

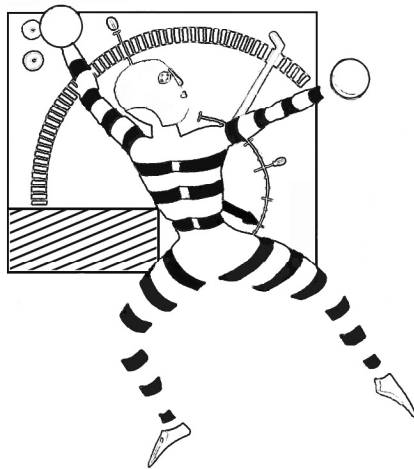
6th INTERNATIONAL CONFERENCE OF THE STRIPES SERIES
and
45th Course INTERNATIONAL SCHOOL OF SOLID-STATE PHYSICS

Quantum Phenomena in Complex Matter

ERICE-SICILY: 26 July - August 1, 2008

STRIPES08

Program



organized by

SUPERSTRIPES-ONLUS

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ETTORE MAJORANA FOUNDATION AND CENTRE FOR SCIENTIFIC CULTURE

Sunday, July 27

8:30 - 8:40 Opening Session

8:40-10:30 Session 1 Chairman: Zaanen, Bianconi

- 8:40-9:10 **S. Uchida**
Role of Apical Oxygen Atoms in High- T_c Superconductivity
- 9:10-9:40 **J. M. Tranquada**
Stripe Order and Superconductivity in $La_{2-x}Ba_xCuO_4$
- 9:40-10:10 **C. Di Castro**
Universality classes for Coulomb-frustrated phase separation
- 10:10-10:30 **S. Brazovskii**
Solitons in strongly correlated electronic systems from experience of quasi-1D conductors

10:30-11:00 Coffee Break

11:00-12:40 Session 2 Chairmen: Egami, Tranquada

- 11:00-11:20 **S. Alexandrov**
Unconventional pairing by conventional phonons in cuprate superconductors
- 11:20-11:40 **A. Bussmann-Holder**
Multi-Component Superconductivity and Novel Isotope Effects Stemming from Unconventional Electron-Lattice Coupling
- 11:40-12:00 **V. Cataudella**
Electron-phonon effects in undoped cuprates
- 12:00-12:20 **A.V. Balatsky**
Collective Modes and Isotope Effect in Inhomogeneous Superconductors
- 12:20-12:40 **H. Keller**
Unconventional Isotope effects and Multi-Component Superconductivity in Cuprates

12:30-14:30 Lunch Break

15:00-17:00

Session 3

Chairmen: Alexandrov, Ashkenazi

15:00-15:20 **D. Mihailovic**

Investigation of the pairing boson in cuprate superconductors: Analysis of the non-equilibrium relaxation pathways by ultrafast optical spectroscopy

15:20-15:40 **T. Mizokawa**

Local lattice distortion and photo-induced phase transition in transition metal compounds with orbital degeneracy

15:40-16:00 **D. Reznik**

Signatures of dynamic stripes reflected in bond-stretching and buckling phonon anomalies in YBCO

16:00-16:20 **H.-J. Grafe**

Nuclear Magnetic Resonance evidence for correlations between antiferro-magnetism and pseudogap effects in Zn- and Ni-doped (Eu,Nd)Ba₂Cu₃O_{6+y} single crystals

16:20-16:40 **S. D. Conradson**

Consequences of Phase Separation – Stripes et al. in Cuprates.

16:40-17:00 **C. Panagopoulos**

Charge Dynamics in Underdoped “Spin-Glass” Cuprates

17:00-17:30

Coffee Break

17:30-19:30

Session 4

Chairmen: Mizokawa, Bansil

17:30-17:50 **J. Ashkenazi**

The Lagrange Field Behind the Emergence of Inhomogeneity and High-T_c Superconductivity in the Cuprates

17:50-18:10 **O. V. Dolgov**

Superconducting glue: are there limits on T_c?

18:10-18:30 **N. Kristoffel**

Interband model scenario of cuprate superconductivity

18:30-18:50 **A. L. Rachmanov**

Phase Separation in a Model of Strongly Correlated Electron System with Two Types of Charge Carriers

18:50-19:10 **I. Martin**

Inhomogeneous phases in high-temperature superconductors and heavy-fermion systems

19:10-19:30 **S. Feng**

Doping and energy dependent spin response in the hole-doped and electron-doped cuprate superconductors

Monday, July 28

8:30-10:30	Session 5	Chairmen: Uchida, Zaanen
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- 8:30-9:00 **Z. X. Shen**
Angle-Resolved Photoemission Study of High-T_c Superconductors
- 9:00-9:20 **T. Hanaguri**
Superconducting Gap and Coherence Effect of a High-T_c Cuprate Ca_{2-x}Na_xCuO₂Cl₂ Probed by Quasi-particle Interference
- 9:20-9:40 **A. Fujimori**
Unusual High-Temperature Behaviors of Charge Carriers in High-T_c Cuprates from Photoemission Spectroscopy
- 9:40-10:00 **M. Oda**
On the Relations among the Pseudogap, Electronic Charge Order and Fermi-arc Superconductivity in High-T_c Cuprates
- 10:00-10:20 **D. Pavuna**
Direct Angle Resolved Photoelectron Spectroscopy (ARPES) on Oxide Films: Doping, Strains, Fermi Surface Topology and High-T_c Superconductivity

10:20-10:50	Coffee Break
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10:50-12:30	Session 6	Chairmen: Fujimori, Shen
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- 10:50-11:10 **A. Bianconi**
Feshbach shape resonances in nanoscale superlattices: cuprates, biborides and FeAs superconductors
- 11:10-11:30 **S. V. Borisenko**
A struggle for the Fermi surface: density waves vs. superconductivity
- 11:30-11:50 **A. Ino**
Quasiparticle Fine Structures in Single-Layer and Bilayer Cuprates Studied by Low-Energy ARPES
- 11:50-12:10 **T. Yoshida**
Observation of the Multiband Electronic Structure in the Trilayer High-T_c Cuprates Bi₂Sr₂Ca₂Cu₃O_{10+δ}
- 12:10-12:30 **A. Bansil**
Recent Progress in Modeling Highly Resolved Spectroscopies in Complex Materials

12:30-14:30	Lunch Break
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15:00-17:00	Parallel Session 7 A	Chairmen: Panagopoulos, Mihailovic
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- 15:00-15:20 **J.D. Dow**
High-temperature superconductivity
- 15:20-15:40 **J. Roehler**
La doping and phase separation in the solid solution $\text{Bi}_2\text{Sr}_{2-x}\text{La}_x\text{CuO}_{6+\delta}$
- 15:40-16:00 **S. Sanna**
What drives the T_c^{max} of cuprates
- 16:00-16:20 **Y. Dagan**
Do electrons superconduct in the electron-doped cuprate superconductors?
- 16:20-16:40 **A. N. Lavrov**
Magnetic-field induced superconductor-antiferromagnet transition in lightly doped $\text{RBa}_2\text{Cu}_3\text{O}_{6+x}$ ($R = \text{Y, Lu}$) crystal
- 16:40-17:00 **T. B. Charikova**
Effect of nonstoichiometric disorder on the upper critical field in $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_{4+\delta}$ single crystals

15:00-17:00	Parallel Session 7 B	Chairmen: Bussman-Holder, Grilli
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- 15:00-15:20 **T. Tohyama**
Origin of Spatial Variation of Pairing Gap in Bi-Based High- T_c Cuprates
- 15:20-15:40 **S. I. Mukhin**
Ingap sidebands: possible scenario for PG state of high- T_c cuprates with coupled fluctuating competing orders
- 15:40-16:00 **M. Capone**
Tendency toward phase separation and the correlation strength of the cuprates
- 16:00-16:20 **V. Hinkov**
Exotic phases in underdoped cuprates – competition and spontaneous symmetry breaking
- 16:20-16:40 **E. Taylor**
Spin-polarized Fermi superfluids as Bose-Fermi mixtures
- 16:40-17:00 **T. Jarlborg**
Properties of high- T_c copper oxides from band models of spin-phonon coupling.

17:00-17:30	Coffee Break
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17:30-19:30	Parallel Session 8 A	Chairmen: Conradson, Keren
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- 17:30-17:50 **M. Doria**
The confined vortex phase and phase segregation
- 17:50-18:10 **M. Fratini**
Critical opalescence in superoxygenated $\text{La}_2\text{CuO}_{4+y}$
- 18:10-18:30 **P. G. Freeman**
Asymmetry in the Magnetic Excitation Spectrum of Charge Stripe Ordered $\text{La}_{2-x}\text{Sr}_x\text{NiO}_{4+\delta}$
- 18:30-18:45 **T. Adachi**
Inhomogeneity of superconductivity and stripe correlations in single-layer high- T_c cuprates
- 18:45-19:00 **C. Janowitz**
Structural, superstructure and charge order in Bi-cuprates
- 19:00-19:15 **M. R. Trunin**
Peculiarities of the microwave conductivity of superconducting single crystals with different doping levels
- 19:15-19:30 **J. Miranda Mena**
Stripes formation induced by temperature and doping

17:30-19:30	Parallel Session 8 B	Chairmen: De Morais Smith, Capone
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- 17:30-17:50 **M. Kenzelmann**
Unconventional magnetism in a heavy-fermion superconductor
- 17:50-18:10 **M. V. Krasinkova**
On the role of oxygen ion polarization in phase transitions, stripe structure, and highly correlated electron state in transition metal oxides
- 18:10- 18:40 **I. Eremin**
Magnetic excitation, electron-phonon interaction, and stripes in lamellar cobaltates
- 18:40-19:00 **M. Grilli**
Spectroscopic evidences of quantum critical fluctuations in cuprates.
- 19:00-19:10 – **G. Litak**
Charge Order Versus Superconductivity in Inhomogeneous Systems
- 19:10-19:20– **D. Orgad**
Effects of geometrical fluctuations on the transition temperature of disordered quasi-one-dimensional superconductors
- 19:20-19:30 – **R. Movshovic**
Possible Fulde Ferrel Larkin Ovchinnikov inhomogeneous Superconducting state in $CeCoIn_5$

21:30-23:00	Night Session 1	Chairman: S. Tajima
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- 21:30-21:45 **S. Tajima**
Introduction to FeAs superconductors
- 21:45-22:00 **H. Mook**
Magnetic and Structural Order versus superconductivity in the Iron-based layered $LaO_{1-x}F_xFeAs$ systems
- 22:00-22:15 **R. Caivano**
Competition between superconductivity and the structural tetragonal-orthorhombic transition in FeAs superconductors
- 22:15-22:30 **H. J. Grafe**
Nuclear Magnetic Resonance studies of superconducting $LaO_{1-x}F_xFeAs$
- 22:30-22:45 **J. Ashkenazi**
Why Should We Expect Similarities Between the Physics of the Iron-Oxypnictides and of the Cuprate
- 22:45-23:00 **I. Eremin**
Theory for magnetic excitations in novel superconductors with Fe-based layered structure

Tuesday, July 29

8:30-10:30	Session 9	Chairman: Baron, Bozovich
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- 8:30-9:00 **A. Bishop**
Heterogeneity in Strongly Correlated Quantum Matter: Origins, Signatures and Consequences (La-Ur-08-1374)
- 9:00-9:20 **M. Greven**
Recent neutron scattering results for the high-temperature superconductors $Nd_{2-x}Ce_xCuO_{4+\delta}$ and $HgBa_2CuO_{4+\delta}$
- 9:20-9:40 **P. Bourges**
Magnetic order in the pseudogap state of high- T_c cuprates
- 9:40-10:00 **M. Fujita**
Neutron-scattering study of impurity effect on stripe correlations in La-based 214 high- T_c cuprate
- 10:00-10:20 **C. Niedermayer**
Tuning competing orders in $La_{2-x}Sr_xCuO_4$ cuprate superconductors by the application of an external magnetic field

10:20-10:50	Coffee Break
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10:50-12:30	Session 10	Chairman: Tranquada, Reznik
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- 10:50-11:10 **I. Bozovich**
Insights in High- T_c Superconductivity from the Study of Cuprate Heterostructures
- 11:10-11:30 **J. Fink**
Charge order in $La_{1.8-x}Eu_{0.2}Sr_xCuO_4$ studied by resonant soft X-ray diffraction
- 11:30-11:50 **P. Abbamonte**
Unusual valence band order in Zn-doped $La_{2-x}Sr_xCuO_4$
- 11:50-12:10 **Y. J. Kim**
X-ray scattering study of charge stripes in $La_{2-x}Ba_xCuO_4$
- 12:10-12:30 **A. Baron**
Phonons in High- T_c Superconductors by Inelastic X-Ray Scattering

Wednesday, July 30

8:30-10:30 **Session 11** **Chairman: Balatsky, Eremin**

- 8:30-9:00 **T. Egami**
Nano-Scale Phase Separation in the Cuprates
- 9:00-9:20 **S. Sugai**
Independent Control of Low-Energy Resonant States and Polaron States by the Zn-Doping and the Structural Transition in $La_{2-x}Sr_xCuO_4$ and $La_{2-x}Ba_xCuO_4$
- 9:20-9:40 **B. O. Wells**
Properties of Phase Separated, Super-Oxygenated $La_{2-x}Sr_xCuO_{4+y}$
- 9:40-10:00 **D. F. McMorrow**
Quantum Criticality in a Model Spin Ladder
- 10:00-10:20 **K. Kumagai**
NMR study of a FFLO state of $CeCoIn_5$ in a perpendicular and a parallel field

10:20-10:50 **Coffee Break**

10:50-12:30 **Session 12** **Chairman: Keller, Liarokapis**

- 10:50-11:10 **H. A. Mook**
Magnetic and Structural Order versus superconductivity in the Iron-based layered $LaO_{1-x}F_xFeAs$ systems
- 11:10-11:30 **Y. J. Uemura**
Puzzles in Superfluid Density of the Cuprates: Nodal Gap ? K-T ? Collective Mode ?
- 11:30-11:50 **S. Tajima**
Effects of pseudo-gap disappearance on electronic state in high-Tc cuprates
- 11:50-12:10 **A. Lanzara**
The effect of strain on the quasiparticle dynamics of single layer $Bi2201$
- 12:10-12:30 **G. LeLay**
Metallic Silicon Nanowires

12:30-14:30 **Lunch Break**

15:00-17:00 **Session 13** **Chairman: Pavuna, Sanna**

- 15:00-15:20 **P. Calvani**
Charge-Order Excitations in the sub-Terahertz Conductivity of Oxides
- 15:20-15:40 **E. Liarokapis**
Tuning the phase separation in manganite thin films
- 15:40-16:00 **C. Renner**
Ordered electronic phases in manganites
- 16:00-16:20 **A. Keren**
A magnetic analog of the isotope effect in cuprates
- 16:20-16:40 **D. B. Tanner**
Phase separation in manganite thin films
- 16:40-17:00 **N. E. Phillips**
Superconductivity and Charge Density Wave Order in $Na_{0.35}CoO_2 \cdot 1.3H_2O$

17:00-17:30 **Coffee Break**

17:30-19:30	Session 14	Chairman: Carlson, Fink
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- 17:30-17:50 **B. Dora**
Inelastic scattering from local vibrational modes
- 17:50-18:10 **M. J. Lawler**
Theory of the nematic to smectic quantum phase transition in electronic systems
- 18:10-18:30 **E. A. Kim**
Dynamical Layer Decoupling in a Stripe-Ordered High-Tc Superconductor
- 18:30-18:45 **J. J. Rodriguez-Nunez**
s-wave Superconductivity and the Isotope Exponent ν_s the number of carriers in a triangular lattice: applied pressure.
- 18:45-19:19 **B. Fine**
Phase separation in cuprates: a theoretical criterion and some possible scenarios.
- 19:00-19:15 **A. S. Mishchenko**
Interplay of magnetic correlations and electron-phonon coupling in the underdoped phase of cuprates: Diagrammatic Monte Carlo study
- 19:15-19:30 **T. Ord**
Relaxation of superconducting fluctuations in a two-component scenario with intra- and interband pairings

21:30-23:00	Night Session 2	Chairman: Uemura
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- 21:30-21:45 **T. Uemura**
Introduction to Magnetism and Superconductivity in FeAs Superconductors
- 21:45-22:00 **A. V. Boris**
Signatures of Electronic Correlations in Optical Properties of $\text{LaO}_{1-x}\text{F}_x\text{FeAs}$
- 22:00-22:15 **W. Malaeb**
Core - and valence-level spectra of $\text{La}(\text{O}_{1-x}\text{F}_x)\text{FeAs}$ as revealed by x-ray photoemission spectroscopy
- 22:15-22:30 **T. Kroll**
On the electronic structure of electron and hole doped LaOFeAs
- 22:30-22:45 **T. Mizokawa**
Electronic Structure study of LaOFeAs : Orbital Degeneracy and Excitonic Instability
- 22:45-23:00 **J. Mustre de Leon**
Density of states in quaternary iron arsenide rare earth oxides

Thursday, July 31

8:30-10:40	Session 15	Chairman: Di Castro, Renner
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8:30-9:00 **G. Aeppli**

9:00-9:20 **J. Zaanen**

Fermionic quantum criticality and the fractal nodal surface

9:20-9:40 **F. Krueger**

Pacifying the Fermi-liquid: battling the devious fermion signs

9:40-10:00 **G. Seibold**

Spin excitations in the spin glass phase of cuprates

10:00-10:20 **E. W. Carlson**

Stripe Switching Noise in Cuprate Superconductors

10:20-10:40 **A. I. Lichtenstein**

Dual Fermion Approach to HTSC

10:40-11:10

Coffee Break

11:00-12:40	Session 16	Chairman: Kirova, Maki
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11:10-11:30 **F. Marsiglio**

What the optical sum rule tells us about superconductivity

11:30-11:50 **P. Banacki**

Ground Electronic State of Superconductors: T-Dependent Antiadiabatic State at Broken Symmetry

11:50-12:10 **D. Poilblanc**

Inhomogeneous and striped RVB superconductors

12:10-12:30 **C. De Morais Smith**

Staggered-Vortex Superfluid of Ultracold Bosons in an Optical Lattice

12:30-12:50 **M. Machida**

Stripe Formation in Fermionic Atoms on 2-D Optical Lattice: DMRG Studies for Repulsive Hubbard Ladders

12:50-14:40

Lunch Break

15:00-17:00	Session 17	Chairman: Aeppli, Hackl
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15:00-15:20 **Y. A. Soh**

Spin density wave quantization and magnetic domain wall scattering in an antiferromagnet

15:20-15:40 **M. von Zimmermann**

Charge stripes in nickelates and cuprates under extreme conditions

15:40-16:00 **Y. Takada**

Mechanism of Superconductivity in Graphite Intercalation Compounds Including C₆Ca

16:00-16:20 **T. G. Perring**

Antiferromagnetic Fluctuations and Polaron Correlations in the Layered Colossal Magnetoresistive manganites

16:20-16:30 **Y. W. Park**

Interacting two fluids model in high T_c superconductors: Thermoelectric power

17:00-17:30

Coffee Break

17:30-19:30

Session 18

Chairman: Brazovskii, Calvani

17:30-17:50 **N. Kirova**

Long range and local instabilities in sliding or strained charge density waves

17:50-18:10 **R. Hackl**

Evolution of electronic interactions in $La_{2-x}Sr_xCuO_4$

18:10-18:30 **K. Maki**

Majorana fermion, d-soliton and half quantum vortex (HQV) in triplet superconductors $PrOs_4Sb_{12}$ and $CeSi_3$ Pt.

Closing Session

Poster Session 14:30- 15:00

- 1P **M. Enoki**
Study of spin correlations in $La_{1.76-x}Sr_xCe_{0.06}CuO_4$ with less-corrugated CuO_2 planes
- 2P **P. G. Freeman**
The Dual Character Magnetism of Charge Stripe Ordered $La_{1.55}Sr_{0.45}NiO_4$.
- 3P **A. Hamann**
Renormalization of the longitudinal bond-stretching phonon branch in $La_{1.95}Sr_{0.05}CuO_4$ probed by inelastic neutron scattering technique
- 4P **T. K. Kopec**
Emergence of Pairing Interaction in the Hubbard Model in the Strong Coupling Limit
- 5P **W. Malaeb**
Emergence of Pairing Interaction in the Hubbard Model in the Strong Coupling Limit
- 6P **J. Miranda Mena**
Bipolaron Jahn-Teller pairing and charge transport in cuprates.
- 7P **F.M.D. Pellegrino**
Statistical correlations in an ideal gas of particles obeying fractional exclusion statistics
- 8P **N. Poccia**
Multi-variables phase diagrams of cuprates
- 9P **M. Ricco'**
Unconventional isotope effects in superconducting fullerenes
- 10P **A. Rojo Bravo**
Self-trapping of particles from singular pockets in the weakly doped AFM Mott insulator
- 11P **S. Sanna**
Effect of cation substitution in underdoped high T_c cuprates
- 12P **A. Vittorini-Orgeas**
Local X-ray writing charge ordered domains and reading in La_2CuO_{4+y}