Proceedings of the XIX International Symposium on Lepton and Photon Interactions at High Energies

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Editors
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Foreword

The XIX International Symposium on Lepton and Photon Interactions was held on the Stanford University campus the week of August 9–14, 1999. This was the fourth time the Symposium has been held at Stanford, and marked the commissioning of a new accelerator at SLAC, the PEP–II B Factory. In a real sense, the conference inaugurated the B Factory Era. There were reports of the auspicious beginnings of the new asymmetric e^+e^- rings at KEK and SLAC, the upgraded ring at Cornell, and the B experiments at DESY and Fermilab. Late in the week, LP participants were invited to the BaBar Dedication Ceremonies and were shown the new facilities at SLAC.

The scientific highlights at the Symposium came on many fronts. Setting the stage for the B Factory Era were reports that at last confirm the observation of direct CP violation and tantalizing indications that CP is violated in the B sector. The conference registered the remarkable progress in precision electroweak studies at the Z since the first results were reported a decade ago, at the 1989 Symposium, also at Stanford. While experiments at the Z have concluded, the subject continues to flourish at higher energies, at the Tevatron and LEP 2. Neutrino physics has moved to center stage after the discovery last year of atmospheric neutrino oscillations. Mass differences, mixing angles, and the solution to the solar neutrino puzzle appear within reach. Several speakers shared the excitement of fundamental discoveries in cosmology and astroparticle physics, demonstrating tangible links between the very large and the very small.

As the times change, the Lepton-Photon Symposium changes. Exploiting the rapid evolution of the Web, we were able to offer video recordings of all the talks for a world-wide audience. These proceedings too will be Web accessible. The poster session initiated for LP97 at Hamburg played well at LP99, showing attendees the future plans of the major laboratories. For the first time at Stanford, we included a public lecture during the Symposium. Professor Brian Greene of Columbia University held a local audience enrapt with his introduction to string theory.

The last day of the conference, we looked to the future. We heard about advances in accelerator technology, research and development for the Next Linear Collider, and the compelling scientific motivation for that machine. Let us hope that LP01 can herald this next era in lepton-photon physics.

John A. Jaros
Chairman, Organizing Committee

Acknowledgements

Many people must be thanked for contributing to the success of the 1999 Lepton-Photon Symposium.

The LP99 speakers applied expertise, scholarship, and hard work to produce a series of informative and stimulating reviews of the physics of leptons and photons. The International Advisory Committee was instrumental in proposing topics and speakers for the Symposium and reviewing our selections. The Local Organizing Committee had a broad purview, refining the scientific program and overseeing the conference organization and social program.

Several individuals were key to our scientific organization. Special thanks go to Helen Quinn, who served as Program Chair, for accepting a role far exceeding her job description and contributing to all aspects of the conference. Marvin Weinstein served ably and adaptably as Scientific Secretary. Dick Taylor, who had chaired the 1989 Symposium, was a valuable and necessary mentor. Richard Dubois coordinated the on-site computing and arranged for the conference Web-cast. Others helped with the specifics. Mike Woods organized and ran the Poster Session; Aaron Roodman oversaw the Public Lecture; Vera Luth and Nina Stolar coordinated the SLAC tours.

A conference comprises a million details. Maura Chatwell, the Conference Coordinator, invited, registered, accommodated, and entertained us all and kept those details in check. Very professional support was provided by Nina Stolar, Tracy Farnell, and Karen Heidenreich. Terry Anderson contributed striking graphics, and Ruth McDunn created the conference Website.

The SLAC staff contributed time and energy to many conference activities, and unfortunately cannot all be named. We are indebted to Richard Mount and the SLAC Computing Center for their support and to Dell Computers for the loan of terminals for the LP participants. Robin Nixon and Bernie Lighthouse organized transportation. Many helped plan and carry out the social activities: Leon Rochester, Steve Wagner, JoAnne Hewett, Vanda Sanzogni, Jo Jaros, and Myrna Rochester.

Michael Peskin, the Co-Editor of these proceedings, did the bulk of the scientific editing and planned the Web presentation of the contents. Sharon Jensen assembled the complex electronic manuscript. Pattie Myers, Harold Moorehead, and Roxanne Jones copyedited the volume and supervised its final production. Joe Faust and Harvey Lynch provided the photographs.

Finally, we gratefully acknowledge the support of the International Union of Pure and Applied Physics, the US Department of Energy, the National Science Foundation, and the Stanford Linear Accelerator Center.

John A. Jaros
Chairman, Organizing Committee

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