

The XXII International Symposium on Lattice Field
Theory

Lattice 2004
Plenary and Poster Program

June 21–26, 2004

Monday, June 21

6:00–8:00 pm: *Welcome Reception*, Holiday Inn, Naperville

Tuesday, June 22

9:00–10:45 am: *Plenary Session*, Ramsey Auditorium

Kazuyuki Kanaya, chair

9:00 am	<i>Welcome Message</i>	R. Keith Ellis
9:15 am	<i>Twisted-Mass QCD</i>	Roberto Frezzotti
9:45 am	<i>Testing Universality in Lattice QCD</i>	David Adams
10:15 am	<i>Index Theorem and Random Matrix Theory for Improved Staggered Quarks</i>	Eduardo Follana

10:45–11:15 am: *Coffee Break*, Atrium Cafeteria

11:15 am–1:15 pm: *Plenary Session*, Ramsey Auditorium

Christine Davies, chair

11:15 am	<i>Triviality and the Higgs Mass Lower Bound</i>	Kieran Holland
11:45 am	<i>Mechanisms of Confinement</i>	Michael Engelhardt
12:45 pm	<i>Pentaquarks</i>	Shoichi Sasaki

1:15–2:20 pm: *Lunch*, Atrium Cafeteria

2:20–4:00 pm: *Parallel Sessions*, Wilson Hall

4:00–4:30 pm: *Coffee Break*, Atrium Cafeteria

4:30–6:10 pm: *Parallel Sessions*, Wilson Hall

6:10–6:30 pm: *Break*

6:30 pm: *Busses leave for hotels (1st round)*

6:30–7:30 pm: *ILDG Report*, Ramsey Auditorium

Richard Kenway, chair

6:30 pm	<i>Status of International Lattice Data Grid (ILDG)</i>	Akira Ukawa
6:45 pm	<i>Metadata and QCDML v1.0</i>	Dirk Pleiter
7:00 pm	<i>Middleware Development</i>	Balint Joo
7:15 pm	<i>Discussion</i>	

7:45 pm: *Busses leave for hotels (2nd round)*

Wednesday, June 23

9:00–10:40 am: *Parallel Sessions*, Wilson Hall

10:40–11:10 am: *Coffee Break*, Atrium Cafeteria

11:10 am–12:50 pm: *Parallel Sessions*, Wilson Hall

12:50–2:00 pm: *Lunch*, Atrium Cafeteria

2:00–3:30 pm: *Plenary Session*, Ramsey Auditorium

Tomoteru Yoshié, chair

2:00 pm	<i>The QCDOC Project</i>	Peter Boyle
2:30 pm	<i>The apeNext Project</i>	Federico Rapuano
3:00 pm	<i>PC Clusters for Lattice QCD</i>	Donald Holmgren

3:30–4:00 pm: *Coffee Break*, Atrium Cafeteria

4:00–6:00 pm: *Plenary Session*, Ramsey Auditorium

Norman Christ, chair

4:00 pm	<i>The Origins of Lattice Gauge Theory</i>	Kenneth Wilson
5:00 pm	<i>Algorithms for Lattice QCD</i>	Anthony Kennedy

6:00–6:15 pm: *Break*

6:15–7:15 pm: *Poster Session A*, Wilson Hall Atrium

7:15–8:15 pm: *Poster Session B*, Wilson Hall Atrium

8:30 pm: *Busses leave for hotels (1st round)*

9:45 pm: *Busses leave for hotels (2nd round)*

Thursday, June 24

9:00–10:40 am: *Parallel Sessions*, Wilson Hall

10:40–11:10 am: *Coffee Break*, Atrium Cafeteria

11:10 am–12:30 pm: *Parallel Sessions*, Wilson Hall

12:30–1:15 pm: *Lunch*, Atrium Cafeteria

1:15–6:30 pm: *Free Time*, Fermilab, Naperville, or Chicago

- 1:15 pm: 2 busses leave for hotels (1 each) and Chicago
- 1:15 pm: 2 busses leave for Chicago (directly)
- 4:30 pm: 2 busses leave for hotels (1 each) and Chicago
- 5:15 pm: 2 busses leave for Chicago (directly)

6:30–9:30 pm: *Symposium Banquet*, Chicago

Mid-America Club, 80th Floor, 200 E. Randolph St.

9:30 pm: *Busses leave for hotels and Wilson Hall*

Friday, June 25

9:00–10:40 am: *Parallel Sessions*, Wilson Hall

10:40–11:10 am: *Coffee Break*, Atrium Cafeteria

11:10 am–12:50 pm: *Parallel Sessions*, Wilson Hall

12:50–2:00 pm: *Lunch*, Atrium Cafeteria

2:00–3:30 pm: *Plenary Session*, Ramsey Auditorium

Stephen Sharpe, chair

2:00 pm	<i>Chiral Perturbation Theory at Non-Zero Lattice Spacing</i>	Oliver Bär
3:00 pm	<i>Chiral Perturbation Theory in Finite Volume</i>	Gilberto Colangelo

3:30–4:00 pm: *Coffee Break*, Atrium Cafeteria

4:00–6:00 pm: *Plenary Session*, Ramsey Auditorium

Shoji Hashimoto, chair

4:00 pm	<i>The Role of Lattice QCD in Flavor Physics</i>	Vittorio Lubicz
4:45 pm	<i>An Experimenter's View of Lattice QCD</i>	Ian Shipsey
5:15 pm	<i>Status of Lattice Calculations for Flavor Physics</i>	Matthew Wingate

6:00–6:30 pm: *Break*

6:30 pm: *Busses leave for hotels (1st round)*

6:30–7:30 pm: *ILDG Tutorial*, 1 West

Tomoteru Yoshié, chair

6:30 pm	<i>Tutorial on QCDML v1.0</i>	Chris Maynard
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7:45 pm: *Busses leave for hotels (2nd round)*

Saturday, June 26

9:00–10:30 am: *Plenary Session*, Ramsey Auditorium

Peter Weisz, chair

9:00 am	<i>QCD Thermodynamics</i>	Peter Petreczky
10:00 am	<i>Physics Results from Tevatron Run 2</i>	Daria Zieminska

10:30–11:00 am: *Coffee Break*, Atrium Cafeteria

11:00 am–1:00 pm: *Plenary Session*, Ramsey Auditorium

Mike Peardon, chair

11:00 am	<i>Hadron Spectrum</i>	Ken-Ichi Ishikawa
12:00 pm	<i>QCD Coupling and Quark Masses</i>	Paul Rakow

1:00 pm: *Symposium Ends*

1:30 pm: *Busses leave for hotels (1st round)*

1:30–2:15 pm: *Tour of PC Clusters*

2:30 pm: *Busses leave for hotels (post tour)*

3:00 pm: *Busses leave for hotels (2nd round)*

Poster Session A

Hadron Spectrum and Quark Masses

Preliminary Results of the Heavy-light Meson Spectrum Using

Chirally Improved Light Quarks

The Quenched Continuum Limit

The Pentaquark Static Potential and Density-density Correlator

Tommy Burch
Christine Davies
G. Koutsou

Weak Matrix Elements

$Re(A_2)$, $Re(A_0)$ and $N_f = 3$ RG evolution

Analysis of ϵ'/ϵ Using Staggered Fermions

Magnetic and Electric Dipole Form Factors of Nucleons with DWQ

Keunsu Choi
Weonjong Lee
Amarjit Soni

Non-zero Temperature and Density

Finite Temperature 2-color QCD for Real and Imaginary Chemical Potential

Pietro Giudice

Cut-off Effects in Meson Correlators and Spectral Functions

Peter Petreczky

Detecting Chiral Singularities in Strongly Coupled QCD at Finite Temperature

Costas Strouthos

Exploring Lattice Methods for Cold Fermionic Atoms

Matthew Wingate

Improvement and Renormalization

Anisotropic Lattice with Nonperturbative Accuracy

Hideo Matsufuru

Automating the Schrödinger Functional

Paolo Ribeca

Topology and Confinement

Are Magnetic Monopoles Hadrons?

Michael Creutz

Chiral Transition and Deconfinement in $N_f = 2$ QCD

M. D'Elia

Topological Susceptibility with Three Flavors of Staggered Quarks

Carleton DeTar

Improved Measure of Local Chirality

Terrence Draper

Machines and Algorithms

The Chroma Software System for Lattice QCD

Balint Joo

Stout Links: An Analytic Gauge-link Smearing Algorithm

Mike Peardon

Theoretical Developments

Higher Loop Results for the Plaquette Using the Clover and Overlap Actions

A. Athinodorou

A Topology Conserving Gauge Action for QCD

S. Shcheredin

Poster Session B

Hadron Spectrum and Quark Masses

Pion Scattering with Chirally Improved Fermions

The Ω^- and the Strange Quark Mass

Two-particle Wave Function in Four-dimensional Ising Model

Christof Gattringer

Doug Toussaint

Takeshi Yamazaki

Heavy Quark Physics

Excited B Mesons from the Lattice

Phenomenology of Static-light Mesons from Unquenched Lattice QCD Calculations

Jonna Koponen

Craig McNeile

Non-zero Temperature and Density

Spinodal Decomposition in $SU(3)$ Lattice Gauge Theory

QCD at Finite Temperature and Density with Staggered and Wilson Quarks

Numerical Test of Polyakov Loop Models in High-temperature $SU(2)$

Three-flavor QCD at High Temperatures

The Lattice NJL Model at Non-zero Baryon and Isospin Densities

A. Bazavov

Xiang-Qian Luo

Alessandro Papa

Robert Sugar

David N. Walters

Chiral Fermions

Meson Spectroscopy with Overlap Quarks

Non-compact QED_3 with an Extra Four-fermion Term

Joseph Howard

Ioannis Tziligakis

Topology and Confinement

Analyticity in θ and Infinite-volume Limit of the Topological Susceptibility in

$SU(3)$ Gauge Theory

External Fields and Color Confinement

Topology and String Tension in $SU(N)$ Theories, at Zero and Finite Temperatures

MEM Study of True Flattening of Free Energy and the θ Term

B. Alles

Leonardo Cosmai

H. Panagopoulos

Hiroshi Yoneyama

Machines and Algorithms

Comparing Iterative Methods for Overlap and Twisted-mass Fermions

Accelerating Inversions of the Overlap Operator

Higgs Search at LHC by Neural Networks

Karl Jansen

Stefan Krieg

Mostafa Mjahed

Theoretical Developments

Properties of the Large- N Phase Transition

$N = D = 2$ Twisted Supersymmetry on a Lattice

Joe Kiskis

Kazuhiro Nagata