

Workshop On General Relativity

Stanford Mathematics

April 1 - June 7, 2002

Sponsored by the MRC of the Stanford Math Department, AIM, and NSF

Organizers

Rick Schoen, Stanford University | Hubert Bray, M.I.T.
Nicos Kapouleas, Brown University | Jim Isenberg, University of Oregon

Lecture Schedule:

(The general plan is to have a single talk on Tuesday, and then a collection of talks on the same subject on Friday. There are some deviations to accomodate people only at the meeting for a short time, and in the last week the talks are early in the week. Additions and other changes will be made during the workshop on a week-to-week basis.)

April 1-6

Thursday, April 4

AIM, 360 Portage Ave, Palo Alto

3:00 p.m., Sergiu Klainerman (Princeton University)

"The Cauchy problem for the Einstein equations"

4:15 p.m., John Wainwright (University of Waterloo)

"Dynamics of cosmology (Spatially Homogenous) I"

April 7-13

Tuesday, April 9

AIM, 360 Portage Ave, Palo Alto

2:00 p.m., Sergio Goncalves (Yale University)

"On the Absence of Trapped Surfaces & Singularities in Cylindrical Gravitational Collapses"

3:30 p.m., Claes Ugge (Karlstad University)

"Dynamics of cosmology (Spatially Homogenous) II"

April 14-20

Tuesday, April 16

AIM, 360 Portage Ave, Palo Alto

1:00 p.m., Robert Bartnik (Canberra University) "Mass on a null hypersurface"

2:00 p.m., Hugh Bray (MIT) "Mass functionals in various settings"

3:00 p.m., Tea

3:30 p.m., Roh Tung (UC, Davis) "Quasilocal Hamiltonians"

April 21-27

Friday, April 26

Stanford Math Dept, Bldg. 380, Room 383-N

2:00 p.m., Gary Horowitz (UC-Santa Barbara) "New Ricci Flat Metrics with Less Symmetry"

3:15 p.m., Simon Brendle (MIT)

"Global existence and convergence for a higher order flow in conformal geometry"

April 28-May 4

Tuesday, April 30

AIM, 360 Portage Ave, Palo Alto

2:00 p.m., Frank Pacard (University of Paris) Title: TBA

Friday, May 3

AIM, 360 Portage Ave, Palo Alto

1:00 p.m., David Garfinkle (Oakland Univ)

"Numerical simulations of general relativity in harmonic coordinates"

2:00 p.m., Terry Tao (UCLA) "A physical space approach to null form estimates"

3:00 p.m., Tea

May 5-11

Tuesday, May 7

AIM, 360 Portage Ave, Palo Alto

2:00 p.m., Vince Moncrief (Yale Univ)

"Some stability problems for cosmological vacuum spacetimes"

3:30 p.m., Gilbert Weinstein (Univ of Alabama-Birmingham)

"Quasi-convex foliations and metrics of nonnegative scalar curvature"

Friday, May 10

AIM, 360 Portage Ave, Palo Alto

2:00 p.m., Hans Ringstrom (AEI-Potsdam) "Expanding directions of the Gowdy spacetimes"

3:30 p.m., Adrian Butscher (AEI-Potsdam) "The conformal constraint equations"

May 12-18

Tuesday, May 14

AIM, 360 Portage Ave, Palo Alto

2:00 p.m., Dan Pollack (Univ of Washington)

"Construction of New Solutions of the Constraint Equations"

3:00 p.m., Justin Corvino (Brown University) "On Asymptotics of the Constraint Equations"

Friday, May 17

AIM, 360 Portage Ave, Palo Alto

2:00 p.m., Greg Galloway (University of Miami)

"The null splitting theorem with applications to asymptotically simple solutions of the Einstein equations"

3:00 p.m., Mike Anderson (SUNY Stony Brook)

"Structure of stationary vacuum solutions with varying Λ "

May 19-25

Tuesday, May 21

AIM, 360 Portage Ave, Palo Alto

1:00 p.m., Alan Rendall (AEI-Potsdam)

"The Einstein-Vlasov system"

2:00 p.m., Marsha Weaver (University of Waterloo)

"Existence of a large class of solutions to the Einstein equations with a monotone singularity"

3:30 p.m., Lars Andersson (University of Miami)

"Elliptic hyperbolic systems and the Einstein equations"

Thursday, May 23

Building 380, Room 380-D

2:00 p.m., Christina Sormani (CUNY)

"Using Gromov-Hausdorff Convergence to understand the Spacelike Cosmos"

Friday, May 24

AIM, 360 Portage Ave, Palo Alto

2:00 p.m., Guofang Wei (UC, Santa Barbara)

"Hausdorff convergence and universal covers"

3:30 p.m., Igor Rodnianski (Princeton University)

"Rough solutions of the Einstein vacuum equations"

May 26-June 1**Tuesday, May 28**

AIM, 360 Portage Ave, Palo Alto

1:00 p.m., Lee Lindblom (CalTech)

"Stability of the Einstein Evolution Equations"

2:00 p.m., Marc Keel (U of Minnesota)

"Long Time Existence for Quasilinear Wave Equations"

3:30 p.m., Michael Dafermos (MIT)

"Some recent progress on strong cosmic censorship with spherical symmetry"

Thursday, May 30

Math Bldg. 380, Room 383-N

2:30 p.m., Jim Colliander (U of Toronto) Title: TBA

Friday, May 31

AIM, 360 Portage Ave, Palo Alto

2:00 p.m., Hans Lindblad (UC, San Diego)

"Free boundary problems for fluids"

3:30 p.m., Sergio Dain (AEI, Potsdam)

"Asymptotically Flat Initial Data with Prescribed Regularity at infinity"

June 2-8**Monday, June 3**

AIM, 360 Portage Ave, Palo Alto

1:00 p.m., Piotr Chrusciel (Universite de Tours)

"Gravitational fields in the radiation regime"

2:00 p.m., Andrea Nahmod (U of Massachusetts)

"Wave maps"

Friday, June 7

Math Bldg. 380, Room 383-N

2:30 p.m., Dieter Brill (U of Maryland) Title: TBA

4:00 p.m., Robert Wald (U of Chicago) Title: TBA

Participants

Michael Anderson (Stony Brook University)

Abhay Ashtekar (Penn State)

Robert Bartnik (University of Canberra, Australia)

Greg Galloway (University of Miami)

Gerhard Huisken (University of Tübingen)

Helmut Friedrich (Albert-Einstein-Institut, Potsdam)

Lars Andersson (University of Miami)

Piotr Chrusciel (Université de Tours)

Alan Rendall (Albert-Einstein-Institut, Potsdam)

Robert Wald (University of Chicago)

Sergiu Klainerman (Princeton University)

Terry Tao (UCLA)

Daniel Tataru (UC, Berkeley)

Vince Moncrief (Yale University)

Adrian Butscher (Albert-Einstein-Institut, Potsdam)

Jim Colliander (University of Toronto)

Michel Dafermos (M.I.T.)

Dan Pollack (University of Washington)

Gary Horowitz (UC, Santa Barbara)

Gigliola Staffilani (Stanford University)

Gilbert Weinstein (University of Alabama, Birmingham)

Igor Rodnianski (Princeton University)

Justin Corvino (Brown University)

Mark Keel (University of Minnesota, Twin Cities)
Hans Lindblad (UC, San Diego)
Rafe Mazzeo (Stanford University)
Frank Pacard (University of Paris 12 Val-de-Marne)
A. Shadi Tahvildar-Zadeh (Rutgers University)
Xiaodong Wang (M.I.T.)
Jalal Shatah (Stanford University)
Sergio Dain (Albert-Einstein-Institut, Potsdam)
Erwann Delay (Université de Tours)
John Friedman (University of Wisconsin, Milwaukee)
David Garfinkle (Oakland University)
Hans Ringstrom (Albert-Einstein-Institut, Potsdam)
Marc Herzlich (Université Montpellier II)
John Wainwright (University of Waterloo)
Masayuki Tanamoto (Yale University)
Marsha Weaver (University of Waterloo)
Andrea Nahmod (UMASS, Amherst)
Sergio Goncalves (Yale University)
Simon Brendle (University of Tübingen)
Claes Ugge (Karlstad University)
Christina Sormani (CUNY)
Guofang Wei (UC, Santa Barbara)