The Abdus Salam International Centre for Theoretical Physics

Summer College and Conference on the Physics and Chemistry of Rare-Earth Manganites

Organizer(s): T.V. Ramakrishnan, A.K. Raychaudhuri
Trieste - Italy, 01 - 18 June 2003

Venue: Adriatico Guest House Kastler Lecture Hall

Final programme

Monday, 2 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

08:30 - 09:30	(Room: Adriatico Guest House (Lower Level 1)) **REGISTRATION**
09:30 - 10:30	**T.V. Ramakrishnan** / *Indian Institute of Science, Bangalore, India* **Introduction to Manganites:Phenomena and Questions**
10:30 - 11:00	(Room: Adriatico Guest House Cafeteria) --- Coffee Break ---
11:00 - 12:00	**P.B. Littlewood** / *Cavendish Laboratory, Cambridge University, U.K.* **Phases and Textures in Manganites: Appropriate Scale Theories**
12:00 - 13:00	**J.P. Attfield** / *University of Cambridge, U.K.* **Systematics and Chemical Trends**
13:00 - 14:30	--- Lunch Break ---
14:30 - 15:30	**A.K. Raychaudhuri** / *Indian Institute of Science, Bangalore, India* **Use of Tunnelling Experiments in Studies of Manganites**
15:30 - 16:00	(Room: Adriatico Guest House Cafeteria) --- Coffee Break ---
16:00 - 17:00	**M. Salamon** / *University of Illinois, Urbana, U.S.A.* **Transport Properties of Manganites**

17:00 - 18:00 **A.K. Sood** / *Indian Institute of Science, Bangalore, India*
Raman and Brillouin Scattering Studies

Tuesday, 3 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 10:30 **M. Salamon** / *University of Illinois, Urbana, U.S.A.*
Transport Properties of Manganites

10:30 - 11:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

11:00 - 12:00 **P.B. Littlewood** / *Cavendish Laboratory, Cambridge University, U.K.*
Phases and Textures in Manganites: Appropriate Scale Theories

12:00 - 13:00 **J.P. Attfield** / *University of Cambridge, U.K.*
Systematics and Chemical Trends

13:00 - 14:30 --- Lunch ---

14:30 - 15:30 **A.K. Raychaudhuri** / *Indian Institute of Science, Bangalore, India*
Use of Tunnelling Experiments in Studies of Manganites

15:30 - 16:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

16:00 - 17:00 **Y. Tomioka** / *National Institute for Advanced Science & Technology, Tsukuba, Japan*
Novel Phases in Manganites

17:00 - 18:00 **A.K. Sood** / *Indian Institute of Science, Bangalore, India*
Raman and Brillouin Scattering Studies of Manganites

Wednesday, 4 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 10:30 **M. Salamon** / *University of Illinois, Urbana, U.S.A.*
Transport Properties of Manganites

10:30 - 11:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

11:00 - 12:00 **Y. Tomioka** / *National Institute for Advanced Science & Technology, Tsukuba, Japan*
Novel Phases in Manganites

12:00 - 13:00 **N.D. Mathur** / *University of Cambridge, U.K.*
Magnetoresistance and Mesoscopic Texture in Manganites

13:00 - 14:30 --- Lunch Break ---

14:30 - 15:30 **Y. Mukovskii** / *New Materials Laboratory, Moscow, Russian Federation*
Crystal Growth in Manganites and Related Systems

15:30 - 16:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

16:00 - 17:00 **G. Gehring** / *Sheffield University, U.K.*
Jahn Teller Effect in Manganites and other Oxides

17:00 - 18:00 **P.B. Littlewood** / *Cavendish Laboratory, Cambridge University, U.K.*
Phases and Textures in Manganites: Appropriate Scale Theories

Thursday, 5 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 10:30 **M. Altarelli** / *Elettra Synchrotron Laboratory & ICTP, Trieste, Italy*
Anomalous X-Ray Scattering as a Probe of Electronic Properties

10:30 - 11:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

11:00 - 12:00 **J.P. Attfield** / *University of Cambridge, U.K.*
Systematics and Chemical Trends

12:00 - 13:00 **N.D. Mathur** / *University of Cambridge, U.K.*
Magnetoresistance and Mesoscopic Texture in Manganites

13:00 - 14:30 --- Lunch Break ---

14:30 - 15:30 **G. Gehring** / *Sheffield University, U.K.*
Jahn Teller Effect in Manganites and other Oxides

15:30 - 16:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

16:00 - 17:00 **Y. Tomioka** / *National Institute for Advanced Science & Technology, Tsukuba, Japan*
Novel Phases in Manganites

17:00 - 18:00 **A.K. Sood** / *Indian Institute of Science Bangalore*
Raman and Brillouin Scattering Studies of Manganites

Friday, 6 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 10:30 **M. Altarelli** / *Elettra Synchrotron Laboratory & ICTP, Trieste, Italy*
Anomalous X-Ray Scattering as a Probe of Electronic Properties

10:30 - 11:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

11:00 - 12:00 **T.V. Ramakrishnan** / *Indian Institute of Science, Bangalore, India*
Introduction to Manganites: Phenomena and Questions

12:00 - 13:00 **Y. Mukovskii** / *New Materials Laboratory, Moscow, Russian Federation*
Neutron Study of Manganites

13:00 - 14:30 --- Lunch Break ---

14:30 - 15:30 **J.P. Attfield** / *University of Cambridge, U.K.*
Systematics and Chemical Trends

15:30 - 16:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

16:00 - 17:00 **Y. Tomioka** / *National Institute for Advanced Science & Technology, Tsukuba, Japan*
Novel Phases in Manganites

18:30 - 18:30 (Room: Adriatico Guest House Cafeteria)
--- WELCOME RECEPTION ---

Monday, 9 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 10:30 **G. Gehring** / *Sheffield University, U.K.*
Jahn Teller Effect in Manganites and other Oxides

10:30 - 11:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

11:00 - 12:00 **A.K. Raychaudhuri** / *Indian Institute of Science, Bangalore, India*
Noise Spectroscopy of CMR Materials

12:00 - 14:30 --- Lunch Break ---

14:30 - 15:30 **M. Altarelli** / *Elettra Synchrotron Laboratory & ICTP, Trieste, Italy*
Anomalous X-Ray Scattering as a Probe of Electronic Properties

15:30 - 16:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

16:00 - 17:00 **A.J. Millis** / *Columbia Universiy, New York, U.S.A.*
Theory of CMR Materials

Tuesday, 10 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 10:30 **R. de Renzi** / *Universita degli Studi di Parma, Italy*
Local Probes (e.g NMR and usr) of Dynamics in Manganites

10:30 - 11:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

11:00 - 12:00 **A.K. Raychauduri** / *Indian Institute of Science, Bangalore, India*
Noise Spectroscopy of CMR Materials

12:00 - 13:00 **D.D. Sarma** / *Indian Institute of Science, Bangalore, India*
Photoelectron Spectroscopy

13:00 - 14:30 --- Lunch Break ---

14:30 - 15:30 **M. Altarelli** / *Elettra Synchrotron Laboratory & ICTP, Trieste, Italy*
Anomalous X-Ray Scattering as a Probe of Electronic Properties

15:30 - 16:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

16:00 - 17:00 **A.J. Millis** / *Columbia University, New York, U.S.A.*
Theory of CMR Materials

17:00 - 18:00 **T. Egami** / *University of Pennsylvania, Philadelphia, U.S.A.*
Lattice Effects in CMR Manganites and Cuprates

Wednesday, 11 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 10:30 **R de Renzi** / *Universita degli Studi di Parma, Italy*
Local Probes (e.g. NMR and usr) of Dynamics in Manganites

10:30 - 11:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

11:00 - 12:00 **A.J. Millis** / *Columbia University, New York, U.S.A.*
Theory of CMR Materials

12:00 - 13:00 **D.D. Sarma** / *Indian Institute of Science, Bangalore, India*
Photoelectron Spectroscopy

13:00 - 14:30 --- Lunch Break ---

14:30 - 15:30 **K.H. Kim** / *Los Alamos National Laboratory, New Mexico, U.S.A.*
Critical Review of Optical Properties of Manganites

15:30 - 16:30 **T. Egami** / *University of Pennsylvania, Philadelphia, U.S.A.*
Lattice Effects in CMR Manganites and Cuprates

16:30 - 17:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

17:00 - 18:00 **D.D.Sarma** / *Indian Institute of Science, Bangalore, India*
Photoelectron Spectroscopy

18:00 - 19:00 **S.W. Cheong** / *Rutgers State University, Piscataway, U.S.A.*
Multiscale Inhomogeneties in Manganites

Thursday, 12 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 10:30 **T. Egami** / *University of Pennsylvania, Philadelphia, U.S.A.*
Lattice Effects in CMR Manganites and Cuprates

10:30 - 11:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

11:00 - 12:00 **K. Terakura** / *National Institute of Advanced Science & Technology, Tsukuba, Japan*
Electronic Structure of Transition Metal Oxides

12:00 - 13:00 **S.W. Cheong** / *Rutgers State University, Piscataway, U.S.A.*
Multiscale Inhomogeneties in Manganites

13:00 - 14:30 --- Lunch Break ---

14:30 - 15:30 **K.H. Kim** / *Los Alamos National Laboratory, New Mexico, U.S.A.*
Critical Review of Optical Properties of Manganites

15:30 - 16:30 **T. Egami** / *University of Pennsylvania, Philadelphia, U.S.A.*
Lattice Effects in CMR Manganites and Cuprates

16:30 - 17:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

17:00 - 18:00 **H.R. Krishnamurthy** / *Indian Institute of Science, Bangalore, India*
Strong Coupling Theories of Manganites

18:00 - 19:00 **K. Terakura** / *National Institute for Advanced Science & Technology, Tsukuba, Japan*
Electronic Structure of Transition Metal Oxides

Friday, 13 June 2003 (Room:Adriatico Guest House Kastler Lecture Hall)

09:30 - 12:00 (Room: Main Building Main Lecture Hall)
2002 ICTP PRIZE CEREMONY - ALL PARTICIPANTS ARE REQUESTED TO ATTEND

12:00 - 14:30 --- Lunch Break ---

14:30 - 15:30 **K.H. Kim** / *Los Alamos National Laboratory, New Mexico, U.S.A.*
Critical Review of Optical Properties of Manganites

15:30 - 16:30 **G. Allodi** / *Universita degli Studi di Parma, Italy*
Local Probes (NMR and usr) of Dynamics in Manganites

16:30 - 17:00 (Room: Adriatico Guest House Cafeteria)
--- Coffee Break ---

17:00 - 18:00 **H.R. Krishnamurthy** / *Indian Institute of Science, Bangalore, India*
Strong Coupling Theories of Manganites

18:00 - 19:00 **K. Terakura** / *National Institute for Advanced Science & Technology, Tsukuba, Japan*
Electronic Structure of Transition Metal Oxides

CONFERENCE ON THE PHYSICS AND CHEMISTRY OF RARE-EARTH MANGANITES, 16 - 18 June 2003
(Room:Adriatico Guest House Kastler Lecture Hall)

16 June 2003

09:30 - 10:15 **S.W. Cheong** / *Rutgers State University, Piscataway, USA*
Preformed ferromagnetism in manganites

10:15 - 11:00 **M. Weissman** / *University of Illinois, Urbana, USA*
Noise investigations of inhomogeneities in manganites

11:00 - 11:30 --- Coffee Break ---

11:30 - 12:15 **P. Schiffer** / *Pennsylvania State University, University Park, USA*
Magnetic steps and glassiness associated with phase separation in manganites

12:15 - 13:00	**K.H. Kim** / *LANL, Los Alamos, USA* **Novel competing orders at a field induced quantum critical point in the hidden order compound U Ru2 Si2**
13:00 - 14:30	--- Lunch Break ---
14:30 - 15:15	**J. L. Garcia-Munoz** / *Instituto de Ciencia de Materiales de Barcelona, Spain* **Charge modulation above room temperature in doped and self doped oxides: Bi manganites and Re nickelates**
15:15 - 16:00	**G. Allodi** / *Universita' degli Studi di Parma, Italy* **Magnetic resonance in manganites and related materials ; recent advances**
16:00 - 16:30	--- Coffee Break ---
16:30 - 17:15	**D.D. Sarma** / *Indian Institute of Science, Bangalore, India* **Local structure in manganites probed by EXAFS**
17:15 - 18:00	**P. Raychaudhuri** / *Tata Inst. of Fundamental Research, Mumbai, India* **Colossal magnetoresistance in a Mn2+/Mn3+ mixed valence system: The new electron doped manganite (La, Ce) MnO3**
18:00 - 18:30	**D. Cattani** / *Universita' degli Studi di Parma, Italy* **High field magnetization study of single layer manganites**
20:00 - 21:00	(Room: Adriatico Guest House (Lower Level 1)) **POSTER SESSION**

CONFERENCE ON THE PHYSICS AND CHEMISTRY OF RARE-EARTH MANGANITES, 16 - 18 June 2003
(Room:Adriatico Guest House Kastler Lecture Hall)

17 June 2003

09:30 - 10:15	**M. Altarelli** / *Elettra Synchrotron Laboratory & ICTP, Trieste, Italy* **Resonant X-ray scattering as a probe of electronic structure in TM compounds**
10:15 - 11:00	**A. Daoud-Aladine** / *ETH Zurich & Paul Scherrer Institute, Villigen, Switzerland* **Magnetic and crystallographic structure of charge ordered manganites: beyond the ionic picture**
11:00 - 11:30	**Coffee Break**
11:30 - 12:15	**K. Terakura** / *AIST, Ibaraki, Japan* **Some examples of the critical role of lattice distortion in the phase diagram of transition metal oxides**
12:15 - 13:00	**G. Gehring** / *Sheffield University, U.K.* **Ab-initio calculations of charge and orbital ordering in La Mn O3**
13:00 - 14:30	--- Lunch Break ---
14:30 - 15:15	**T.G. Perring** / *Rutherford Appleton Lab., Didcot, U.K.* **Magnetic excitations in manganites**
15:15 - 16:00	**C. Meneghini** / *Universita' degli Studi "Roma Tre", Rome, Italy* **Exploring the structure of manganites in the high pressure region**
16:00 - 16:30	--- Coffee Break ---

16:30 - 17:15 **H.R. Krishnamurthy** / *Indian Institute of Science, Bangalore, India*
A new theory of manganites exhibiting colossal magneto resistance

17:15 - 18:00 **D.M. Edwards** / *Imperial College, London, U.K.*
Ferromagnetism and electron phonon coupling in manganites

20:00 - 21:00 (Room: Adriatico Guest House (Lower Level 1))
POSTER SESSION

CONFERENCE ON THE PHYSICS AND CHEMISTRY OF RARE-EARTH MANGANITES, 16 - 18 June 2003
(Room:Adriatico Guest House Kastler Lecture Hall)

18 June 2003

09:30 - 10:15 **A. Moreo** / *Florida State Univ., Tallahassee, USA*
Nanoscale phase separation in manganites and cuprates

10:15 - 11:00 **A. Taraphder** / *Indian Institute of Technology, Kharagpur, India*
Magnetic orbital and charge ordering in the electron doped manganites

11:00 - 11:30 --- Coffee Break ---

11:30 - 12:15 **V. Dediu** / *I.S.M., Bologna, Italy*
Manganites as spin polarized injectors in organic semiconductors

12:15 - 13:00 **P. Postorino** / *Univ. degli Studi "La Sapienza", Rome, Italy*
Effects of pressure on optical properties of manganites

13:00 - 14:30 --- Lunch Break ---

14:30 - 15:15 **K. Takenaka** / *RIKEN, Saitama, Japan*
Incoherent charge dynamics of strongly correlated metals: optical conductivity of CMR manganites and high-Tc cuprates

15:15 - 16:00 **M.S. Laad** / *Institute for Theoretical Physics, Koeln, Germany*
Double exchange ferromagnetism in transition metal compounds. from models to materials

16:00 - 16:30 --- Coffee Break ---

16:30 - 17:15 **P. Levy** / *Comision Nacional de Energia Atomica, Buenos Aires, Argentina*
Novel dynamical effects and persistent memory in phase separated manganites

17:15 - 18:00 **W. von der Linden** / *Graz Technical University, Austria*
The FM Kondo- lattice model : from exact QMC studies to back-of-an envelope explanations