

The second

Support Mathematics for Acoustics Research Training

SUMMER SCHOOL

University of Southampton, 11th – 15th July, 2005

A one-week residential summer school for postgraduate students and postdoctoral researchers in acoustics. The course aims to revise and strengthen the mathematical framework that underlies research into acoustics. For one week, internationally recognised acousticians and mathematicians will present lectures, hold tutorials and hands-on computer sessions, and give one-to-one surgeries on mathematical topics of interest to acousticians. The staff-to-student ratio will be about 1-to-4, making it an unparalleled opportunity to acquire or consolidate a firm mathematical foundation for your research, and to meet fellow acoustics researchers.

The cost is subsidised by EPSRC and will be free to EPSRC-funded doctoral students. For other attendees the cost is £150 each, which may be paid from research contracts if appropriate. This includes en-suite accommodation and meals and refreshments during the week, plus a copy of the book "Lecture Notes on the Mathematics of Acoustics" based on the lecture notes from the first SMART summer school. Forty places are available and registration is open now.

Day 1: Revision of Mathematical Methods:

- Vector calculus
- Complex variables
- Integral transforms

Day 2: Mathematics of Waveguides:

- Wave propagation in a guide
- Mode matching
- Residue calculus

Day 3: Mathematics for Signal Processing:

- Z transforms
- Auto/cross covariance
- Spectral estimators
- Iterative methods

Day 4: Computational Acoustics:

- Finite elements
- Boundary elements
- Finite difference methods

Day 5: Special topics:

- Asymptotic methods
- Nonlinear acoustics
- Green's function methods

Special guest lecture by Professor Allan Pierce, Boston University, editor of the Journal of the Acoustical Society of America and author of 'Acoustics: an introduction to its physical principles and applications.'

Plus lectures on special topics including:

- Wave interaction with rough surfaces
- Modelling of atmospheric propagation
- Analysis of perceptual measurements
- Statistics for acoustics experiments
- Acoustics of porous media

Course Coordinator:

Keith Attenborough (Hull)

Guest Lecturer:

Allan Pierce (Boston University, USA)

Contributing Lecturers:

John Chapman (Keele)

Trevor Cox (Salford)

John Elliott (Hull)

Simon Chandler-Wilde (Reading)

Y. W. Lam (Salford)

Chris Linton (Loughborough)

Maureen Mclver (Loughborough)

Nigel Peake (Cambridge)

Ian Thompson (Loughborough)

Olga Umnova (Salford)

Matthew Wright (Southampton)

TO REGISTER

Email Susan Brindle (sjb@isvr.soton.ac.uk) with the following information:

- Name
- Status (postgrad/postdoc)
- Grant reference (for EPSRC doctoral students)
- Institution, department and supervisor
- Current research topic
- Address for invoice
- Special requirements (diet, access etc)
- Particular interests (if applicable)

Further instructions will then be sent to you.