

LEPTON-PHOTON 99

XIX INTERNATIONAL SYMPOSIUM ON
LEPTON AND PHOTON INTERACTIONS AT HIGH ENERGIES

STANFORD UNIVERSITY · AUGUST 9–14, 1999



Sponsored by IUPAP, US DOE, US NSF and the Stanford Linear Accelerator Center



AUGUST 9, 1999

MONDAY

9:00 Welcome

BRIEF REPORT FROM THE *B* FACTORIES

Session Chair: Richard Taylor (Stanford Linear Accelerator Center)

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| 9:10 CESR/CLEO | Klaus Honscheid (Ohio State Univ.) |
| 9:30 KEK-B/Belle | Fumihiko Takasaki (KEK) |
| 9:50 PEP-II/BABAR | Jonathan Dorfan (Stanford Linear Accelerator Center) |
| 10:10 Hera B | Michael Medinnis (DESY-Zeuthen) |
| 10:30 Tevatron | Manfred Paulini (Lawrence Berkeley National Laboratory) |

10:50 *Coffee Break*

HEAVY QUARK PHYSICS

Session Chair: Karl Berkelman (Cornell University)

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| 11:20 Heavy Quark Decays | Ronald Poling (University of Minnesota) |
| 12:05 Heavy Quark Lifetimes, Mixing, and CP Violation | Guy Blaylock (University of Massachusetts) |
- 12:50 *Lunch Break*
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DIRECT CP VIOLATION

Session Chair: Fred Gilman (Carnegie-Mellon University)

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| 2:50 ϵ'/ϵ Results from KTeV | Edward Blucher (University of Chicago) |
| 3:20 ϵ'/ϵ Results from Na-48 | Giles Barr (CERN) |
| 3:50 D_{ϕ} /Kloe Status Report | Sergio Bertolucci (INFN) |
- 4:10 *Coffee Break*
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PHYSICS OF FLAVOR

Session Chair: Martin Perl (Stanford Linear Accelerator Center)

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| 4:30 Rare K Decays | William Molzon (University of California, Irvine) |
| 5:00 Tau Physics | Antonio Pich (University of Valencia) |
| 5:30 <i>B</i> Decays, the Unitarity Triangle, and the Universe | Adam Falk (Johns Hopkins University) |
- 6:30 *Rodin Garden Reception/Museum Tour*
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AUGUST 10, 1999 TUESDAY

NEUTRINOS I

Session Chair: Sakue Yamada (KEK/IPNS)

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|-------|-----------------------|----------------------------------|
| 8:45 | Solar Neutrinos | Shiro Suzuki (Nagoya University) |
| 9:30 | Atmospheric Neutrinos | Tony Mann (Tufts University) |
| 10:15 | <i>Coffee Break</i> | |

NEUTRINOS II

Session Chair: Luciano Maiani (CERN)

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|-------|---|---|
| 10:45 | Accelerator and Reactor
Neutrino Experiments | Luigi DiLella (CERN) |
| 11:30 | Neutrino Mass and
Oscillations | Hamish Robertson (University of Washington) |
| 12:15 | <i>Lunch Break</i> | |

PRECISION ELECTROWEAK I

Session Chair: Erwin Gabathuler (University of Liverpool)

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|------|------------------------------------|---|
| 2:15 | Precision EW at the Z | Morris Swartz (Johns Hopkins University) |
| 2:45 | Precision EW at Hadron
Machines | Mark Lancaster (Lawrence Berkeley National
Laboratory) |
| 3:15 | Precision EW at LEP II | David Charlton (University of Birmingham) |
| 3:45 | <i>Coffee Break</i> | |

PRECISION ELECTROWEAK II

Session Chair: He Sheng Chen (Institute of High Energy Physics, CAS)

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| 4:15 | R in Low Energy e+e- | Zheng-guo Zhao (Institute of High Energy
Physics, CAS) |
| 4:45 | New Results on g-2 | Lee Roberts (Boston University) |
| 5:15 | 10 Years of Precision
Electroweak Physics | Alberto Sirlin (New York University) |
| 6:00 | <i>Refreshments</i> | |
| 7:00 | <i>Concert at Memorial Church — Chanticleer</i> | |

AUGUST 11, 1999—EXCURSION DAY



AUGUST 12, 1999

THURSDAY

MATTER AND ENERGY IN THE UNIVERSE

Session Chair: John Peoples (Fermi National Accelerator Laboratory)

- 8:45 Dark Matter Searches Bernard Sadoulet (Lawrence Berkeley National Laboratory)
- 9:30 Status of Cosmological Parameters Saul Perlmutter (Lawrence Berkeley National Laboratory)

10:15 *Coffee Break*

SEARCHES FOR NEW PHENOMENA

Session Chair: Sau-Lan Wu (CERN)

- 10:45 New Particle Searches Vanina Ruhlmann-Kleider (CEA/Saclay)
- 11:30 Beyond-Standard-Model Models and Theories Gian Giudice (CERN)
- 12:15 *Lunch*

STRUCTURE WITHIN PARTICLES I

Session Chair: Albrecht Wagner (DESY)

- 2:15 IUPAP Barry Barish (California Institute of Technology)
- 2:25 ICFA Hirotaka Sugawara (KEK)
- 2:35 Structure Functions and Deep Inelastic Scattering Max Klein (DESY-Zeuthan)
- 3:20 Diffraction and the Pomeron Halina Abramowicz (Tel Aviv University)
- 4:05 *Coffee Break*

STRUCTURE WITHIN PARTICLES II

Session Chair: Mikhail Danilov (Institute of Theoretical and Experimental Physics, Moscow)

- 4:35 Spin Structure of the Nucleon Gerhard Mallot (CERN, EP Division)
- 5:05 Structure of the Photon Jonathan Butterworth (University College London)
- 5:35 Rare Phi Decays and Exotic Hadrons S. Serebnyakov (Budker Institute of Nuclear Physics)

8:00 PUBLIC LECTURE

The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory

Brian Greene (Columbia University)



AUGUST 13, 1999

FRIDAY

QCD PHENOMENA

Session Chair: Michel Davier (Universite Paris-Sud)

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|-------|---|--|
| 8:45 | Fragmentation and Hadronization | Bryan Webber (University of Cambridge) |
| 9:30 | Tests of Perturbative QCD and Jet Physics | John Womersley (Fermi National Accelerator Laboratory) |
| 10:15 | <i>Coffee Break</i> | |

QCD THEORY

Session Chair: Ahmed Ali (DESY)

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|-------|---|------------------------------------|
| 10:45 | Applications of QCD | Martin Beneke (CERN) |
| 11:30 | Lattice Calculations and Hadron Physics | Sinya Aoki (University of Tsukuba) |
| 12:15 | <i>Lunch</i> | |

POSTER SESSION AND TOURS AT SLAC

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| 2:30 | Tours of SLAC begin |
| 3:00 | Poster session begins |
| 6:00 | <i>Reception</i> |
| 7:00 | <i>BBQ Dinner</i> |
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AUGUST 14, 1999

SATURDAY

COSMOLOGY AND ASTROPHYSICS

Session Chair: Elliott Bloom (Stanford Linear Accelerator Center)

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| 8:45 | High-Energy Particles from the Universe | Rene Ong (University of Chicago) |
| 9:30 | Cosmic Microwave Background Anisotropies | Scott Dodelson (Fermi National Accelerator Laboratory) |
| 10:15 | <i>Coffee Break</i> | |

FUTURE ACCELERATORS

Session Chair: Hirotaka Sugawara (KEK)

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| 10:45 | Physics Needs for Future Accelerators | Joseph Lykken (Fermi National Accelerator Laboratory) |
| 11:30 | R&D Progress for Future Linear Colliders | Gustav-Adolf Voss (DESY) |
| 12:15 | <i>Lunch</i> | |

LOOKING TO THE FUTURE

Session Chair: John Jaros (Stanford Linear Accelerator Center)

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| 2:15 | Toward Very High Energy Colliders | Jonathan Wurtele (Lawrence Berkeley National Laboratory) |
| 3:00 | Gravity, Particle Physics and their Unification | Juan Maldacena (Harvard University) |
| 3:45 | Assessment and Outlook | Burton Richter (Stanford Linear Accelerator Center) |
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