«ETTORE MAJORANA» FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE

TO PAY A PERMANENT TRIBUTE TO GALILEO GALILEI, FOUNDER OF MODERN SCIENCE AND TO ENRICO FERMI, THE "IL ALIANVA VIGATOR", FATHER OF THE WEAK FORCES

INTERNATIONAL SCHOOL OF SOLID STATE PHYSICS

30th Course

SYMMETRY AND HETEROGENEITY IN HIGH TEMPERATURE SUPERCONDUCTORS

ERICE-SICILY: 4 - 10 OCTOBER 2003

Sponsored by the Italian Ministry of Education, University and Scientific Research, NATO Advanced Research Workshop, NSF-DMR, and by the Sicilian Regional Government

TOPICS AND LECTURERS

Anisotropy in the normal and high temperature superconducting phase of cuprates
Symmetry of the condensate in high temperature superconductors
Electron density computation in correlated electronic systems
Internal strain fields, microscopic and local structure screening
Shape resonances in heterogeneous metals and
Feedback resonances in adiabatic and Fermi gases

- P. B. ALLEN, Stony Brook, USA
- A. ALEXANDROV, Moscow, Russia
- S. BORISOV, Cornell, USA
- J. ANDERSEN, Miami, USA
- A. R. BISHOP, Los Alamos, USA
- A. BUSSMANN-HOLDER, Stuttgart, Germany
- S. W. CHEONG, Rutgers, USA
- C. W. CHU, Houston, USA
- A. M. CUCCE, O, Salerno, Italy
- J. C. DAVIS, Cornell, USA
- T. EGAMI, Oak Ridge, USA
- O. FISHER, Geneva, CH
- J. HAASE, Stuttgart, Germany
- F. IACHELLO, Yale, USA
- M. INUSCIO, Firenze Italy
- V. KABANOV, Ljubljana, Slovenia
- J. KARPINSKI, Zürich, CH
- H. KELLER, Zürich, CH
- D. I. KOCHELAEV, Kazan, Russia
- S. KRUCHININ, Kiev, Ukraine
- F. KUSMARTSEV, Loughborough, UK
- A. LANZARA, Berkeley USA
- Y. LATYSHEV, Moscow, RU
- E. LIARKAPIS, Athens, Greece
- K. LIANG, Los Angeles, USA
- S. MARKAWA, Sendai, Japan
- K. MESNAS, Bydgosz, Poland
- D. MIHAILOVIC, Ljubljana, Slovenia
- K. A. MÜLLER, Zürich CH
- H. OYANAGI, Tsukuba, Japan
- B. PANUNZI, Lecce, IT
- D. PINES, Los Alamos, USA
- S. SACHDEV, Yale, USA
- S. L. SONI, Roma, Italy
- C. SAUGNAC, Paris, France
- T. SCHNEIDER, Zürich, CH
- A. SHENGELAYA, Zürich, CH
- S.R. SHENOY, Trieste, Italy
- H.T.C. STOOF, Utrecht, The Netherlands
- H. TAKAGI, Tokyo, Japan
- S. UCHIDA, Tokyo, Japan
- D. VAREL, Köln, Germany

PURPOSE OF THE COURSE

The purpose of this Course is to bring together scientists with different points of view to contribute to the critical assessment of existing knowledge in the field of high Tc superconductivity and related systems. Recent experimental results show that conventional theories fail, controversial hypotheses with well established roots in mainstream physics are being proposed. It is not unfrequently at a time like this that the scientific community is divided into two camps: 1) a minority of conservatives who are unwilling to abandon well established theories and who are ready to explain the new phenomena in the light of well established theories; 2) a minority of revolutionaries who are willing to abandon well established theories and who are ready to explain the new phenomena in the light of new theories. The purpose of this Course is to bring together these two camps, to discuss the new phenomena in the light of well established theories and to discuss the new theories in the light of well established phenomena.

This year's seminars show that the field of high Tc superconductors now gives rise to the field of the well known well-experienced in complex systems. The aim of the meeting is to discuss the direction for future research in the field of the physics of many materials with complex transport properties. In fact, the considerations of the critical parameters of strongly correlated systems that, so far, the stabilization of the coherent superconducting phase of high temperature will open new perspectives in this field.

APPLICATIONS

Persons wishing to attend the Course should apply in writing to:

- Professor Antonio BIANCONI
  Dipartimento di Fisica
  Università di Roma, "La Sapienza"
  Piazzale Aldo Moro 2, 00185 ROMA, Italy
  e-mail: *antonio.bianconi@roma1.infn.it*

specifying:

(1) full name(s), address, age, nationality;
(2) academic qualifications, present position and all filiations under a short CV;
(3) their specific interest in the Workshop.

- PLEASE NOTE
  Participants must arrive in Erice on October 3, not later than 5 pm.

POETIC VOICE

According to legend, Erice, son of Venus and Neptune, has added a small town on top of a mountain (750 metres above sea level) more than three thousand years ago. The foundation of modern history — i.e. the months of western scientific and chronological sequence as they really happened without reference to mythical causes — the great Troy (1184 B.C.) and Rome (753 B.C.), writing about events connected with the conquest of