

Foreword

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1 To honour the memory of Knut Bertram Broberg, and
2 to promote continuing work on the many ideas which
3 he shared so generously with students and colleagues
4 throughout his lifetime, a symposium was arranged at
5 University College of Dublin in 2007. The idea was to
6 create an informal atmosphere, and to keep the num-
7 ber of participants fairly low. This has now become a
8 bi-annual symposium with the highlight being one or
9 two lectures by outstanding world-class scientists. The
10 second Broberg Memorial Symposium was arranged
11 by the Lund Institute of Technology in Sweden (LTH)
12 in May 2009. The venue of the conference was a renais-
13 sance castle, Trolleholm, that was put to our disposal
14 by the courtesy of the Rector of LTH. Trolleholm was
15 once the home of Sophia Brahe whose careful obser-
16 vations of planetary orbits later was used by Johannes
17 Kepler to develop his laws of planetary motion. Kep-
18 pler was at the time working as an assistant to Sophia's
19 brother Tycho Brahe.

20 In this historical setting all together 40 scientists
21 from Ireland, Sweden, USA, Denmark, Germany and
22 Spain meet for the two day symposium. The presen-
23 tations made in the castle library concerned problems
24 of classical mechanics and were related to the broad
25 variety of problems addressed by Bertram. Subjects
26 included, stress waves, fracture mechanics, biomechan-
27 ics, heat transfer, fluid mechanics, numerical and exper-
28 imental methods, general continuum mechanics etc.

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Invited speakers were Professor A. Needleman, Brown
University, Providence, USA, now at University of
Northern Texas, and Professor K. Ravi-Chandar, Uni-
versity of Texas, Austin, Texas, USA. The plenary lec-
ture of Needleman titled "Modelling the process
region in ductile fracture" reviewed the current state of
fracture mechanics and particularly how to understand
the role of the process region. The plenary lecture of
Ravi-Chandar, titled "Fragmentation of ductile mate-
rials" was based on some elegant experimental work
on the dynamic fragmentation of aluminium pipes un-
der internal explosive pressure. Mr. Anders Lundström,
chairing the sessions has provided a review of a few
selected lectures that can be found on the web page:
www.bertrambroberg.eu. This special volume contains
a collection of papers contributed by a few of the sym-
posium participants.

A Bertram Broberg Memorial Fund has recently
been established at University College Dublin (UCD)
with generous support from a small group of Bertram's
close associates. The goal of the Fund is not only to hon-
our Bertram's memory through the biannual Symposia,
but also to promote continuing work on the many ideas
which he shared so generously with students and col-
leagues throughout his lifetime. The College of Engi-
neering, Physical & Mathematical Sciences will hold
an annual competition for the Bertram Broberg Memo-
rial Medal to distinguish young researchers who have
recently completed a Ph.D. thesis at UCD. A brief
biography of Bertram Broberg is included in this
special volume.