Dr Chris Sangwin

University of Birmingham

STACK version 3: one year on

Day 1 – Keynote Speaker I (10.25-11.25)

Valid assessment is the cornerstone of effective teaching. In this talk we will discuss computer aided assessment (CAA) of mathematics, with a focus on automatically establishing the properties of answers which have mathematical content, and providing feedback to students based on the result of these calculations. Underlying the assessment process is a library of computer algebra functions which are used to establish the mathematical properties of students' answers. For example, establishing that the student's answer is the "same" as the teacher's. This talk will discuss both theoretical and practical issues associated with this in the context of the design goals and practical decisions made in developing the STACK CAA system. In particular, we look at the system STACK and how it can be used to automatically assess an answer which consists of a system of equations and inequalities, with a focus on recent developments in libraries to support this topic. We report how it has been used at the University of Birmingham in the session 2012-2013.

Chris Sangwin is a Senior Lecturer in the School of Mathematics at the University of Birmingham in the United Kingdom. From 2000-2011 he was seconded half time to the UK Higher Education Academy "Maths Stats and OR Network" to promote learning and teaching of university mathematics. In 2006 he was awarded a National Teaching Fellowship. His learning and teaching interests include (i) automatic assessment of mathematics using computer algebra, and (ii) problem solving using Moore method and similar student-centred approaches.