# 15th Pacific Coast Gravity Meeting

# Institute for Theoretical Physics
# University of California, Santa Barbara
# February 26-27, 1999

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## Schedule of Talks

Talks are 12 minutes, followed by 3 minutes for questions

**FRIDAY**

- 9:00: **Opening remarks and announcements**

- Session One: Chair: Beverly Berger
- 9:15: Daniel J Suson, Texas A&M,
  "Nonsimultaneous Big Bang and fractal density in a Tolman-Bondi model"
- 9:30: Richard Woodard, U. Florida,
  "A Quantum Gravitational Model Of Inflation"
- 9:45: David Salopek, UBC,
  "Cosmology of Strongly Coupled Gravitational Systems"
- 10:00: B. Kent Harrison, Brigham Young U., presenting
  "Inflationary Solutions for a Homogeneous Anisotropic Cosmological Model with a Scalar Field", by Edward F. Weagel
- 10:15: Warner A. Miller, Los Alamos National Laboratory,
  "K-Crunches"

- 10:30: **Coffee Break**

- Session Two: Chair: Don Marolf
- 11:00: Scott Hughes, U. Illinois,
  "Radiation Reaction without Radiation Reaction Forces"
- 11:15: John T. Whelan, Universitaet Bern,
  "Radiatiative Boundary Conditions: Standing Waves vs Radiation Balance"
- 11:30: Richard Price, University of Utah,
  "Colliding Rotating Black Holes: the Kerr Close Limit"
- 11:45: William Krivan, University of Utah,
  "Rotating Black Holes and the Tail Phenomenon"
- 12:00: Patricia Purdue, Caltech,
  "The gauge invariance of general relativistic tidal heating"
- 12:15: Zeferino Andrade, University of Utah,
  "Excitation of the odd parity quasi-normal modes of compact objects"

- 12:30: **Lunch**

- Session Three: Chair: Patrick Brady
- 2:00: Teviet Creighton, Caltech,
  "Atmospheric gravity gradients: a low-frequency noise limit for LIGO"
- 2:15: Lee Lindblom, Caltech,
  "Recent Developments in the r-Mode Instability Problem"
- 2:30: Massimo Tinto, JPL,
  "Cancellation of Laser Noise in an Unequal-Arm Interferometer Detector of Gravitational Radiation"
- 2:45: Jolien Creighton, Caltech,
  "How to see black hole formation using two interferometers"
- 3:00: Shane Larson, Montana State U.,
  "Bounding the Mass of the Graviton with Interacting Binary White Dwarf Observations"
- 3:15: Carsten Gundlach, University of Chicago,
  "Angular momentum in critical collapse"
- 3:30: David Garfinkle, Oakland U.,
  "Scaling In Gravitational Collapse"

- 3:45: **Coffee Break**

- Session Four: Chair: Steve Carlip
- 4:15: James Bardeen, U. Washington,
  "Hyperbolic Systems for Numerical GR"
- 4:30: James York, UNC,
  "All hyperbolic systems with only physical characteristics: the future of GR"
- 4:45: Luisa Buchman, University of Washington,
  "Developing a Numerical General Relativity Code in Hyperbolic Form with flexibility to reset the slicing conditions"
- 5:00: Frank Estabrook, JPL,
  "Constraint-free Theories of Gravitation"
- 5:15: Ioannis Kouletsis, University of Utah,
  "Classical Histories in Geometrodynamics"
- 5:30: Andre Wehner, Utah State University,
  "Conformal Actions in Any Dimension"
- 5:45: Leonard Abrams,
  "Black holes-the blunder of the century"

**SATURDAY**

- Session Five: Chair: Ted Jacobson
- 9:00: Herbert Hamber, UC Irvine,
  "Lattice Quantum Gravity on a Custom-Built Supercomputer"
- 9:15: Jorge Pullin, CGPG, Penn State,
  "Consistent canonical quantizations of gravity"
- 9:30: Bryce DeWitt, U. Texas,
  "Quantum Gravity Without Ghosts"

- 9:45: Charles Torre, Utah State University,
  "Some remarks on Dirac's 'quantization on curved surfaces'"
- 10:00: Lior Burko, Caltech,
  "Practical approaches for the calculation of the self force"
- 10:15: Bill Hiscock, Montana State U,
  "Chronology Protection and Misner Space--one more time"

- 10:30: **Coffee Break**

- Session Six: Chair: Gary Horowitz
- 11:00: Sharmanthie Fernando, University of Cincinnati,
  "Supermultiplets of AdS Black Holes in 2+1 dimensions"
- 11:15: Kristin Schleich, UBC,
  "Topological Censorship and Black Hole Topologies in Asymptotically Anti-de Sitter Spacetimes"
- 11:30: Paul Anderson, Wake Forest University,
  "Zero Temperature Black Holes in Semiclassical Gravity: Do They Exist?"
- 11:45: Brett Taylor, Montana State U.,
  "Semiclassical effect on nearly extremal charged black holes"
- 12:00: Michele Vallisneri, Caltech,
  "Classical Roots of the Unruh and Hawking Effects"
- 12:15: Ted Jacobson, U. Maryland,
  "Black hole lasers"

- 12:30: **Lunch**

- Session Seven: Chair: Abhay Ashtekar
- 2:00: David Kastor, U. Mass., "
  Gravitational Spin-Spin Interactions via Supersymmetric Probes"
- 2:15: Alcides Garat, University of Utah,
  "The nonexistence of a conformally flat slicing of the Kerr geometry"
- 2:30: Don Witt, UBC,
  "Static Spacetimes and new No-hair Theorems"
- 2:45: Robert Mann, U. of Waterloo,
  "Exact Solutions to the Gravitational 2-body Problem"
- 3:00: Jennie Traschen, U. Mass.,
  "Probing 3-Branes with Strings"
- 3:15: Alejandro Corichi, UNAM,
  "Isolated Dilatonic Black Holes"
- 3:30: Homer Ellis, University of Colorado at Boulder,
  "Darkhole: Blackhole's Better Behaved, Well-Bred Cousin"

- 3:45: **Coffee Break**

- Session Eight: Chair: Robert Mann
- 4:15: Beverly K. Berger, Oakland U.,
  "Numerical Study of Spatially Inhomogeneous Cosmologies"
- 4:30: Jim Isenberg, U. of Oregon,
  "Oscillatory Behavior Near the Singularity in Inhomogeneous Vacuum Cosmological Spacetimes"

- 4:45: Kirill Krasnov, CGPG, Penn. State,
  "BF theory and Gravity"
- 5:00: Michael Martin, U. of Missouri-Columbia,
  "The Contracted Christoffel Symbol as Gauge Gravity Vector"
- 5:15: Tevian Dray, Oregon State University,
  "Octonions and Fermions"
- 5:30: Arthur E. Fischer, UC Santa Cruz,
  "The reduced Hamiltonian of General Relativity and the sigma Constant of Conformal Geometry"
- 5:45: William Pezzaglia, Santa Clara University,
  "New Classical Action Principle for Equations of Motion of Spinning Particles in Curved Space"