Spring Lecture Series N.20
Geometric Mechanics, Dynamical Systems, and Control Theory (1995)

Principal Lecturer: Jerrold E. Mardsen, University of California, Berkely

Contributions by:

G. Haller

Title: Diffusion in Hamiltonian systems

R. Montgomery

Title: Su-Riemannian geometry

A. Shoshitaishvili

Title: Some new problems in Control Theory

L. Drager

Title: Controllability of linear systems, Riccati equations and the geometry of generalized grassmannians

T. Ratiu

Title: Poisson and semidirect product reduction theory

M. Alber

Title: On umbilic geodescis and soliton solutions of nonlinear PDE's

D. Mittenhuber

Title: Hamiltonian systems on Liegroups: application to problems in Lie semigroups

G. Misiolek

Title: Conjugate points on diffeomorphism groups and hydrodynamics

B. Zaslavsky

Title: Feedback stabiliztion of any number of connected oscillators with uncontrollable Linearization

M. Silber

Title: Bifurcation in the presence of Symmetry

V. Jurdjevic

Title: Constrained Hamiltonian Systems

G. Wolansky

Title: Stability of stationary Solutions of Vlasov type and Flow equations in the presence of Symmetries

E. Barany

Title: Adaptive control and non-linear dynamics

R. Murray

Title: Geometric Phases and Robotic Locomotion

P. Tantalo

Title: Classical Berry Phases for the rigid body

N. Leonard

Title: Averaging, rigid body dynamics, holonomy and control

M. Shapiro

Title: Cartan cone distribution and non-singularity of solutions of finite Toda Lattice

S. Singer

Title: Complex variable action for Toda Lattice

P. Krishnaprasad

Title: Geometry of non-holonomic systems on Lie groups

A. Bloch

Title: Lagrangian and Hamiltionan formulation of Constrained variational problems

A. Sarychev

Title: Optimal control for 2-chained systems

K. Ehiers

Title: Geomtetric phases in swimming micro-organisms

G. Walsh

Title: Issues regarding stabilization of constrained mechanical systems

B. Shapiro

Title: On classification of syplectic leaves for the Gelfand-Dickey bracket

A. Burov

Title: On restrictness and complementarity in rigid body dynamics

G. Osipenko

Title: Methods of applied symbolic mechanics

L. Norris

Title: n-symplectic geometry on frame bundles

J. Lawson

Title: Generalized symplectic geometry as a covering theory for the hamiltonian theory for the Hamiltonian theories of classical particles and fields

S. Kresic-Juric

Title: Loop groups, discretized Neumann oscillator and Matrix Riccati