# Cambridge Teaching Forum 2026

Tuesday 21 April
Student Services Centre

## Keynote:
## Dr Rachel Forsyth

Senior Educational Developer
Lund University, Sweden

UNIVERSITY OF CAMBRIDGE

# Practicalities

## Finding the Teaching Forum

The Cambridge Teaching Forum 2026 will take place at the Student Services Centre, New Museums Site. Please see the map for directions.

Registration will take place from 9.30 for a 10.00 start. Follow directions for the atrium.

Plenary sessions will take place in the Babbage Lecture Theatre in the David Attenborough Building: exit the atrium into the New Museums Site, and head left.

Parallel sessions will take place in the Exam Rooms adjoining the Atrium, and in the New Wing Seminar Room on the second floor, accessible via the stairs or lifts. Refreshments will be served in the atrium itself.

## Assistance

If you need assistance, please look for a member of the CCTL team, who will be wearing purple lanyards. There should usually be somebody available in the atrium. Otherwise, please ask at the main Student Services Centre reception desk.

## Event Recording

The plenary sessions will be recorded to share with delegates and other members of the University afterwards. Questions will not be included in the recording.

# Agenda

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| 09.30 | **Atrium**<br>**Registration** |
| 10.00 | **Babbage Lecture Theatre**<br>**Opening Address**<br>Dr Meg Tait<br>Head of the Cambridge Centre for Teaching & Learning<br>Prof. Jess Gwynne<br>Academic Leadership Fellow (Teaching Review and Inclusive Practice) |
| 10.15 | **Babbage Lecture Theatre**<br>**Keynote: Embrace, explore or reject? Managing our responses to generative AI services and their impact on teaching, supervision and assessment**<br>Dr Rachel Forsyth<br>Senior Educational Developer, Lund University |
| 11.00 | **Break: Atrium** |
| 11.20 | **Parallel Session One** |
| | **Exam Room A&B:** *Presentations*<br>• **Participatory, humanising community-building in humanities doctoral supervision**<br>Joe Sutliff Sanders<br>• **Reverse classroom pedagogy: Partnering with postgraduates through publication and syllabus development**<br>Sonja Amadae, Vanessa Burns, Colum Finnegan |
| | **Exam Room C:** *Presentations*<br>• **Personal reflections on developing the new structure Chemical Engineering and Biotechnology Tripos**<br>Patrick Barrie<br>• **Redesign, refocus and reform of practical teaching in Chemistry at Cambridge: Skills-based spiral curriculum and positive impact!**<br>Sally Boss, Deborah Longbottom |
| | **Exam Room D:** *Lightning Talks*<br>• **Reverse-engineering the wrong answer: Diagnosing mistakes with LLMs**<br>Andrea Chlebikova<br>• **AI-enabled simulations for authentic student learning**<br>Abigail Crowther |

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| | • **From hesitancy to confidence: Developing an AI literacy course for librarians at the University of Cambridge**<br>Alberto Garcia |
| | **New Wing Seminar Room:** *Presentations*<br>• **But what do I do if there's no mark scheme? How to support students in the school to university transition**<br>Katharine Radice<br>• **Student voice in evaluating the first-year skills programme at Lucy Cavendish College: Practical insights**<br>Sophie Hughes, Koenraad Claes, Amy Smail |
| 12.10 | **Lunch: Atrium and Exam Rooms C and D** |
| 13.00 | **Parallel Session Two** |
| | **Exam Room A&B:** *Presentations*<br>• **Hopeful pedagogies: Engaging critically with ideas of 'hope' and 'hopelessness' in and beyond the classroom**<br>Rosanna Carver, Emma Mawdsley<br>• **What is resilience? And does it matter at Cambridge?**<br>Paul Wilkinson |
| | **Exam Room C:** *Presentations*<br>• **Beads and pipe cleaners! A novel, hands-on method for teaching key concepts in molecular biology**<br>Elizabeth Soilleux, Sarah Barden<br>• **What are experimental practical classes actually for?**<br>Matthew J Mason, Kamilah Jooganah |
| | **Exam Room D:** *Presentations*<br>• **Enhancing critical thinking through genAI: Student-centred approaches to ethical AI use in the humanities**<br>Lorna Waddington<br>• **Assessing the assessors: Exploring AI-human gaps in exam marking**<br>Deborah Talmi |
| | **New Wing Seminar Room:** *Panel*<br>• **Pedagogy both ways: How learnings from online course development improve in-person teaching**<br>Emily Tannert Patterson, Nathan Crilly, Alexandru Marcoci, Matthew WC Tang, Virginia Pedicord |
| 13.50 | **Transition: 10 minutes** |

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| 14.00 | **Parallel Session Three** |
| | **Exam Room A&B:** *Lightning Talks*<br>• **Student perspectives on AI across disciplines**<br>Iulia Coanda<br>• **Academic Attainment Programme: Evidence from a sustained online intervention**<br>Hayley Hilson, Anna Foskett<br>• **Enhancing researcher training through participatory MRes curriculum design**<br>Samuel McDermott |
| | **Exam Room C:** *Presentations*<br>• **Pass or fail exams: What are we actually assessing?**<br>Mary Fortune<br>• **Learning by doing in Economics**<br>Oleg Kitov |
| | **Exam Room D:** *Presentations*<br>• **Creating space to learn: The future of timetabling at Cambridge**<br>Niki Sol, Jess Joseph<br>• **Using digitised collections: IIIF literacy, methods and tools**<br>Andy Corrigan |
| | **New Wing Seminar Room:** *Workshop*<br>• **Evaluating educational gain from College teaching and learning interventions**<br>Helen Van Noorden, Harriet Groom, Matthew Neal, Catherine Sumnall |
| 14.50 | **Transition: 20 minutes** |
| 15.10 | **Babbage Lecture Theatre**<br>**In Conversation: The Pathways to Inclusive Practice Programme and funded departmental pilots**<br>Chair: Dr John Harding<br>Contributors: Sally Boss, John Durrell, Deborah Longbottom, Graham McShane |
| 15.50 | **Babbage Lecture Theatre**<br>**Closing Remarks**<br>Dr Meg Tait |
| 16.00 | **Atrium**<br>Post-event networking space |

## Are you an educator looking to develop your teaching and learning support practice and understanding further, gaining accreditation as a Fellow of the Higher Education Academy?

CCTL offer three routes to accreditation, depending on your level of experience and the degree of study you wish to undertake: two taught programmes and one direct application scheme.

We are currently accepting applications for all three.

There are no course fees.

### Postgraduate Certificate in Teaching & Learning in Higher Education

We welcome applications for this Master's-level qualification from Cambridge staff spanning the full range of disciplines and professional services, including University and College academics, professional staff supporting learning, and postdoctoral researchers. Participants normally have at least three years' experience of teaching in higher education.

You will need to dedicate around 35 days over the course of the year to seminars, self-paced study, engaging with your peer group and individual assignments.

www.cctl.cam.ac.uk/pgctlhe

### Advancing Educational Practice Programme

This course, also open to the full range of disciplines, is aimed primarily at colleagues early in their career with substantive teaching or learning support responsibilities. It may be of particular interest to those on the Teaching & Scholarship Academic Career Pathway. Comprising a series of seminars and formative assignments over the course of the year, it will require around 10 days of your time.

www.cctl.cam.ac.uk/aepp

### Cambridge Teaching & Learning Recognition Scheme

This scheme is for colleagues with existing teaching / learning support experience who wish to apply directly for accreditation as a Fellow of the Higher Education Academy. It is not a taught course, but you will receive tailored support in drafting an application across three workshops. We can support applications for Associate Fellow, Fellow and Senior Fellow.

www.cctl.cam.ac.uk/recognition-scheme

# Keynote Speaker

## Dr Rachel Forsyth
## Embrace, explore or reject? Managing our responses to generative AI services and their impact on teaching, supervision and assessment


### Abstract

For many academics and students, generative AI products and services have begun to present themselves as an insidious uninvited presence in education. Wherever your reaction falls in the range from enthusiasm to anxiety, these products may present a persistent complication in established approaches to teaching, supervision and assessment. This keynote explores how we might reestablish agency, whether we choose to embrace, explore or reject the use of these products.

The presentation will highlight the role of trust, transparency and academic judgement in navigating these shifts and consider how educators can protect standards without increasing workload. Drawing on recent research into trust, learning design and academic judgement, the keynote will highlight the conditions that enable educators to respond intentionally rather than reactively. Particular attention will be given to safeguarding intellectual integrity, maintaining equitable expectations across diverse cohorts and ensuring that emerging practices do not add to already significant academic workloads. The audience will be invited to reflect on what they most value in their teaching and disciplines and how those values can guide deliberate, sustainable responses to genAI in the years ahead.


### Profile

Dr Rachel Forsyth is a senior educational developer at Lund University, where she leads work on pedagogical development, assessment design and academic trust-building in higher education. She has more than thirty years' experience in UK and European higher education and her work spans institutional policy, programme-level enhancement and close collaboration with academics across disciplines.

Rachel is a Principal Fellow of the Higher Education Academy, was a project member for the 'Degree Standards' Project by AdvanceHE to improve standards in external examining, and continues to facilitate the national course for external examiners. She has been Editor-in-Chief of the *Student Engagement in Higher Journal* for eight years, is the author of *Confident Assessment in Higher Education*, a practical, theory-informed guide for colleagues who design assessments and feedback systems, and is the co-author of *GenAI in Higher Education: Redefining Teaching and Learning*, an open-access text that supports educators in navigating the opportunities and challenges of generative AI within university teaching and learning.

# In Conversation

## The Pathways to Inclusive Practice Programme and funded departmental pilots

*Session Chair:*
*Dr John Harding, Head of the Inclusive Education Hub*

*Contributors:*

- *Prof. Sally Boss and Prof. Deborah Longbottom, Department of Chemistry*
- *Prof. John Durrell and Dr Graham McShane, Department of Engineering*


### Abstract

Pathways to Inclusive Practice is a three-year institutional change programme at Cambridge, integrating commitments from the Access & Participation Plan and recommendations from the recent teaching and disability reviews. Designed to embed inclusive educational practice, the programme will utilise funded department-led 'incubator' pilots to accelerate progress. The panel will outline the programme's high-level strategy and the newly launched pilots. They will explore how these initiatives aim to address barriers to student success, empower staff, and align systems with legal obligations. We will discuss the framework for testing scalable approaches to curriculum design and support, intended to drive sustainable change across the collegiate University. There will be an opportunity for questions and answers following the panel's presentations.


### Contributors

Prof. Deborah Longbottom is a Teaching Professor of Chemistry, currently co-leading the review of undergraduate education at the Yusuf Hamied Department of Chemistry, and Deputy Head (Education) in the School of the Physical Sciences. Prof. Sally Boss is a Teaching Professor in Inorganic Chemistry at the department, and Deputy Senior Tutor at Churchill College.

Prof. John Durrell is Deputy Head (Teaching) of the Department of Engineering and Director of Studies for Engineering at Pembroke College. Dr Graham McShane is a University Senior Lecturer in Solid Mechanics at the department and the Notley Fellow in Engineering at Queens' College.

# Parallel Session One

## Exam Room A&B: Presentations

### Participatory, humanising community-building in humanities doctoral supervision

- *Dr Joe Sutliff Sanders, University Associate Professor, Faculty of Education*

Whereas the sciences offer doctoral students collaborative spaces as part of the usual postgraduate provision, humanities doctoral students often work in solitude, a situation that can foster isolation, competitiveness and a failure to share professionalisation and good work habits.

In this talk, I report on an experiment I have been running in pursuit of a democratic, humanising community-building for my supervisees. The exercise has reduced competitiveness, enhanced collaboration and fostered a better understanding of what it means to be a professional academic amongst supervisees, and has become one of the highlights of my working life.

### Reverse classroom pedagogy: Partnering with postgraduates through publication and syllabus development

- *Prof. Sonja Amadae, Director, Centre for the Study of Existential Risk*
- *Dr Vanessa Burns, Teaching Associate, Centre for the Study of Existential Risk*
- *Dr Colum Finnegan, Research Assistant, Centre for the Study of Existential Risk*

The postgraduate pedagogical landscape faces unprecedented challenges to deep and sustained learning: the integration of generative AI into student learning; the need to deliver applied content for an increasingly professionalised cohort; and the difficulties of developing inclusive and decolonised courses for high-intensity Master's cycles.

In this session, we share innovative approaches to delivering interdisciplinary postgraduate education in global risk and resilience. We present 'open pedagogy' and 'reverse classroom' models that partner with students to co-produce publications and syllabi, and we reflect on how these models support critical co-existence with AI, support applied teaching, and help bridge the attainment gap for international and widening participation students.

# Exam Room C: Presentations

## Personal reflections on developing the new structure Chemical Engineering and Biotechnology Tripos

- *Prof. Patrick Barrie, Professor of Chemical Engineering Education, Department of Chemical Engineering & Biotechnology*

This talk will give an update on developments within the Chemical Engineering and Biotechnology Tripos. The new structure course started in October 2023 for first-years, and so undergraduates have now reached the third year of the revised course. The talk will reflect on what worked well and what didn't work so well during the revision process, both for lecture courses and for assessed project work.

The talk will also discuss a short new module on virtual chemical plant operation because it is a nice example of technology-enabled learning. Third-year undergraduates work in pairs for four 2-hour workshops. They operate a virtual chemical plant, learning the equipment, starting up and shutting down the process, and dealing with faults that occur. The software combines the worlds of digital twins and gaming PCs. The module fills a previous gap in the curriculum: past students had little idea what equipment looked like or how to operate a chemical plant.

## Redesign, refocus and reform of practical teaching in Chemistry at Cambridge: Skills-based spiral curriculum and positive impact!

- *Prof. Sally Boss, Teaching Fellow in Chemistry, Yusuf Hamied Department of Chemistry*
- *Prof. Deborah Longbottom, Teaching Fellow, Yusuf Hamied Department of Chemistry*

As part of a curriculum review in Chemistry, coupled with the University's Teaching Review, we have updated our second-year organic practical class, focusing on key techniques and adopting a 'spiral curriculum'. Strategic removal of 75% of the write-up component has given students more time to focus on improving their practical skillset. Sustainability concepts have been embedded and group work included in the class.

Feedback confirms that the changes made have resulted in students learning with more structured purpose, with a reduction in 'overwhelm' associated with the previously higher workload.

# Exam Room D: Lightning Talks

## Reverse engineering the wrong answer: Diagnosing mistakes with LLMs

• *Andrea Chlebikova, Senior Project Chemist, Department of Physics*

Experienced educators typically diagnose student misconceptions through dialogue or by scrutinising detailed written work. During training, large language models (LLMs) often ingest online forum discussions. While sometimes a point of ridicule, this exposure potentially creates a large repository of common sources of student confusion. This session examines the capability of LLMs to identify underlying mistakes based solely on single-word or numerical answers to chemistry questions. We analyse the potential of LLMs to 'reverse engineer' student thinking from final outputs and discuss how this capability could be used to enhance learning by providing personalised, automated feedback to incorrect answers.

## AI-enabled simulations for authentic student learning

• *Abigail Crowther, Learning Design Consultant, Judge Business School*

This talk will share an ongoing project at the Judge Business School to integrate AI into the learning experiences of students, transforming traditional paper-based case studies into interactive and authentic experiences. It will discuss the rationale for the project, how the simulation has been designed and developed, early insights into creating more engaging case-based learning, and future directions for the project.

## From hesitancy to confidence: Developing an AI literacy course for librarians at the University of Cambridge

• *Alberto Garcia, Librarian, Murray Edwards College*

In this presentation, I will discuss the AI literacy training course I have developed for academic librarians at the University. Designed as an asynchronous course, this initiative aimed to help academic librarians across the University strengthen their proficiency in AI literacy by providing time to experiment with different tools and fortnightly meetings in person to discuss best practices and questions arising from the course material.

Drawing on a thematic analysis of participant feedback, I will discuss how this initiative addressed a critical skills gap and empowered participants to feel more confident engaging with AI in higher education.

## But what do I do if there's no mark scheme? How to support students in the school to university transition

• *Katharine Radice, Transition and Participation Advisor, Gonville & Caius College*

This presentation will explore the difference between the study habits often embedded at school and the approaches and dispositions needed to thrive at Cambridge. Drawing on experience in the secondary school sector and one-to-one work with undergraduates at Cambridge, the presentation will outline why 'teaching to the test' in secondary schools can cause procrastination, perfectionism, low confidence and academic anxiety for undergraduates. I'll then share ideas for how supervisors can best support students in this transition.

## Student voice in evaluating the first-year skills programme at Lucy Cavendish College: Practical insights

• *Sophie Hughes, Assistant Senior Tutor: Pastoral, Lucy Cavendish College*
• *Dr Koenraad Claes, Assistant Skills Programme Coordinator, Lucy Cavendish College*
• *Dr Amy Smail, Evaluation Consultant*

Since Michaelmas 2024, Lucy Cavendish – the Cambridge College with the highest number of state school admissions – has introduced a new Skills (Tutorial) Programme to enhance first-year transition. In this session, we share insights from a participatory evaluation, guided by an independent evaluator, which centred student voice across the academic year. Students' co-defined outcomes of participation were central in enabling us to revise programme structure and pedagogy for the current iteration. We reflect on the value of student voice within evaluation and share practices intended to inspire colleagues seeking to embed participatory approaches wihin their own programme evaluations.

# Parallel Session Two

## Exam Room A&B: Presentations

### Hopeful pedagogies: Engaging critically with ideas of 'hope' and 'hopelessness' in and beyond the classroom

- *Dr Rosanna Carver, Teaching Associate, Department of Geography*
- *Prof. Emma Mawdsley, Head of Department, Department of Geography*

When asking students to engage with multiple crises including dispossession, conflict and environmental change, we must also encourage them to imagine alternative possibilities. Our third-year paper 'Geographies of Hope' is based on the idea that hope is central to emancipatory education (hooks, 2003). This presentation reflects on our experience of designing and teaching a paper that addresses "the grief that students feel and the hope they find… while making space for their full affective selves" (Lopez, 2022: 794). Drawing on slow teaching and creative pedagogy, we share ways to encourage engagement with critical hopeful understandings of the world, as a vital starting point for change (Ahmed, 2017).

### What is resilience? And does it matter at Cambridge?

- *Prof. Paul Wilkinson, Clinical Dean, School of Clinical Medicine*

I commonly hear, "Our students should be more resilient". This presentation will define resilience and present empirical data. Thirteen resilience factors (individual, family, peer), mental health and 'stress' were measured in 451 Cambridge medical students at baseline (several months before exams) and during exams. The strongest single predictor of each of exam-time mental health and stress was baseline mental health and stress. However, while predictive effects of individual baseline resilience were small, the total effect of all resilience factors was greater than that of mental health or stress. I shall compare possible approaches to improving student mental health / stress: improving mental health symptoms directly or 'improving resilience'.

## Beads and pipe cleaners! A novel, hands-on method for teaching key concepts in molecular biology


- *Prof. Elizabeth Soilleux, Professor of Diagnostics and Biomarkers, Department of Pathology*
- *Sarah Barden, Medical Student, University of Oxford School of Medicine and Biomedical Sciences*


To inspire future biomedical sciences applicants to Oxbridge, we undertook a small study in the teaching of key concepts in molecular biology, entailing a kinaesthetic 'arts-based' workshop. As part of a summer school in Cambridge, students used letter beads and pipe cleaners to make physical representations of DNA, RNA and protein sequences to teach reverse complementing DNA, transcribing DNA to RNA, translating RNA to protein, and the impacts of certain DNA mutations on the final protein sequence. Students completed Likert-type 5-point scale questionnaires giving very positive feedback. This activity might also be used in undergraduate teaching.

## What are experimental practical classes actually for?


- *Prof. Matthew J Mason, University Physiologist and Professor of Comparative Physiology*
- *Dr Kamilah Jooganah, Senior Teaching Associate, Cambridge Centre for Teaching & Learning*


Experimental practical classes have been such a fundamental part of scientific training that their purpose has often been taken for granted. However, in recent years, many such classes have been replaced with online alternatives. The ongoing curriculum reviews here in Cambridge make this an opportune moment to reflect on the broader purpose of 'live' practicals. Based on our recent publication in Current Opinion in Physiology (Jooganah & Mason, 2026), we categorize the key scientific and social learning objectives of such classes and suggest how we can make practicals more effective learning environments.

Jooganah, K. & Mason, M.J. (2026) The educational benefits of experimental practical classes in physiology. *Current Opinion in Physiology*: 47: 100919.

# Exam Room D: Presentations

## Enhancing critical thinking through genAI: Student-centred approaches to ethical AI use in the humanities

- *Dr Lorna Waddington, Associate Professor of International History, University Academic Lead for Academic Integrity, University of Leeds*

GenAI tools like ChatGPT, Claude and Gemini are now part of everyday university life, but how do we use them to genuinely enhance student learning rather than replace it? This talk shares a 9-week genAI 'plug-in' built into a compulsory first-year History skills module. Each short 15-25-minute session sits within a seminar and gives students space to try out genAI while building the core skills every historian needs. Students put genAI to the test: exploring its strengths and blind spots, spotting bias and omissions, and comparing outputs with real scholarly sources. They also experiment with prompts to see how phrasing changes responses and reflect on the ethical questions raised by AI in academic work. The project shows how genAI can shift from being a quick-fix shortcut to a springboard for deeper learning. By tackling it head-on, students sharpen their critical thinking, digital literacy and ethical awareness – skills that prepare them not just for university, but for an AI-shaped future.

## Assessing the assessors: Exploring AI-human gaps in exam marking

- *Dr Deborah Talmi, Associate Professor, Department of Psychology*

This study evaluates the potential contribution of generative AI to university exam marking. As AI systems can now generate credible essays and provide formative and summative feedback, it is vital to clarify the unique value of human academic judgement. We compared marks assigned by a multi-LLM ensemble with those of human assessors in undergraduate psychology essays from three British universities. AI and human markers align reasonably but performance varies across essay types and grading in undergraduate assessment. Our findings reveal both promising capabilities and clear limitations.

## Pedagogy both ways: How learnings from online course development improve in-person teaching

- *Session Chair: Emily Tannert Patterson, Product Strategy Manager and Senior Learning Designer, Cambridge Online Education, Cambridge University Press and Assessment*
- *Contributors:*
  - *Prof. Nathan Crilly, Professor of Design, Department of Engineering*
  - *Dr Alexandru Marcoci, Assistant Professor of Global Risk and Resilience, Centre for the Study of Existential Risk*
  - *Dr Matthew WC Tang, Associate Teaching Professor in Digital Electronics & VLSI Design, Department of Engineering*
  - *Dr Virginia Pedicord, Assistant Research Professor, Cambridge Institute of Therapeutic Immunology & Infectious Disease*

Despite – or perhaps because of – the proliferation of online learning in the post-Covid world, online teaching and learning is often considered a distant second-best option when designing learning experiences. However, because online course design provides the opportunity to consciously apply backwards design and interactive learning principles, the application of pedagogy learned in the process of online course design can improve the quality of design for and delivery of in-person learning.

This panel discussion will explore the experiences of four University of Cambridge professors from diverse backgrounds and subjects who all have experience developing online learning with Cambridge Advance Online, the University's commercial continuing professional development online learning platform. These four professors will share how they utilised what they learned during their course development to improve their in-person teaching and therefore their students' learning experiences.

The discussion will be moderated by Emily Patterson, Senior Learning Designer for Cambridge Online Education, who has partnered with numerous university academics (including the four panellists) to produce award-winning online learning experiences.

# Parallel Session Three

## Exam Room A&B: Lightning Talks

### Student perspectives on AI across disciplines

- *Dr Iulia Coanda, Senior Blended Learning Researcher, Blending Learning Service*

This session presents a cross-disciplinary overview of student views and experiences of generative AI at the University. Drawing on qualitative data from departments and faculties including Chemistry, Geography and History, it outlines students' first thoughts on AI, the uses they attribute to it and the concerns they raise about its place in education. The session focuses on students' descriptions of their practices, views and feelings, giving academics material for reflection on their own approaches to AI within their disciplinary context.

### Academic Attainment Programme: Evidence from a sustained online intervention

- *Hayley Hilson, Outreach Manager, Lucy Cavendish College*
- *Anna Foskett, Outreach Assistant, Lucy Cavendish College*

The Academic Attainment Programme is Lucy Cavendish College's flagship outreach programme, supporting high-achieving sixth-form students from underrepresented backgrounds to realise their full academic potential and progress to highly selective universities. Delivered online over 18 months, the programme is truly nationwide, reaching 1,500 students annually and 1 in 3 schools across England and Wales. It combines tailored subject-specific tutoring, opportunities for skills development and supracurricular exploration, and expert university application guidance.

This talk will explore the programme's pedagogical design, scalability and evaluation, drawing on five years of delivery and data. It will highlight evidence showing that participants are significantly more likely to receive offers from and progress to the University of Cambridge and other Russell Group universities, and reflect on what sustained, remote academic intervention can achieve for attainment-raising at scale.

## Enhancing researcher training through participatory MRes curriculum redesign

• *Dr Samuel McDermott, Associate Teaching Professor and Programme Manager, EPSRC Senior CDT, Department of Chemical Engineering & Biotechnology, Selwyn College*

The EPSRC Centre for Doctoral Training in *Senior Technologies and Applications in an Uncertain World* delivers an integrated 1+3 programme which combines an interdisciplinary MRes with a PhD. The renewal of the CDT provided a timely opportunity to re-evaluate and redesign the MRes to ensure alignment with the changing training needs of our student researchers. Through a participatory process involving current students, alumni, academic staff and industry partners, we gathered diverse perspectives on what effective researcher training should look like in today's interdisciplinary and rapidly changing sensor research landscape. These insights informed a comprehensive redesign of the programme, resulting in an MRes that is more engaging, more relevant, and more closely aligned with the skills and capabilities required for successful sensor research careers.

# Exam Room C: Presentations

## Pass or fail exams: What are we actually assessing?

- *Dr Mary Fortune, Associate Teaching Professor, Department of Public Health & Primary Care*

When you are writing an exam, how do you choose the pass mark? Do you always pass a fixed proportion of students, or would you be happy for the entire cohort to pass if they have all demonstrated the requisite knowledge and skills? There are many methods that can be used to set a pass mark, or to assess the reliability of an assessment after it has been sat. However, they often rely on subjective judgements by a small group of people, small data sizes and statistical assumptions which are clearly violated.

In this talk, I'll be discussing Foundations of Evidence-Based Practice, a first-year course taken by all medics and vets. I'll discuss some of the changes I've made to the assessment in order to make it more authentic, while keeping it within a computer-markable format. I'll also discuss why I believe that doubling the length of the exam will make it more accessible for many disabled students.

## Learning by doing in Economics

- *Dr Oleg Kitov, College Associate Professor of Economics, Selwyn College, Faculty of Economics*

'Learning by doing' is a blended pedagogical framework that redesigns quantitative economics teaching from episodic, high-stakes assessment to continuous, evidence-based practice. Students complete fortnightly, timed, closed-book tests designed with spacing and interleaving to trigger effortful retrieval. A sustainable feedback loop follows: learners self-mark against detailed rubrics, exchange structured peer feedback to build evaluative judgement, then use supervisor dialogue for targeted coaching. Finally, a formative two-stage assessment combines individual with collaborative problem-solving. Supported by simple cloud submission and PDF annotation, this method reduces anxiety, deepens conceptual understanding, and scales across problem-based disciplines with performance gains and higher first-class rates.

# Exam Room D: Presentations

## Creating space to learn: The future of timetabling at Cambridge

- *Dr Niki Sol, Change Manager, Education Services*
- *Jess Joseph, Functional Analyst, University Information Services*

The Cambridge Timetabling Project is transforming how we design and deliver student timetables by improving quality, equity and personalisation. This presentation will showcase how new modelling tools enhance timetable quality, such as eliminating Saturday lectures, and enable evidence-based understanding of teaching patterns. We will also explore how personalised timetables can better support diverse student needs, including accessibility requirements and realistic travel times between teaching locations. By embedding inclusivity and data-informed decision-making into timetabling processes, the project aims to create learning environments that enable all students to thrive across the collegiate University.

## Using digitised collections: IIIF literacy, methods and tools

- *Andy Corrigan, Digital Library Coordinator, Cambridge University Library*

Images and primary sources make learning more engaging, but IIIF – the International Image Interoperability Framework – reimagines what we can do with them. Digitised collections from all over the world can be used with a variety of free tools and methods to enrich teaching practice and the experience of students. IIIF viewing tools that enable detailed visual comparison can also facilitate collaborative analysis and annotation, stimulating discussion in hybrid spaces. Interoperability enables the reinterpretation of reconstruction of existing historical objects and the generation of new virtual objects of enquiry. Interactive and embeddable storytelling tools provide engaging ways to relate and learn from cultural collections, but also contemporary visual and even audio resources, inviting deeper relationships between students and digitised collections than traditional presentation tools like PowerPoint.

We can use these digital tools to undertake virtual and immersive activities that are not possible with the physical world alone, generating a new type of hybrid experience. IIIF is a vast and collaboratively developed community, and the team behind Cambridge Digital Library will share a new resource to help you and your students to develop digital literacy around it and learn about the methods and tools that are available to you.

Online exhibit sample

## Evaluating educational gain from College teaching and learning interventions

- *Dr Helen Van Noorden, College Associate Professor and Director of Studies in Classics, Girton College*
- *Dr Harriet Groom, Fellow in Biomedical Sciences and Director of Studies in Biological Natural Sciences, Sidney Sussex College*
- *Dr Matthew Neal, Acting Deputy Senior Tutor in Teaching & Learning, Girton College*
- *Dr Catherine Sumnall, Deputy Senior Tutor, Sidney Sussex College*

College academic leaders operate within different contexts and educational strategies but share the challenge of evaluating interventions and measuring their 'success'. This session is informed by experiences of implementing teaching & learning initiatives at Girton, Sidney Sussex and Downing since 2022, and by the wider HE landscape debating the question of 'educational gain' as a metric or as an ambition.

Through facilitating two breakout discussions, we seek to share and gather wisdom on designing, implementing and evaluting one-to-one coaching-style interventions, larger onboarding courses and systemic changes. Such evaluations may feed into College 'Education Strategies' for the longer term.

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Cambridge Centre for Teaching and Learning

The Cambridge Centre for Teaching & Learning supports educators, encourages innovation and provides a focus for enhancing education at Cambridge.

Our educational development work aims to provide a sustained focus on complex educational priorities, help to develop an evidence base for both designing and evaluating enhancement activities, and engage with Departments and Colleges to identify opportunities to enhance teaching, learning and assessment. We aim to support the professional education and development of those who teach / support the learning of Cambridge students.

You can hear about new developments through our Teaching & Learning Newsletter.

# Cambridge Centre for Teaching & Learning

Student Services Centre
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