

smr1321/Programme

SCHOOL AND WORKSHOP ON DYNAMICAL SYSTEMS

in honour of M. Herman

(30 July - 17 August 2001)

Co-sponsored by
Conselho Nacional de Desenvolvimento Cientifico e Tecnologico, Brazil

PROGRAMME
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(as of 13 August)

VENUE: MAIN BUILDING

MAIN LECTURE HALL for COURSES and PLENARY SESSIONS
MAIN LECTURE HALL and ROOM C respectively, for PARALLEL SESSIONS

Week 1 (30 July - 3 August)

Monday, 30 July

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8:30 - 12:00 Registration and administrative formalities

14:00 Opening with Professor M.A. Virasoro

14:15 - 15:05 G. Margulis
Geometry of numbers and inequalities for integral operators

15:15 - 16:05 K. Khanin
Topological shocks in Burgers turbulence

16:15 - 17:05 M. Sambarino
On the dynamics of dominated splitting

Tuesday, 31 July

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09:00 - 09:50 J.-C. Yoccoz
Quasi-periodic dynamics for p-adic rational maps
(following Juan Rivera-Letelier)

10:00 - 10:50 M.J. Pacifico
Singular Axiom A flows

11:00 - 11:50 R. Markarian
Decay of correlations in billiard systems

Room C

14:00 - 14:50 R. Labarca 14:00 - 14:50 A. Bufetov

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On families of expanding Lorenz maps Ergodic theorems for actions of free groups

15:00 - 15:50 L.M. Macarini 15:00 - 15:50 V. Guinez
Periodic orbits for Hamiltonian flows and magnetic fields Lines of curvature on surfaces immersed in R^4

16:10 - 17:00 L. Diaz
 Tame and wild dynamics

Wednesday, 1 August

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09:00 - 09:50 F. Przytycki
 Non-uniformly hyperbolic rational maps

10:00 - 10:50 J. Seade
 Higher dimensional complex Kleinian groups

11:00 - 11:50 A. Chenciner
 Action minimizing periodic solutions of the n-body problem

Room C

14:00 - 14:25 V.L. Maistrenko 14:00 - 14:25 F.E. Abdenur
Bifurcations of principal cycles in coupled logistic map systems Generic robustness of spectral decomposition

14:30 - 14:55 Y. Cao 14:30 - 14:55 G.A. Arroyo
The basin problems of some strange attractors Dominated splitting for invariant sets of flows

15:00 - 15:50 V. Kaloshin
 Superexponential growth of the number of periodic points is generic, but is of measure zero

16:10 - 17:00 G. Margulis
 Quantitative Oppenheim conjecture

Thursday, 2 August

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09:00 - 09:50 D. Kleinbock
 Homogeneous dynamics with applications to Number Theory - I

10:00 - 10:50 E. Pujals
 Chaotic dynamics and finitude of attractors - I

11:00 - 11:50 J. Milnor
 General remarks on mathematical problems in Biology

Room C

14:00 - 14:50 L. Mora 14:00 - 14:50 L.Flaminio
Invariant torus for perturbations of product of quadratic maps Ergodic averages of the horocycle flow

15:00 - 15:50 S. Marmi
 Analytic and non-analytic small divisors

16:10 - 17:00 M. Viana
 Non-uniform hyperbolicity

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Friday, 3 August

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09:00 - 09:50 D. Kleinbock
Homogeneous dynamics with applications to Number Theory - II

10:00 - 10:50 E. Pujals
Chaotic dynamics and finitude of attractors - II

11:00 - 11:50 Ya. Sinai
Quasi-linear approximations of the 3D-Navier-Stokes systems

Room C

14:00 - 14:50 V. Kaloshin Simple topological proofs of connecting and accelerating theorems of Mather	14:00 - 14:50 M. Paternain On length expansive homeomorphisms
15:00 - 15:25 S. Ben Miled The topological entropy of a homeomorphism can be approximated by the entropy of periodic orbits	15:00 - 15:25 A.T. Baraviera Robust non-uniform hyperbolicity for volume preserving maps
15:30 - 15:55 M. Baillif Kneading operators and dynamical determinants in odd dimensions	15:30 - 15:55 V.M. Horita Hausdorff dimension of non-hyperbolic repellers
16:10 - 17:00 A. Lopes Lyapunov minimizing measures	

Week 2 (6 - 10 August)

Monday, 6 August

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09:00 - 09:50 D. Kleinbock
Homogeneous dynamics with applications to Number Theory - III

10:00 - 10:50 E. Pujals
Chaotic dynamics and finitude of attractors - III

11:00 - 11:50 C.G. Moreira
Statistical properties of unimodal maps

14:00 - 14:50 P. Wiegmann
Evolution (I) and quantization (II) of conformal maps

15:00 - 15:50 D. Dolgopyat
Dynamics of an oil spot as dynamics with nonzero Lyapunov
exponents

16:10 - 17:00 B. Fayad
Liouvillean constructions on the torus

Tuesday, 7 August

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09:00 - 09:50 D. Kleinbock
Homogeneous dynamics with applications to Number Theory - IV

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10:00 - 10:50 M. Lyubich
One dimensional Dynamics, real versus complex - I

11:00: Award Ceremony of the 2000 ICTP Prize in honour of F. Hirzebruch

Room C

14:00 - 14:50 A. Pinto
Hyperbolicity of the renormalization operator
for C^3 unimodal maps of quadratic type

14:00 - 14:50 S. Plaza
On C_0 continuity of the
Perron-Frobenius semi group

15:00 - 15:25 S. Senti
Hausdorff dimension of the persistently
recurrent sets for quadratic maps

15:00 - 15:25 A. Dzhalilov
Absolutely continuous and
singular measures of
circle homeomorphisms
with singularities

15:30 - 15:55 S. Crovisier
Almost sure rotation number for piecewise
affine endomorphisms of the circle

15:30 - 15:55 T. Gramchev
Normal forms of biholomorphic
maps with linear parts
having Jordan blocks

16:10 - 17:00 E.C. Zeeman
An n-dimensional competitive Lotka-Volterra system is
generically determined by the edges of its carrying simplex

Wednesday, 8 August

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09:00 - 09:50 J. Mather
Conservative dynamics - I

10:00 - 10:50 M. Lyubich
One dimensional dynamics, real versus complex - II

11:00 - 11:50 E. Pujals
Chaotic dynamics and finitude of attractors - IV

Room C

14:00 - 14:25 R. Oudkerk
Limits of Julia sets

14:00 - 14:25 A. Tahzibi
Stably ergodic systems
which are not partially
hyperbolic

14:30 - 14:55 B. Mestel
Golden mean renormalization for a generalized
Harper equation: the Ketoja-Satija Orchid

14:30 - 14:55 M.I. Rios
Geometrical models for critical
saddle-node horseshoes

15:00 - 15:50 F. Dumortier
New aspects in the unfolding of the nilpotent singularity of
codimension three (in R^3)

16:10 - 17:00 J. Bochi
Zero Lyapunov exponents for conservative maps

Thursday, 9 August

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09:00 - 09:50 J. Mather
Conservative dynamics - II

10:00 - 10:50 M. Lyubich
One dimensional dynamics, real versus complex - III

11:00 - 11:50 X. Gomez Mont
SRB measures for some holomorphic dynamical systems

Room C

<p>14:00 - 14:25 M.J. Costa Strange attractors and saddle-node horseshoes</p> <p>14:30 - 14:55 C.M. Carballo C1 generic properties of homoclinic classes</p> <p>15:00 - 15:50 D. Szasz Recurrence and Markov returns</p> <p>16:10 - 17:00 D. Ruelle Perturbation theory for Lyapunov exponents of a toral map: extension of a result of Shub and Wilkinson</p>	<p>14:00 - 14:25 A. Glutsyuk On simultaneous uniformization and local non-uniformizability</p> <p>14:30 - 14:55 J. Vieitez Expansive diffeomorphisms on T^3</p>
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Friday, 10 August

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09:00 - 09:50 J. Mather
Conservative dynamics - III

10:00 - 10:50 M. Lyubich
One dimensional dynamics, real versus complex - IV

11:00 - 11:50 F. Rodriguez-Hertz
Stable ergodicity of linear automorphisms

Room C

<p>14:00 - 14:25 V.F Sirvent Geodesic laminations and symbolic dynamics</p> <p>14:30 - 14:55 A. Medina Bonifant Attractors</p> <p>15:00 - 15:50 E. Vargas Real bounds, ergodicity and negative Schwarzian for multimodal maps</p> <p>16:10 - 17:00 R. Roussarie Limit cycles and Abelian integrals</p>	<p>14:00 - 14:25 A. Gorodetski The existence of an orbit with zero Lyapunov exponent is locally robust</p> <p>14:30 - 14:55 I. Toth Lipschitz decomposability of singularities of billiards</p> <p>15:00 - 15:50 A. Shilnikov Infinite cycle in slow-fast systems</p>
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Week 3 (13 - 17 August)

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Monday, 13 August

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- 09:00 - 09:50 J. Mather
Conservative dynamics - IV
- 10:00 - 10:50 M. Jakobson
Properties of Markov partitions for Henon-like families
- 11:00 - 11:50 L. Bunimovich
Mushrooms and other billiards with divided phase space
- 14:00 - 14:50 G. Forni
Unique ergodicity of interval exchange transformations and
Lyapunov exponents of the Teichmuller flow
- 15:00 - 15:50 M. Benedicks
Random perturbations of Henon maps
- 16:10 - 17:00 A. Bolibruch
Movable singularities of the Schlesinger equations of
isomonodromic deformations

Tuesday, 14 August

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- 09:00 - 09:50 J. Mather
Conservative dynamics - V
- 10:00 - 10:50 S. Hayashi
Hyperbolicity and homoclinic bifurcations
- 11:00 - 11:50 V. Baladi
Dynamical determinants for surface diffeomorphisms with
dominated splitting

Room C

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|---------------|--|---------------|--|
| 14:00 - 14:50 | R. Ma
Proof of the C^r closing lemma and
the C^r stability conjecture | 14:00 - 14:50 | M.A. Rodriguez-Hertz
Expansiveness, connectedness and
Lyapunov stability |
| 15:00 - 15:50 | P. Wiegmann
Evolution (I) and quantization (II) of conformal maps | | |
| 16:10 - 17:00 | M. Shishikura
M. Herman's work on quasisymmetric conjugacies of circle maps
and Siegel disks | | |

Wednesday, 15 August

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- 09:00 - 09:50 L.-S. Young
Strange attractors emerging from Hopf bifurcations
- 10:00 - 10:50 H. Broer
Hill's equation with periodic and quasi-periodic forcing: a
geometric approach

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11:00 - 11:50 A. Avila de Melo
Bifurcations of unimodal maps

Room C

14:00 - 14:25 V. Pinheiro
On ergodic components of contracting
Lorenz maps

14:00 - 14:25 H. Marzougui
On foliations of codimension greater
than one on closed manifolds

14:30 - 14:55 R. Vitolo
Bifurcations and chaos in the
Lorenz-84 climate model with
seasonal forcing

14:30 - 14:55 A. Taghavi
On periodic solutions of a class of
polynomial Lienard equation

15:00 - 15:25 R.A. Perez
Finite recurrence patterns in the
quadratic family

15:00 - 15:25 G. Chakvetadze
On the chaotic behaviour in the family
of interval maps arising as models
in Laser Physics

15:30 - 15:55 G. Ble Gonzalez
External arguments and invariant
measure for the quadratic family

15:30 - 15:55 A. Grigoriev
Picard-Fuchs systems for polynomials
are not singularly perturbed

16:10 - 17:00 J. Palis
Are homoclinic bifurcations central to Dynamics? From Poincare'
to present time.

Thursday, 16 August

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09:00 - 09:50 L.-S. Young
SRB measures as zero-noise limits

10:00 - 10:50 J. Lewowicz
Homeomorphisms close to pseudo Anosov maps

11:00 - 11:50 R. Ures
Robust transitivity and minimality of strong foliations

Room C

14:00 - 14:50 D. Brandao
Renormalization theory for
multimodal maps

14:00 - 14:25 E. Rosales-Gonzalez
Rigidity theorem for degenerated
singular points of germs of
holomorphic vector fields in the
complex plane

14:30 - 14:55 A. Gonzalez
Existence of invariant tori close to
a quasi-invariant torus of an exact
symplectic map

15:00 - 15:25 P. Balint
Some nice geometrical properties
of billiards

15:00 - 15:25 M. R. Razvan
Infinitely many homoclinic orbits for
planar vector fields

15:30 - 15:55 T. Varju
Local limit theorems in dynamical
systems

15:30 - 15:55 S. Gan
Horseshoe and entropy for C^1 surface
diffeomorphisms

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16:00 - 16:25 F. Abdenur 16:00 - 16:25 G. Chakvetadze
Attractors of generic diffeomorphisms Ergodic properties of interval maps
are persistent serving as models for drilling wells

16:40 - 17:30 D.V. Treshchev
Evolution of slow variables in a priori unstable Hamiltonian
systems

Friday, 17 August

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09:00 - 09:50 D. Turaev
Estimates of the dimension of attractors via homoclinic
bifurcations

10:00 - 10:50 A. Verjovsky
A smooth, Levi-flat structure of co-dimension one on the
5-sphere

11:00 - 11:50 F. Takens
The reconstruction theorem for endomorphisms

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