Delivering next generation higher education in STEM
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wider diversity of students. In this talk, the use of technology and mentoring other staff to increase engagement in tasks and assessment will be discussed.

Session 9.3a: Does blended learning increase students’ engagement and satisfaction?
Dr Kaska Sypek, University of Strathclyde
Proposition 3
Oral presentation, Connect 1 + 2
A recent publication by The World Economic Forum demonstrates the need for 101 days’ training or upskilling of employees by 2022. Are we preparing our full-time graduates to be life-long learners? In an undergraduate, full-time course; one week’s course material was delivered online (Moodle Lesson) to study students’ reactions to the new method of delivery. After three years of post-project surveys it appears that while the majority of respondents liked the lesson when asked if they preferred this kind of delivery in comparison to a traditional lecture only half responded positively to the question.

Session 9.3b: A scalable blended approach to student diversity
Dr Carlos Matos and Mr Nuno Barreiro, Royal Holloway, University of London
Proposition 3
Oral presentation, Connect 1 + 2
In this session we present a system that allows university students to progress at their own pace, providing real-time monitoring and adapting to each student’s needs and expectations. Some students require more support and advice, and others need to be challenged in order to remain engaged. Our system gives opportunities to all students to pursue their studies with a successful outcome. Progress monitoring also informs staff on the readiness of students to participate in advanced courses or more challenging projects, for instance with real clients, presenting opportunities that will last for their professional life.

Session 9.3c: Addressing student retention and engagement using new technology
Dr Antonio Peña-Fernández and Mark Evans, De Montfort University and María Angeles Peña, Universidad de Alcalá
Proposition 3
Oral presentation, Connect 1 + 2
A range of strategies to improve retention and progression of Biomedical Science students at De Montfort University (DMU) implemented in 2016/17 included: an intensive induction week with social/networking events involving academics; an increment in the number of lectures and tutorials on STEM topics; the creation of regular drop-in sessions for each module. These strategies might have translated into a trend in the reduction of the percentage of students that failed in year 1, due to academic circumstances, from 19% in 2014/15 to 9.6% in 2016/17. More actions being developed include creation of a complete website covering fundamental Biology and Chemistry.

Session 9.4a: Self-efficacy: Empowering diversity in STEM recruitment
Dr Philippa Boyd and Associate Professor Maria Vahdati, University of Reading
Proposition 4
Oral presentation, Connect 3
Much effort and many words have gone into the development of outreach materials to encourage young people to study STEM subjects at university. Even more effort and debate has been made to increase the appeal of these materials to both those from BAME groups and women. The aim of this research is to explore whether these materials have their desired effect, which elements are effective in attracting the target groups, and what materials in an increasingly digital age, are relevant in forming career and university choices. This session presents our research and explores implications on addressing equality, diversity and inclusion issues across STEM disciplines.

Session 9.4b: Inclusive Engineering
Professor Kate Sugden, Aston University
Proposition 4
Oral presentation, Connect 3
Diversity and inclusion in Engineering has been a focus which has been growing in importance over the past few years, but remains something that is discussed on the fringes of our work, rather than something that we reference on a daily basis. In order to ensure that we produce the best, most accessible, non-biased, inclusive products and services, we need to ensure that we foster a mind-set of inclusion that allows us to consider our designs in an all-inclusive way, not only looking through the lenses of people with protected characteristics, but also considering a range of other lenses.