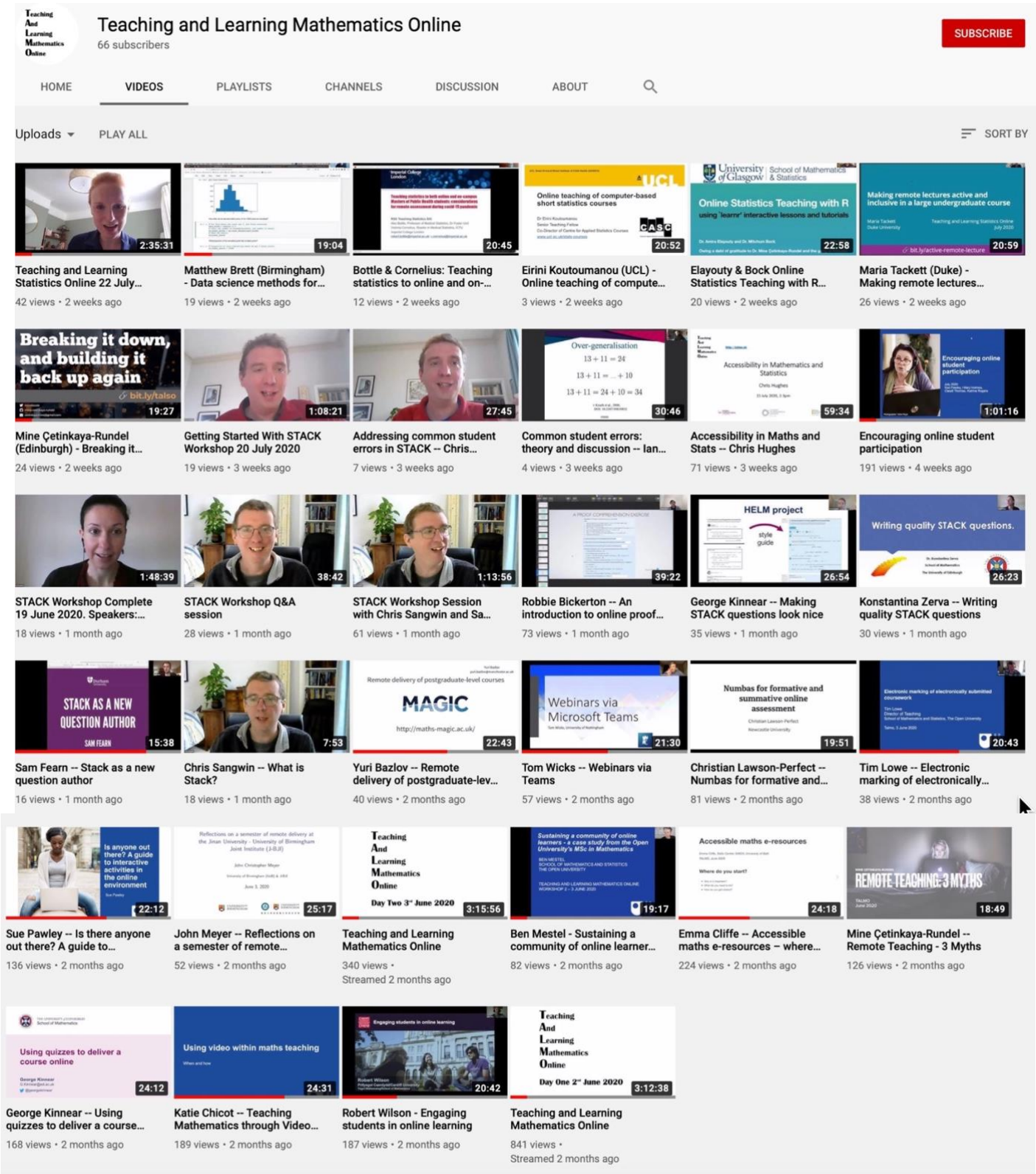
Roundup of talks from TALMO - Teaching and Learning Mathematics Online, June 2/3 2020

Official TALMO Conference Page - http://www.talmo.uk
YouTube Channel - https://www.youtube.com/channel/UCC1yB03N8tAjQiUyed5iw9g/featured
List of TALMO talks beyond June 02/03, including Statistics, Data Science, STACK, etc. (two reviews included below) - https://www.youtube.com/channel/UCC1yB03N8tAjQiUyed5iw9g/videos



Robert Wilson	Engaging students in online mathematics learning

Robert gives on open discussion of the difficulties and resolutions in setting up a successful remote module delivery. In particular, the problems of assembling the weekly learning schedules are discussed and how he resolved some of the issues. What is good about this presentation is that the speaker is realistic about the problems, and perhaps how they arise in a piecemeal way, and his attempts to resolve them as on-going learning experience for the lecturer alongside that of the students.

***

I think the first ten minutes or so is worth watching. He gives a few interesting tips about how to structure your online teaching and he shares his experience and some statistics. Nothing revolutionary, but still useful.

Katie Chicot	Teaching Mathematics through Video Recordings

Excellent background information on use of video, recording, lectures, pieces to camera, do's and don'ts.

George Kinnear	Using quizzes to deliver a course online

Some detail of the syllabus construction and content for an A-level Algebra and Calculus course – with different quiz approaches: faded worked examples; give an example; retrieval practice.

Mine Çetinkaya-Rundel	Remote Teaching - 3 Myths

The 3 Myths are concerned with

1. the tension between Technology and Pedagogy, i.e. which one should drive which;
2. the virtue and challenges of synchronous delivery/engagement;
3. creating materials for asynchronous delivery.

Of these I found the first one (the first 5 minutes) more interesting than the other two, with the messages I took along being

- Consistency of technological choice within course is important
- Don't make your technology choices your students' problems
- Get early feedback

The speaker's examples are drawn from her experience teaching R for data science students; there are some specific software suggestions, which may be useful for somebody teaching a stats module.

Emma Cliffe	Accessible maths e-resources – where do you start?

This was mainly about how to make written resources accessible to students who had issues with printed media (blind, partially-sighted, dyslexic etc.). She clearly knew her stuff and gave a useful overview and tips for particular situations. Unfortunately, the main thing I took away was that the traditional Latex into PDF just doesn't work, and to make things truly accessible would mean a shift away from this which would be a huge thing to do. She didn't say much about the legal requirements and I understand that these are somewhat open to interpretation. At some point we probably need a school policy on this kind of thing. This would be a good talk to watch for those coming up with that. I think it would also be useful for anyone who knows they have a blind (for instance) student one their module. I wouldn't suggest it as a talk that us ordinary lecturers would find especially useful.

Ben Mestel	Sustaining a community of online learners – case study from the Open University's MSc in Mathematics

Ben presents, perhaps, an alternative approach, but it should be remembered that he is operating within and strongly supported by the OU's advanced remote teaching infrastructure.

John Meyer	Reflections on a semester of remote delivery at the Jinan University - University of Birmingham Joint Institute (J-BJI)

This talk is about remote delivery of a Jinan/Birmingham applied maths program. The decision to switch to remote teaching was made two weeks before the start of the semester, so the delivery was quite ad hoc and (as the speaker says) bumpy. I wouldn't necessarily recommend to watch the entire video, but the following two sections could be useful for colleagues thinking about combining asynchronous and synchronous sessions:

11:38, reflection on use of pre-recorded videos;
15:46, reflection on live sessions (post-video q&a and remote office hours).

Three main takeaways:

1. Prepared content can be useful in reducing risk (speaker talks about connection problems UK-China, although doesn't mention this as a problem for synchronous sessions).
2. It is good to have extra support staff in sessions to sort out problems and field questions and feedback from students (I have seen this in online research seminars, where it is crucial).
3. It is important to consider how questions are fielded (otherwise one may quickly get overwhelmed by emails).

The program used to be taught in person, In 4-week blocks, by Birmingham lecturers. For each module there were 6 lectures (2 hours each on M,T,T) and 2 support classes (1 each on W, F) per week, weekly office hours, weekly formative assessments with group submission (marked and feedback given at end of week), and fortnightly summative assessments in class (closed book) via Möbius (a VLE built around Maple, see digitaled.com, looks secretive and expensive).

For remote teaching each 2-hour lecture was replaced by 2 hours of recorded videos plus 1 hour of Q&A. The number of support classes was increased by 1. All synchronous activities were done via Zoom. Formative assessment was dropped completely (it sounds like the speaker regrets this, although in the end he says marks were comparable to previous years). Summative assessment was changed to open book with a longer deadline (still via Möbius).

Sue Pawley	Is there anyone out there? A guide to interactive activities in the online environment

Advice from experienced lecturer on impactful communication with the students.

Tim Lowe	Electronic marking of electronically submitted coursework

[This talk] is from the OU perspective. After some general introduction, it pretty quickly zooms in on annotating pdf-submitted work, which I think we have done liberally during exam marking. There is some comparison of different software for this (free and not) and of various equipment (Mouse to iPad). It could be of general interest but everyone who has done large-scale marking this past exam season would not learn much anymore.

Christian Lawson-Perfect	Numbas for formative and summative online assessment

The talk contains only a brief overview of Numbas, but it is very dense and full of ideas and opinions regarding online assessment. I would just recommend watching the whole thing to everyone.

Links to further information at 12:20: docs.numbas.org.uk, numbas.org.uk/blog (use during Covid), eams.ncl.ac.uk (online conference on E-Assessment in Mathematical Sciences)

- Numbas is an e-assessment system designed for mathematical subjects. I have played around quite a bit with qmplus quizzes, and Numbas looks a lot more powerful (especially regarding handling of mathematical expressions and randomization). I don't have much experience with WeBWork, but Numbas looks more modern (the main advantage WeBWork seems to be a large repository of existing questions, but there aren't many existing questions on combinatorics and

optimization). Numbas apparently allows for easy integration of questions with videos, images, and interactive graphics (as in, draw something that depends on the question and solution).

- In Newcastle it was used pre-Covid for assessed coursework (1-5% of overall mark), and this year for all exams in ``Part 1'' (where marks count only for progression, not for final degree classification). They did the latter with open-book online exams, with all exams available throughout the whole 3-week exam period(!).
- They had a large team for question writing and testing(!), and it sounds like they needed it.
- They suggest to _not_ assume the worst of students: they didn't see any evidence of cheating, but whatever they tried to limit cheating (like limiting navigation of questions) lead to problems.
- Numbas interfaces with moodle and blackboard via LTI, which needs to be set up by IT support. Using it for formative assessment probably needs a controlled browser environment (like safeexambrowser.org), otherwise students could cheat by inspecting question source code.

Tom Wicks	Webinars via Teams

Discusses the general principles and issues arising with online learning - some basics with set-ups via Microsoft teams. Issues are gently discussed with clarity. Practicalities of webinars, student feedback, and preferences of students etc.

Yuri Bazlov	Remote delivery of postgraduate-level courses

Remote delivery of postgraduate-level courses is about PhD-level courses, and specifically about remote teaching and assessment in the MAGIC taught-course centre. Pre-virus they used classrooms with video links (one at each participating university) and lecturers sharing slides or document cameras (one or two). They have now switched to online teaching via zoom, and possibly some flipped components. They also make videos available to outside students. Assessments were always take-home and open-book with a two-week deadline, so this hasn't changed. There were questions (left open) at the end whether universities could share final-year modules in a similar way (to broaden their offer), and whether taught course centres should join forces (which I guess becomes easier if teaching happens remotely).

The talk doesn't give details beyond what I have written above, so may not really be worth watching.

Sue Pawley, et. al.	Encouraging student participation

Interaction in online maths tutorials – active learning. Sue describes how we might adapt our likely first response to remote teaching which is to adopt a lecturing style online. Student views on best remote interactions, participation etc.

Matthew Brett	Data Science methods for online teaching

This talk includes an online tutorial on remote teaching of data science in which you can participate via web URLs as the talk progresses.