

FINAL ANNOUNCEMENT

Mathematics for Physics Graduates

A one day meeting of the Higher Education Group of The Institute of Physics

Date: Tuesday 7th October 2008 (Coffee at 10.30hrs, first talk 11.00hrs)

Venue: School of Physics and Astronomy, The University of Manchester

Organisers: **Raymund C. Jones**, The School of Physics and Astronomy, The University of Birmingham, r.c.jones@bham.ac.uk
Niels Walet, School of Physics and Astronomy, The University of Manchester, Niels.Walet@manchester.ac.uk
Simon Bates, The School of Physics, The University of Edinburgh
s.p.bates@ed.ac.uk

Registration: cost £30. To register please email Niels Walet on niels.walet@manchester.ac.uk and send a check payable to the University of Manchester to Professor N. Walet, The School of Physics and Astronomy, The Schuster Laboratory, The University of Manchester, Manchester M13 9PL. You can pay cash on the day but advance registration would be appreciated.

Abstract

There is a widespread belief that the mathematical competence of students entering Physics Degree programmes (and programmes in allied disciplines) has suffered a marked decline over the last decade or so. Evidence to support this has been produced in an extensive report* published by the Engineering Council in collaboration with a number of the learned Mathematical Societies. This meeting will open with a factual presentation of the data in such studies and will include a talk given by a teacher who sees the difficulties from the perspective of a school Physics or Mathematics Department.

The aim of the meeting is not, however, to bemoan the passing of some golden age of mathematical competence, but rather to take a positive view of the challenge which faces us all and to explore some solutions which have been tried – albeit with varying degrees of success- around the UK. There will be presentations from a National Teaching Fellow from a major Mathematics Department and there will also be discussion of the possible use of Technology in helping our students achieve the level of competence needed for their Physics programmes.

A major part of the meeting, however, will consist of short presentations by a number of speakers who have taught Mathematics to Physics students in their own Universities and who have experimented with a number of different ways of helping their own students. Plenty of time will be allocated for discussion with and questioning of these speakers, and it is hoped that the meeting will encourage members of other Physics Departments to experiment with some of the ideas they learn about at this meeting and help spread good practice around the Physics community.

**Measuring the Mathematics Problem*, June 2000, A Report published under the auspices of the LTSN (Mathematics, Statistics and OR), The Institute of Mathematics and its Applications, The London Mathematical Society and The Engineering Council, published by the Engineering Council

Programme

10.30-11.00hrs Registration and Coffee

11.00-11.40hrs Duncan Lawson, Faculty of Engineering and Computing, Coventry University and Director of Sigma CETL

Things ain't what they used to be?

11.40-12.20hrs Christopher Sangwin, Admissions Tutor, The School of Mathematics, The University of Birmingham

The decline in technique: what have we done about it?

12.20-13.00hrs Colin Steele, Director of Service Teaching, The School of Mathematics, The University of Manchester

Lessons learned from the Helm project and the use of a Mathematical Resource Centre

13.00-13.45hrs Lunch

13.45-14.25hrs Simon Hunt. Head of Physics, The Manchester Grammar School

A Teacher's Perspective

14.25-15.45hrs Four different approaches to Mathematics for Physics Students: a short symposium

(i) 14.25-14.45 Simon Bates, Director of Teaching, School of Physics , University of Edinburgh
Edinburgh: Our version of the maths problem: symptoms, diagnosis and a treatment

(ii) 14.45-15.05 Raymund C. Jones, Senior Tutor, School of Physics and Astronomy, The University of Birmingham
Birmingham: An Alternative Mathematics programme for year 1 students whose preparation appears weak on entry

(iii) 15.05-15.25 Derek Raine, Department of Physics, The University of Leicester and pi-CETL
Leicester: Support Mathematics and Student Centred Learning

(iv) 15.25-15.45hrs Niels Walet, The Department of Physics and Astronomy, The University of Manchester
Manchester: Using Mathematics in context: experiences from the use of workshops.

15.45-16.00hrs General Discussion

16.00hrs Coffee and end of meeting