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PREFACE

The *5th International Conference on Inverse Problems in Engineering: Theory and Practice* which will be held at the University of Cambridge, Clare College, Cambridge, UK, 11-15th July, 2005, is intended to bring together researchers from various fields with a common interest in inverse methods. Many existing challenges in engineering can be solved by the application of inverse methods, and the conference is intended to facilitate exchange of ideas between researchers from different fields. It is of importance to stress that the conference will bring together both the theory and practice on inverse problems. The conference will emphasize a broad range of deterministic, statistical, mathematical, computational and experimental approaches that can be applied to the solution of inverse problems within acoustics, elasticity, electromagnetism, fluid and solid mechanics, heat and mass transfer, optics, porous media, etc.

This fifth conference is a continuation of the series initiated by J.V.Beck in Palm Coast, Florida, USA in 1993, and continued in Le Croisic, France in 1996, Port Ludlow, Washington State, USA in 1999, and Angra dos Reis, Brazil in 2002.

The internationally refereed papers included in the proceedings are of exceptionally high standard and continue to bring to the attention of the community new ideas in the field of inverse problems in science and engineering. The papers by M.Bonnet and D.A.Murio are invited, and invited talks are also given by R.Kress and F.Natterer.

I would like to take this opportunity to thank all those who have agreed to co-chair sessions at the conference, all the members of the scientific committee, together with many others, who have helped to referee the papers, and all the authors who have helped to produce this high quality Proceedings on Inverse Problems.

Finally, I would like to thank the London Mathematical Society, the EPSRC and the Royal Society for providing some financial support, as well as the Institute of Physics, American Institution of Chemical Engineers, British Computing Society, American Society for Engineering Education, Engineering Conferences International, Engineering Conferences Worldwide, Physics Today, Inverse Problems in Science and Engineering, Journal of Inverse and Ill-Posed Problems and Inverse Problems for their promotion and advertisement of the conference.

Daniel Lesnic
Leeds, June 2005