawing on thirty years' experience from the creative industries to develop tools and workshops for better interdisciplinary communication, co-operation and problem-solving.

Line Hillersdal is Assistant Professor at Department of Anthropology, University of Copenhagen, and a co-founder of CoNavigator. Line has been researching collaborative cultures and practices, with a focus on interdisciplinary knowledge production and how objects are reconfigured in collaborative practices.

More information about CoNavigator at www.conavigator.org.

11C2

Application of CoNavigator to facilitate interdisciplinary integration as part of the Interdisciplinary Research Process

Rianne van Lambalgen and Febe de Vos, Utrecht University

Methods of Integration
Undergraduate

In this paper we present our research on facilitating interdisciplinary integration using CoNavigator (Lindvig, Hillersdal and Earle, 2018) during the capstone at Liberal Arts and Sciences (LAS), Utrecht University. During the capstone of the LAS bachelor program, students collaborate in multidisciplinary groups of three to four to answer an interdisciplinary research question by going through an adapted version of the Interdisciplinary Research Process (Repko and Szostak, 2021). The current research focuses on the integration phase where students share and bring together their disciplinary insights to the end of creating common ground and a more comprehensive understanding of the interdisciplinary problem. CoNavigator is a hands-on tool designed for facilitating interdisciplinary research by Lindvig, Hillersdal and Earle in 2016 (Lindvig, Hillersdal and Earle, 2018) and we have explored how CoNavigator helps multidisciplinary student groups with their interdisciplinary integration as part of the

interdisciplinary research process. We found that students are very enthusiastic to work with the tool and they feel using it creates more in depth understanding of the topic. However, as the tool is not directly aligned with the Interdisciplinary Research Process, it is currently unclear to students how to use insights they gained from a session with CoNavigator in their interdisciplinary capstone. For this, it is important to add an extra step of reflection to let students think about the relation with their interdisciplinary integration. In doing so, students gain more in depth knowledge of their interdisciplinary research question and they can apply this knowledge in the relevant steps of their interdisciplinary integration.

Lindvig, K, Hillersdal, L, Earle, D (2018), CoNavigator: Hands-on interdisciplinary problem solving

<https://i2insights.org/2018/02/13/conavigator-for-interdisciplinarity/>

Repko, A. F., & Szostak, R. (2020). Interdisciplinary research: Process and theory. Sage Publications.

Rianne van Lambalgen is Assistant Professor at the department Philosophy and Religious Studies, School of Liberal Arts. She is Program leader of the bachelor program Liberal Arts and Sciences and Thesis Coordinator of the bachelor Artificial Intelligence. She teaches in the interdisciplinary core curriculum of Liberal Arts and Sciences.

Rianne has a background in Cognitive Psychology (MSc), Artificial Intelligence (MSc, PhD) and Higher and Professional Education (MA). Her research is aimed at the digital support of learning (interdisciplinary) academic skills. This entails multiple interactions between digital support and learning, for example the effects of blended/online teaching methods on learning academic skills or obtaining insights on student learning using learning analytics. Rianne is part of the research group Transmission in Motion, Scholarship of Interdisciplinary Teaching and Learning: <https://transmissioninmotion.sites.uu.nl/subjects-in-interdisciplinary-learning-teaching-silt/>.

Febe de Vos is a Masters student in applied ethics, where she focuses on ethics of technology, medical ethics and bio-ethics. She has a Ba in Liberal Arts and Sciences with a specialization in Philosophy, Politics and Society. During her studies she has been active in educational innovation, by taking part in a ThinkThink on educational technology and by internships on interdisciplinary education, where she designed activities to improve connective thinking and interdisciplinary integration.

Methods of Integration
Faculty

The role of coaching is now acknowledged as central in interdisciplinary education (de Greef et al., 2017). The teacher-coach engages in a personal journey with the learner, facilitates the integration of concepts and skills across disciplinary boundaries, and raises awareness of one's potential through questioning. In the context of interdisciplinary programs, there are fewer possibilities for students to develop a clear sense of academic identity so coaching becomes a vital resource for integrating relevant parts of the curriculum (Gombrich, 2018).

For these reasons, coaching is one of the three academic pillars of the LIS curriculum alongside Problems and Methods. LIS coaches use an interactive framework that can be adapted to their styles and goals. The framework comprises several prompts aimed at engaging students in reflective and aspirational exercises supported by virtual collaborative platforms such as "Miro". The overarching goal is to facilitate meta-learning by prompting students to reflect on how their learning has developed, as well as what they have learned.

In this workshop, we will offer a hands-on, practical demonstration of the LIS approach to coaching by inviting the audience to engage in a series of short collaborative exercises. The main goal is to reproduce and share the feel of coaching experienced by our students as well as its metacognitive import for interdisciplinarity.

Mattia Gallotti is an Associate Professor and the Head of Research & Development at the new London Interdisciplinary School (LIS). A philosopher by training, his research investigates questions about the relationship between mind and society across the cognitive humanities and behavioural sciences. Prior to joining LIS, he lectured on the philosophy of the social sciences at the London School of Economics and led on the academic management of The Human Mind Project at the University of London.

Ash Brockwell is an Associate Professor and Founding Faculty member at the London Interdisciplinary School. His background brings together biochemistry, environmental anthropology, ethnobiology and education for sustainability. His interests include mindshifts for sustainability, interdisciplinary curriculum design, and the role of songwork in mobilising eco-social capacities in networks.

María Angélica Madero is an artist, founding faculty at the London Interdisciplinary School. Previously, she was Head of Art in El Bosque University, Colombia. Recent shows include Design in an age of crisis, 2021 (London Design Biennale, Somerset Gallery) and Facing oneself, 2021 (Surrey Art Gallery, Canada). Interested in participation, emancipation and

social transformation through education.

Isaiah Wellington-Lynn is Founding Faculty and Lead on Student-Centred Design, Academic Integration and Coaching at LIS. He is also pursuing an Anthropology DPhil at the University of Oxford in 'the Art of Belonging' and is an Anthropologist in Residence at Airbnb-alumni founded, TwentyFirstCenturyBrand. His interests include social mobility, inclusive design, and storytelling.

12BW

From what if to what is

Debby Gerritsen and Katusha Sol, University of Amsterdam

Methods of Integration
Undergraduate

In the Honours module 'The Next Great/Small Transformation', we aim to educate change-agents. who can cope with societal transition challenges - such as climate change, increasing inequality and digitalisation. Interdisciplinary student teams identify a transition challenge of choice and develop a strategy to address it. By initiating, monitoring and assessing a small intervention related to a major societal transition challenge, students will experience how a relatively small change can have an impact.

The process will be articulated in four iterative stages:

Imagining: identifying a transition challenge, and a vision that could address it

Connecting: developing a systemic understanding of the challenge

Acting: conceiving and implementing a simple, real-life intervention towards realisation of the vision

Assessing: monitoring and evaluating the impact of the intervention

In order to make a change it is important for the students to know where they stand and have awareness of their potential influence. During our session we will focus on the 'imagine' phase. Imagining is important in the process of dealing with complex transition issues. It will help imagining solutions and futures that we don't know yet. In a creative exercise we make a start with 'imagining' by formulating a 'what if' question. This question will refer to a possible future participants have in mind and their position and dreams about it. Thereafter they will reflect on their experiences and future imaginations for themselves and the world. This exercise gives participants a starting point from which they can start analysing and contribute to transition(s).

Katusha Sol studied (urban) sociology and political science and works at the Education Lab at the Institute for Interdisciplinary Studies (IIS). Katusha currently works on the IIS strategic agenda and the Honours course 'The Next Great/Small Transformation'. She promotes more learning-by-doing at the UvA by leading a Special Interest Group on 'impact learning'. Katusha is also initiator of the interdisciplinary course 'Placemaking', which now takes place as interdisciplinary elective for the Humanities at the University quarter, and as a bachelorscourse Interdisciplinary Social science at Roeterseilandcampus. Next to her job at the University of Amsterdam she runs Placemakers, an office for urban activation.

Debby Gerritsen is an education developer at the Education Lab at the Institute for Interdisciplinary Studies (IIS) and lecturer at the bachelorprogramme Interdisciplinary Social Science (University of Amsterdam). She co-authored the book 'Meaningful Assessment in Interdisciplinary Education'. Currently Debby is lecturing the Honours course The Next Great/Small Transformation and developing a learning trajectory for bachelor- and masterprogrammes on 'giving shape to transitions'. She furthermore is involved in the international project The Local Global Think Tank which focuses on intercultural skills in global transition issues. Her expertise is in developing, coordinating and supervising transdisciplinary research projects for students.

12CW

Choreometry - realising interdisciplinary pedagogies in choreography and geometry

Kathryn Pugh, University of Bedfordshire

Methods of Integration
Initial Teacher Training and Adult Learning

The link between choreography and geometry is well established with both using patterns, angles and interconnections. Also, several studies have been carried out, particularly among primary age children (Leandro, Monteiro, Melo, 2018; Rosenfeld, 2013; Wood, 2008) which particularly talk of the benefits of dance on learning mathematics, although little is spoken of concerning the benefits to both subjects. Teaching both together can be very effective at all levels, moving seamlessly towards an interdisciplinary experience - perhaps even a transdisciplinary experience - where there is no hierarchy of subjects and learning takes place in an integrated way. Moving from the benefits of active and dance based learning espoused by Catteral (2002), Minton (2003), Rose (2002) and Giguere (2006), this workshop introduces and explores the possibility of non-hierarchical transdisciplinary teaching and learning through seamless merging of choreography, geometry and design.

Kathie Pugh is a Senior Lecturer in Cultural Industries at the University of Bedfordshire, and also a professional choreographer. She has worked across all of the performing arts and has conducted some active research

with primary school children and adult learners in the field of dance and mathematics.

13A1 **Taking postgraduate science students out of their comfort zone: challenges, approach and reflections on one interdisciplinary unit** Alison Harvey, University of Manchester

Methods of Integration
Postgraduate

Responsible Research and Innovation (RRI) is a concept developed by the European Commission and a cross-cutting theme within Horizon 2020. Various approaches to RRI have subsequently been adopted by funding bodies throughout Europe.

Key aspects of RRI are highlighted by Horizon 2020 key elements: gender equality, science education, public engagement, governance, research integrity, open access, sustainability and social justice. More generally approaches to RRI encourage: Anticipation, Reflection, Engagement and Action relating to potential positive and negative impacts of research.

First year PhD students within the EPSRC funded Centre for Doctoral Training in Advanced Biomedical Materials (University of Manchester) take a taught module on RRI in their first year.

However, much of the governance of RRI comes from a social sciences perspective, while placing emphasis on the role of researchers. The practical implementation of RRI by researchers in everyday research practices is ill-defined. The challenge, therefore, is to embed these largely social science concepts in a taught unit for natural science students.

The main approach used in this unit has evolved over three years and focuses largely on enabling students to build their own understanding of RRI, its importance, and its relevance to their own, and their peers', research projects. This is done through activities where students build frameworks and activities that could put RRI into practice.

This talk will cover: the challenges and approaches in this unit and reflect on the outcomes of these approaches considering the opportunity within this interdisciplinary module to build students personal and professional development.

Alison is a teaching and scholarship lecturer in biomedical materials science. Having previously completed a PhD and worked in academic research in this field, her focus is now on the scholarship of teaching and learning in higher education. Her current role includes teaching undergraduate students in materials science and the design and delivery of bespoke units for PhD students, including a unit specifically designed to introduce concepts of responsible research and innovation. As such, Alison

has interests in the practical application of frameworks around responsible research and the embedding of such concepts in early-stage researcher development.

13A2 **Creative Integration of Interdisciplinary Knowledge in Forestry and Literature** Mandy Haggith, Inverness College, University of the Highlands and Islands

Methods of Integration

Undergraduate, Taught Postgraduate and Research Postgraduate

This paper explores how creative writing can be used to help people to integrate knowledge from different domains. In particular it explores how metaphors can be used to map across and between different disciplines. It will present practical examples from a project, A-B-Craobh (A-B-Tree), which promotes and supports interdisciplinary learning between forestry and literature. This project has, over the past decade, explored how the Gaelic tree alphabet can be used a structure for interdisciplinary learning, combining ecological and practical forestry knowledge with poetry and folklore. The project engages a wide range of staff and students in learning across disciplines through personal encounters with trees, in-depth exploration of knowledge from different fields about individual tree species, with expression of learning through creative writing. Over the project, a variety of different learning methods have been trialled, including different blends of individual and social learning and during the COVID-19 pandemic the project has been innovating with blended learning involving solo outdoors experiences combined with online group events. All of these have creative writing as a core activity. The A-B-Tree project has amassed evidence that tree-related wordplay can deepen learning about trees by both arts and science students and can offer insights into the epistemological edge-zone between ways of knowing in poetry, folklore and forest ecology. This paper will discuss how the use of metaphor and other poetic techniques help students to integrate and connect learning of various kinds of information from different 'branches' of knowledge.

Dr Mandy Haggith is a lecturer in literature and creative writing at the University of the Highlands and Islands. She is the author of five novels, four poetry collections and a non-fiction book and editor of the tree poetry anthology, Into the Forest. She has a PhD in Artificial Intelligence and an MLitt in Creative Writing. She spent two decades doing freelance research and campaigning on forest issues before returning to academia. She has recently completed a postgraduate diploma in education and is passionate about finding ways to bridge between the arts and sciences in tertiary education.

13B1

Reflections on facilitating student-led, undergraduate, inter-disciplinary research projects; Design, Challenges, and Outcomes

Daniel Edmondson, University of Bolton

Methods of Integration
Undergraduate

This short paper will look at part of a PhD interventional research project, designed at supporting student transitions and enhancing inter-disciplinary collaboration between undergraduate students at the University of Bolton. This presentation will look back specify and the projects design, the challenges faced, the mitigation of such challenges and the key outcomes of the project. The presentation will be presented through the PI'S own reflective practice, modelled on Brookfield's four lens approach to all aspects.

Daniel Edmondson is currently a PhD Candidate at the University of Bolton researching in the area of High Impact Practices in Higher Education to support student engagement, transition and retention, with a key aspect of the utilisation of inter-disciplinary research project for undergraduate learners. He also has a keen research interest in utilising technology in learning spaces to support andragogical practice.

13B2

Personal-Knowledge Relationships: Understanding Undergraduate Relations to Knowledge beyond Disciplinary Boundaries

Meerav Shah, Durham Ex-Student

Methods of Integration
Undergraduate

Interdisciplinary pedagogies are being increasingly embedded within disciplinary degrees across universities globally, especially within undergraduate curricula. Despite this, little theoretical investigation has been undertaken to understand how student epistemic relationships change in these interdisciplinary teaching spaces. Building from critiques of epistemological development theories and a small-scale empirical study undertaken within a Canadian interdisciplinary UG programme, this paper presents an alternative concept to epistemological development: 'personal-knowledge relationships'. This concept focuses on appreciating individual student journeys as they develop new relationships to knowledge and the world around them rather than providing a standardised linear development pathway. Personal-knowledge relationships allow practitioners to greater understand how pre-existing divergent student epistemic relationships to different knowledge domains are challenged and may change within interdisciplinary contexts. This theoretical framework intends to inform future pedagogical assessment

and chart new research and understandings of interdisciplinary classrooms. This paper firstly defines interdisciplinary learning environments as structurally and pedagogically distinct from the disciplinary classroom. It then reviews existing epistemological development models, building a critique focusing on disciplinary reliance and ontological neglect to track student knowledge development. Through an emphasis on individual relationships to knowledge, a new concept of 'Personal-Knowledge Relationships' is presented as a heuristic device to allow HE practitioners and researchers to better understand how student epistemic relationships to knowledge develop beyond monodisciplinary boundaries. It concludes highlighting future avenues of research.

Meerav Shah is an academic hobbyist and energy consultant within Baringa Partners. Graduating with a First-Class Honours in Combined Honours in Social Sciences (BA) from Durham University, Meerav has an acute interest within interdisciplinarity. This has led him to conduct his undergraduate research in Canada on interdisciplinarity (2019-21) as well as be awarded The Global Undergraduate Awards Regional (European) Winner 2021 for his essay examining discourses surrounding interdisciplinarity within UK Higher Education. Alongside his degree, Meerav has been a Student Committee Member of the RAISE Network and has actively built academic communities within interdisciplinary degree programmes. This includes helping to facilitate UK undergraduate short exchange trips, lobbying for an interdisciplinary dissertation pathway at Durham and founding his course society which enters its fifth academic year.

13C1

Possibilities and Practicalities of the Interdisciplinary Maths Classroom

Joanna Stell, University of Cambridge

Mapping Interdisciplinarity
Undergraduate

Mathematics is everywhere. It's the computational powerhouse of engineering and the sciences. It's the logical structure behind the rigorous arguments of law and politics. It's the simplistic beauty found in music and art. But do we recognise this? Does our education acknowledge, celebrate, and encourage the interdisciplinary value of mathematics? To answer these questions, we explore the perspectives of the educators at the heart of the issue: the teachers of maths and of interdisciplinarity. Through these we consider the possibilities and practicalities of the interdisciplinary maths classroom and beyond.

Joanna Stell currently finds herself at the intersection of interdisciplinarity and the secondary maths classroom. Having spent her undergraduate studies as part of the Liberal Arts and Natural Sciences community at the University of Birmingham, she is now studying towards a PGCE in secondary

maths teaching at the University of Cambridge. However, her pedagogical interests are not limited to the single discipline of maths but also the possibilities of interdisciplinary learning at school level.

13C2

Integration as an Emergent Property of Interdisciplinarity

Sharon Woodill, University of
Central Florida, USA

Methods of Integration

Undergraduate

Integration is often discussed as a conscious process that interdisciplinary practitioners undertake at their intellectual workbench, but an understanding of complexity as the driver of interdisciplinarity purports another conceptualization. In this paper, integration is theorized as the unavoidable emergent property of one's interfaces with information. It is the product of action. In this context, the self and its myriad of dynamic adaptive agential elements constitutes the interdisciplinary method. The implications of understanding integration in this way disrupt some of the seemingly sacred pillars of knowledge institutions including how knowledge is 'done,' how it is disseminated, and how it is taught.

The modern era can be aptly characterized by the increasing complexity resulting from the growing density of information; thus, the time is ripe for a new conceptualization of knowledge and the institutions that command it. Though the format of education is changing dramatically, its mandate to provide resources for cultivating a society that can address social and environmental needs remains. Interdisciplinarity is poised to become the standard approach to knowledge practice, yet the notion of integration, a core component of interdisciplinarity, remains an elusive concept. Integration, as proposed here, offers a conceptual framework for interdisciplinary practices commensurate with the demands of an increasingly complex world.

The structure of this paper is as follows: first, a definition of interdisciplinarity based in complexity is proposed followed by an extended focus on the proposed theory of integration. It concludes with a brief discussion of the implications for teaching, learning, and educational institutions.

Dr. Sharon Woodill holds a PhD in Interdisciplinary Studies from Dalhousie University in Halifax, Nova Scotia, Canada. She teaches in the Interdisciplinary Studies Program at the University of Central Florida in Orlando, Florida. Her research interests include interdisciplinary research methods, teaching and learning.

Co-creation on an interdisciplinary degree for mature students: becoming postdisciplinary

Catherine Bates, Lifelong Learning Centre, University of Leeds

Mapping Interdisciplinarity
Undergraduate

This paper outlines the approach to curriculum design and pedagogy on BA Professional Studies: an interdisciplinary degree designed for mature students. It discusses our 'co-creative' approach to working with students to consider urgent contemporary topics, drawing on a multiplicity of critical tools from the social sciences and humanities. We give students the opportunity to work with and learn from each other and the flexibility to focus on areas of interest; we also recognise the knowledge and life experience mature students bring to their study. This has led us to create a degree, which is continually in a process of 'becoming-with' with students and staff learning from each other.

I will briefly outline how we approach curriculum design, teaching practice and assessment in a 'post-disciplinary' way, influenced by critical and posthuman pedagogical theory. I discuss a post-disciplinary approach as one which 'refers to [...] transgressive ways of producing academic knowledge which destabilize, deconstruct and disrupt the hegemony of distinct disciplines' (Lykke, 333), and one which recognises societal problems need to be considered from the bottom-up, rather than the top-down; they become 'reduced if they are solely treated within the horizon of one discipline – they cannot really be contained and treated to the benefit of those who are hit by them from a single discipline.' (Lykke and Last, 2018, 228-9). I will argue that our approach empowers students to become an integral part of the HE environment as collaborative knowledge-producers.

Lykke, N. (2018) Postdisciplinarity. In Braidotti, R and Hlavajova, M (Eds.). Posthuman Glossary. Cambridge: Bloomsbury. pp. 332-335.

Lykke, N and Last, A. (2018). A Conversation Between Angela Last and Nina Lykke in Fensham et al (eds). Routledge Handbook of Interdisciplinary Research Methods. (pp. 228-238). Routledge.

Catherine Bates manages the BA Professional Studies degree programme at the Lifelong Learning Centre, University of Leeds. Professional Studies is an interdisciplinary degree designed specifically for mature students. Catherine has specific research and teaching interests in adult education, co-creation, social justice and posthuman pedagogies, Canadian literature and waste. She is a Senior Fellow of the HEA, and has previously worked as an English lecturer and a Dyslexia Support Worker in Higher Education.

14A2

Teaching wicked problems: interdisciplinary approaches to thinking in complex systems

Jillian Terry, London School of Economics and Political Science

Mapping Interdisciplinarity
Undergraduate

As recent crises in global health, politics, and the environment suggest, conventional disciplines are often ill-equipped to tackle the most complex problems we currently face. These 'wicked' problems, which are difficult both to define and resolve, require interdisciplinary thinkers who can see beyond the boundaries of their own disciplines to synthesise ideas and collaborate with others. This paper explores how interdisciplinary undergraduate education can develop these skills in students by foregrounding a systems-driven approach to tackling wicked problems. Drawing on interactive approaches grounded in systems thinking, this paper offers insights into how collaborative student research projects can encourage students to embrace complexity and recognise the limits of their disciplinary training when identifying possible responses to the most pressing global challenges. Such an approach gives students the opportunity to make key connections across disciplines, preparing them for real-world collaboration and engaging learners in the messiness of wicked problems and creative solutions. This paper investigates how enabling undergraduate students to think in complex systems, explore the boundaries and connections between systems, and synthesise insights from across systems can both broaden and deepen students' understandings of the world we live in and offer meaningful responses to the greatest challenges of our time.

Dr Jillian Terry is Assistant Professorial Lecturer and Acting Co-Director of LSE100, the flagship interdisciplinary course taken by over 1800 undergraduate students at the London School of Economics and Political Science each year. As an interdisciplinary social scientist, Jillian's research sits at the intersections of feminist theory, international politics, ethics and emerging technology. She is interested in how interdisciplinary education can shape students' experiences of teaching, learning, and their development as creative and critical problem solvers.

14B1

Levering into a three-part conception of sustainable development when teaching 'population'

Romain Chenet, University of Warwick

Mapping Interdisciplinarity
Postgraduate

This short session will unpack the creation process of a brand new MASc teaching sub-theme which was delivered over two weeks for a module entitled 'Global Challenges and Transdisciplinary Responses'. Grounding

the fraught topic of 'population' in the pedagogic rationale of its parent module, this session will explore decisions made as well as challenges and opportunities surrounding the practical delivery of a new, innovative, and transdisciplinary approach to research-led postgraduate content.

Romain has been teaching across 3+ disciplines since 2018 and was previously based in London, working in corporate relations and management roles for INGOs including UNICEF and the Red Cross. His research is on transformative capacity of post-2015 development policies, spanning development studies, sociology, and politics in exploring supranational governance through poststructural discourse analysis with a feminist intentionality. Prior to settling in the UK, Romain lived in Asia (Nepal, India, Thailand, Singapore, Cambodia).

14B2

Collaboration, shared grades and group accountability in Midwifery education

Christopher Little, Jodie Preston and Julia Farrington, Manchester Metropolitan University

Assessing Interdisciplinarity
Undergraduate

In 2020/21 the second-year module lead and Award Lead alongside a centrally based learning developer codesigned a new collaborative assessment as part of Keele's newly revalidated BSc Midwifery programme.

The assessment comprised of 2 parts; a group element and an individual element. The group assessment required students to produce a 500-word public-facing website detailing a condition which may affect a fetus or neonate. For this piece of work students received a shared grade, each receiving the same grade as one another. A peer debrief session was timetabled following submission to facilitate reflective discussions around the experience of working together and shared accountability.

In the second part, students could submit an individual reflective piece of 1000 words or equivalent, for which they would receive an individual grade. Students could choose to submit this reflection as traditional a reflective writing essay, or as a screencast, podcast or presentation. The shared and individual grades would then be combined to arrive at each student's final grade for the assignment.

The assessment performed slightly better than previous, more traditional, assignments which assessed the same outcomes. Additionally, students embraced the shared grade element of the assessment, understanding the need in a discipline such as midwifery for shared accountability and interpersonal teamworking, dispelling some apprehensions that we met along the way that students would resent these elements and perform poorly. This presentation will discuss the development of the assignment,

it's implementation and how students found this shared accountability and multimodal assessment.

Chris currently works as a Senior Lecturer in Academic Development at Manchester Metropolitan University. Prior to this, Chris worked as a faculty-linked Learning Developer and Teaching fellow at Keele University, working with it's Faculty of Medicine and Health Sciences. Chris has previously held lecturing and support posts in both further and higher education and holds a PGCE in Post-Compulsory Education and Masters in Teaching and Learning in Higher Education. Chris is a Senior Fellow of the Higher Education Academy.

Jodie is a lecturer in Midwifery and Award Lead for the BSc Midwifery programme at Keele University's Nursing and Midwifery School. Jodie holds a Masters in Teaching and Learning in Higher Education and is a Senior Fellow of the Higher Education Academy.

14C1

It's good to talk: developing professional learning through an interdisciplinary community of practice

John Parkin and Deborah Caws,
Anglia Ruskin University

Mapping Interdisciplinarity
Undergraduate

In 2021, Anglia Ruskin University introduced interdisciplinary Ruskin modules across all undergraduate degrees. These modules were a new way of learning for students, but also a new way of teaching for academics. To create and teach these innovative interdisciplinary modules, academics came together to work on this initiative. This paper explores how academics from a range of disciplines built an online community of practice to create Ruskin Modules and how their professional learning with and from colleagues developed over one academic year. Wenger's (1998) concept of a Community of Practice provided a theoretical framework for this research, placing the academics' professional learning at the intersection of four key components: community, identity, meaning and practice. For this research, academics were interviewed about their experiences within this community in a focus group. They were asked to reflect on and discuss how participating in the community of practice impacted on their professional learning and practice. We found that the creation of an interdisciplinary community of practice had a positive impact on the learning and practice of academics when teaching their Ruskin Modules as well as when teaching in their own disciplines. Consequently, such communities of practice have the potential to share good practice and bring about continuous improvement between disciplines in a higher education institution.

Reference:

Wenger, E. 1998. *Communities of Practice Learning, Meeting, and Identity*. Cambridge: Cambridge University Press.

John Parkin is a Senior Lecturer Practitioner in Education at Anglia Ruskin University (ARU) in Cambridge. He is also the Course Leader of the BA Accelerated Primary Education Studies course, which he established on the Cambridge campus of ARU. As well as being a doctoral researcher exploring the experiences of men training to become primary teachers, John is interested in how educators learn informally through technology. He is also the co-module leader for an interdisciplinary Ruskin Module called 'Do we need humans as teachers?'. Before becoming an academic in 2018, John was an assistant headteacher and primary teacher.

Deborah Caws leads a Postgraduate Certificate in Education course at Anglia Ruskin University, a course she wrote and developed. She is a Senior Lecturer Practitioner and co-module leader of an interdisciplinary module, 'Do we need humans as teachers?' Prior to transitioning into higher education in 2018, Deborah worked as a vice principal. She has extensive experience in school leadership within the Early Years and Primary phases and has also worked in teacher education. As a doctoral researcher, her interests are in professional learning experiences of teachers and educators, specifically through engagement in communities of practice.

14C2

Students as Change Agents: Mapping interdisciplinary learning at Edinburgh Futures Institute

David Overend, Seongsok Choi and Andy Cross, University of Edinburgh

Mapping Interdisciplinarity
Undergraduate

Drawing on an investigation into the student experience of a new interdisciplinary course, this paper considers the communicative strategies and collaborative processes that emerge from the challenging context of interdisciplinary education. It suggests ways that these can be nurtured, supported and developed within the context of a large research institution. The paper focusses on Students as Change Agents (SACHA), a new pre-honours course for Edinburgh Futures Institute (EFI). EFI is a major cross-school initiative at the University of Edinburgh, which addresses the futures of higher education, work, scholarship, and society. Its portfolio of undergraduate and postgraduate courses places interdisciplinary collaboration at the heart of the learning experience, aiming to equip students with the skills to navigate complex futures. For example, in SACHA, students work together in teams to respond to challenges set by external partners. Mapping this course against broader trends in higher education and graduate attributes, this paper critically reflects on the methods and approaches that facilitate critical and ethical responses to, and analysis of, specific challenges. A mixed method approach is employed

to understand the experience of learners and educators during the inaugural delivery of the course from January 2022. Using a range of questionnaires, interviews, journals and group observation, a multilayered and generative 'map' will be created, illustrating the complex nature of interdisciplinary learning. This will be set in the context of how the teaching and learning of interdisciplinarity is supported at programme, institutional, and sector levels.

David Overend is a Lecturer in Interdisciplinary Studies at the University of Edinburgh. His research focusses on contemporary theatre and performance, often at the intersection with cultural geography. Books include Making Routes: Journeys in performance 2010-2020, co-authored with Laura Bissell (Triarchy Press 2021), and an edited collection, Rob Drummond: Plays with participation (Bloomsbury Methuen Drama, 2021). David is currently working with Edinburgh Futures Institute, developing a portfolio of new interdisciplinary courses and programmes.

Seongsook Choi is a Senior Lecturer and Head of Institute of Education, Community and Society in the Moray House School of Education and Sport at the University of Edinburgh. Her current research focuses on interdisciplinary engagement and the development of analytical tools for mapping interactional patterns and representing these dynamically in visual formats. Her recent publications are Interdisciplinary Discourse: Communicating across Disciplines published by Palgrave Macmillan; 'The case for open source software: Interactional Discourse Lab' (Applied Linguistics); and 'Introduction: Innovation in research methods in Applied Linguistics' (Applied Linguistics).

Andy Cross is the Impact Coordinator (and impact champion) for the School of GeoSciences at the University of Edinburgh. He is based in the Edinburgh Centre for Carbon Innovation (ECCI) and works closely with staff there, and the School Business Development Executive to identify potential impact stories, and support relevant funding applications. Andy is also on secondment at Edinburgh Futures Institute and the Institute for Academic Development (IAD), where his work is focused on curriculum development, in particular work with Assistant Principal Lesley McAra to promote community engagement in the curriculum as part of credit bearing courses, and opportunities for research and teaching associated with interdisciplinary approaches.

15AW

Interdisciplinary exploration of your campus

Katusha Sol and Rosanne van Wieringen, Institute for Interdisciplinary Studies, University of Amsterdam

Methods of Integration
Undergraduate

We developed the Placemaking programme, whereby interdisciplinary student teams research and improve their own campus by doing an assignment for external partners (local foundations and initiatives, municipality, etc.). Placemaking is a philosophy and method originated in the 1960s, based on theories from environmental psychology, sociology and urban planning. It is a form of action-research taking local qualities and local knowledge as a starting point for development of (semi-) public spaces. In our practice at the UvA we use the campus and surroundings as a laboratory where students experience and analyse the interplay between theory and practice and a bottom-up and top-down approach.

The Placemaking method exist of four iterative steps: location research, co-creation, design and transfer (to the local community). By using the placemaking method, a set of research and design tools are used to explore local social, political, economic and ecologic development. In order to get grip on the complexity of a place, we combine a variety of disciplinary methods. For example, doing observations on location, gather local needs, take wishes of different stakeholders and qualities as starting point for analysis and action. We generate insights by 'mapping' various aspects of the area, on basis of fieldwork, statistics and digital mapping tools. In the workshop we will apply the placemaking approach by handing a set of research and design tools to explore and 'map' a place in an interdisciplinary way. We will show participants the relevance and importance of doing research of places in an interactive and interdisciplinary way.

Rosanne van Wieringen has an interdisciplinary background in her studies and her work at the UvA. She works as a teacher at Interdisciplinary social sciences (ISW) where she teaches theoretical interdisciplinary courses as well as research-based courses like Placemaking. Rosanne is also working at the Education Lab of the Institute for Interdisciplinary Studies (IIS) where she advices and trains educators. She is a co-developer of the learning trajectory change making of a new Bachelor programme Computational Social Science.

Katasha Sol studied (urban) sociology and political science and works at the Education Lab at the Institute for Interdisciplinary Studies (IIS). Katasha is initiator of the interdisciplinary course 'Placemaking', which now takes place as interdisciplinary elective for the Humanities at the University quarter, and as a bachelorscourse Interdisciplinary Social science at Roeterseilandcampus. Katasha currently works on the IIS strategic agenda and the Honours course 'The Next Big/Small Transformation'. She promotes more learning-by-doing at the UvA by leading a Special Interest Group on 'impact learning'. Next to her job at the UvA she runs Placemakers, an office for urban activation.

Interdisciplinarity in practice: From delivery to assessment

Leda Mirbahai, Dawn Collins,
Farhan Noordali, Helen Nolan,
Richard Clay, Filipa Alpeza,
Rebecca Campbell, University of
Warwick

Methods of integration - Assessing interdisciplinarity
Undergraduate

BSc Health and Medical Sciences is an interdisciplinary undergraduate course that aims to promote interdisciplinary practice for both educators and students. It is designed with the aim of breaking down the rigid boundaries of disciplines, from health psychology, ethics and economics to physiology and molecular biology to enable a more rounded approach to resolving complex health problems. The workshop will be co-led by staff and students with experience of interdisciplinary teaching and learning through involvement in BSc Health and medical sciences. During the workshop, using approaches such as mind maps, padlets and other interactive technologies, we will address some of the general challenges and benefits of interdisciplinary practices. Furthermore, the workshop will include practical tips and guides for developing and delivering interdisciplinary modules as well as assessment. Our students, will enrich the discussions by sharing their first-hand experience of interdisciplinary learning and assessments.

Leda Mirbahai is an Associate Professor in Warwick Medical School (WMS) with research background in epigenomics, ageing and cancer. Leda acts as the Education Lead for the Biomedical Science Division at WMS and the Assessment Lead for BSc Health and Medical Sciences. Leda is interested in designing and developing integrated teaching material and assessment approaches. She has developed approaches such as integrated maps of modules and synoptic assessments. Furthermore, she has recently received internal funding for co-creation of interdisciplinary learning and teaching approaches.

Dawn Collins is an Associate Professor in Neurobiology at Warwick Medical School. She has been teaching neuroscience, physiology, and pharmacology to graduate medical and undergraduate students for over 10 years at Warwick. She has a keen interest in developing integrated teaching that is engaging and interactive in order to bring the sciences, both health and medical, to life. Working in lead roles within HMS has provided her with the ideal opportunity to develop more hands-on, interdisciplinary material for learning and work as part of an integrative team that span the disciplines.

Farhan Noordali is an Assistant Professor with a background in Health Psychology and Public health. His role on the HMS course entails acting as co-lead for the Health sciences theme, curating topics from Psychology, Sociology, Public health, Health ethics and Health economics. Farhan draws on his expertise as a former consultant educator (for Diabetes UK) and as a post-doctoral researcher (on the NIHR funded REACT research trial) to

contribute teaching on multiple modules across all years of the course. He co-leads the Concepts and Wellbeing modules in addition to leading an optional module in Health Psychology. Lastly, Farhan provides pastoral and academic support in his role as a personal tutor.

Helen Nolan is Head of Education Quality and an Associate Professor at Warwick Medical School. Helen oversees quality assurance and enhancement of teaching programmes and teaches on the Masters in Medical Education programme. Helen's interests are varied and include quality assurance and enhancement, interdisciplinary learning and assessment, professional identity formation, student wellbeing and co-creation.

Richard Clay is a Senior Academic Technologist at Warwick Medical School, providing consultancy and support for the use of technology to enhance teaching and learning. He has a background in multimedia production and an interest in user interface design and the usability of virtual learning environments. He has over ten years of experience in designing and delivering online learning solutions, including work in higher and further education and for private training providers. He is a qualified teacher (QTLS) with advanced knowledge of online pedagogies and instructional design techniques.

Filipa Alpeza is a 2nd-year Health and Medical Sciences student from Croatia. She is a student representative for the course and a member of the Undergraduate Learning and Teaching Quality Committee at the Warwick Medical School. Her interest in interdisciplinary learning was one of the main contributors to her choice to study Health and Medical Sciences at the University of Warwick and she is now focused on acquiring knowledge about human health and healthcare from a variety of different perspectives and disciplines.

Rebecca Campbell is a health and medical sciences student who joined Warwick university in 2020. She already has a background in both biology, psychology and religious studies and so understands how both health, ethics and psychology can work together. During her time at Warwick, Rebecca has enjoyed being a part of the HMS cohort and have involved herself in many extracurricular activities. She hopes to further explore the sectors of public health and medicine and hopes to one day work within the NHS as a doctor or physician associate.

15CW

Becoming interdisciplinary: reflecting backward, designing forward

Morven Shearer and Laura Meagher, St. Andrews University

Mapping Interdisciplinarity
Undergraduate and Taught Postgraduate

The integration of different perspectives and knowledge which is essential to interdisciplinary learning can be difficult to design, manage and assess.

Often the responsibility for integration ends up left to the student with varying degrees of success; students have reported feeling lost, caught in limbo and misunderstood. Many academic staff teaching on interdisciplinary programmes have themselves gone through the at times unsettling process of moving from a mono-discipline into a more interstitial area, sometimes intentionally, other times serendipitously. Pragmatic guidance can encourage and enable academic staff taking early steps into interdisciplinarity – or indeed those who have already begun interdisciplinary journeys but now seek pro-active ways to achieve higher levels of integration. In this workshop we will facilitate a lively discussion to draw on participants' reflections on their own past paths to 'becoming interdisciplinary' to identify key processes, enablers and challenges inherent in integration. These elements will then feed forward into curriculum design by being translated into characteristics crucial for the development, management and assessment of a genuinely integrated programme to the benefit of both students and academic staff.

Morven Shearer is Director of the Graduate School for Interdisciplinary Studies at the University of St Andrews. The Graduate School launched in 2018, and now has 5 interdisciplinary Masters programmes, with another due to start in September 2022. A scientist by training she now works in the inherently interdisciplinary area of medical ethics and healthcare policy. She also has interests in pedagogy and the scholarship of teaching and learning. She has published on the challenges and benefits of implementing new interdisciplinary modules and was on the advisory group for the analysis of interdisciplinary education in the UK co-authored by Laura Meagher.

*Laura Meagher PhD has spent over 30 years working in the US and UK with and within research and higher education institutions, along with industry and government, focussing on strategic change. She has worked with fields ranging from the creative arts to photonics, in different sectors, on projects with diverse aims. She has catalysed and facilitated novel initiatives, often multi-sector, inter-institutional, international and/or interdisciplinary, so is keenly aware of challenges, issues and practical mechanisms. She has reviewed multi-faceted projects and evaluated funding schemes promoting complex changes such as interdisciplinarity, impact generation and career development/capacity-building. Clients have included: universities; various UK Research Councils; the Royal Society; the British Academy; Defra; the Forestry Commission; and Scottish Government; among others. Meagher shares analyses and insights through publications, reports and interactive masterclasses. She is co-author of the book *Interdisciplinary Research Journeys: Practical Strategies for Capturing Creativity* and multiple briefing guides on facets of interdisciplinarity.*