

CURRICULUM VITAE: JERROLD E. MARSDEN  
November 23, 2009

**Contact Information**

Control and Dynamical Systems 107-81  
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**Personal Data**

1942, Born August 17, British Columbia, Canada  
1965, B.Sc., University of Toronto  
1968, Ph.D., Princeton University (Arthur Wightman, advisor)  
1968–1995 Lecturer–Professor, University of California, Berkeley  
1971, June, Visiting Researcher, Institute for Advanced Study, Princeton  
1972, Spring Visiting Researcher, Institut des Hautes Etudes Scientifiques  
1970–71 and spring, 1975, Visiting Professor, University of Toronto  
1975, May–June and May, 1979, Professeur d'Échange, Université de Paris VI  
1977, Spring, Carnegie Fellow, Heriot-Watt University  
1979, Fall, Killam Visiting Scholar, University of Calgary  
1981–82, Miller Research Professor, University of California, Berkeley  
1983, Fall, Visiting Researcher, Center for Nonlinear Studies, Los Alamos  
1984–86, Director, Research Group in Nonlinear Systems and Dynamics, UCB  
1988, Adjunct Professor of Electrical Engineering and Computer Science, UCB  
1991, Spring, Humboldt Senior Scientist, University of Hamburg  
1991, Sept., Ordway Scholar, University of Minnesota  
1991–1994, Director, Fields Institute  
1992, Spring, Fairchild Fellow, Caltech  
1995–: Professor of Control and Dynamical Systems, Caltech  
1998, Distinguished Visiting Scientist, Math. Sciences Research Institute, August 15–Sept 15, 1998  
1999, July–October, Humboldt Senior Scientist, University of Munich  
2001–, Director, CIMMS, the Caltech *Center for Integrative Multiscale Modeling and Simulation*  
2003, *Carl F. Braun Professor of Engineering, Control and Dynamical Systems, and Applied and Computational Mathematics* at Caltech.

**Selected Awards and Special Honors**

—August, 2007, United Technologies Research Award  
—July, 2006, Fellow of the Royal Society.  
—June, 2006, Teaching and Mentoring Award, Caltech  
—June, 2006, Honorary Degree, University of Surrey.  
—John von Neumann Prize, SIAM, July, 2005.  
—ISI (Institute for Scientific Information) *Highly Cited Researchers* (top 1/2%).  
—Max Planck Research Award, 2000  
—Fellow, American Academy of Arts and Science, April, 1997  
—Plenary Lecture, ICIAM, Hamburg, July, 1995  
—Jerrold E. Marsden postdoctoral fellowship named at the Fields Institute, 1994  
—Fellow, Royal Society of Canada, May, 1993  
—Norbert Wiener Prize, 1990, AMS-SIAM  
—Humboldt Prize, 1990–91, 1999

- Aisenstadt Lectures, Montreal, 1989-90
- Jeffrey-Williams Prize, Canadian Mathematical Society, 1982
- First Prize, Relativity Essay Contest (with Arthur Fischer), (1973) 2nd Prize (1976).

## **Selected Invited Talks Since 1995.**

### **1995**

- Plenary Lecture, ICIAM, Hamburg, July, 1995
- Stouffer Distinguished Lectures, Kansas, September, 1995
- Phillips Lectures, Haverford, November, 1995
- Colloquium, Aeronautics, USC, November, 1995

### **1996**

- Plenary lecture, UCLA conference on dynamical systems, March 3, 1996
- Plenary lectures, Notre Dame meeting on Applied Mathematics, April, 1996
- Organizer, dynamics and fluid mechanics meeting, Oberwolfach, July, 1996
- Plenary lecture, Geometric Methods in Math. Phys., Goslar, Germany, July, 1996
- Cantrell Lectures, University of Georgia, October, 1996
- Lecture, Mechanical Engineering, Princeton, December, 1996

### **1997**

- Lecture, Pacific Geometry Conference, MSRI, February, 1997
- Speaker, IMA Conference, Feb 27-28, 1997
- Colloquium, Cornell, March 22-8, 1997
- Chair, Organizing Committee, Arnoldfest, Fields Institute, June, 1997
- Park City Institute Lecture Series on Mechanics, July, 1997
- Main speaker, Demore Quilghini memorial meeting, Florence, October, 1997

### **1998**

- Colloquium, Mathematics, UC Berkeley, February, 1998
- Speaker, Computation Center, UC Santa Barbara, April, 1998
- Colloquium, Michigan State University and University of Michigan, May, 1998
- Speaker, IMA, Animal Locomotion and Ball Conferences, June, 1998
- Plenary Speaker, PIMS meeting on nonholonomic systems, Calgary, Aug 25-29, 1997
- Distinguished Senior Scientist and Speaker, Geometric Integration Program, MSRI, August 15-Sept 15, 1998

### **1999**

- Colloquium, Mathematics and Physics, University of Oregon, March 11, 1999
- Speaker, Institute for Theoretical Physics, April 8, 1999
- Fluid Dynamics Seminar, Caltech, May, 1999
- Speaker and Organizer, Snowbird Conference on Dynamical Systems, May, 1999
- Plenary Lecture, Goslar, Germany, July, 1999
- Colloquium Lecture, TU Munich, July, 1999
- Speaker and Organizer, Oberwolfach, Germany, July, 1999
- Plenary Lecture, Equadiff, Berlin, August, 1999

### **2000**

- Colloquia at Irvine, Stanford, Maryland, San Diego
- Nagel Lectures, Univ. of South Florida, March, 2000
- Speaker at IFAC meeting, Princeton, March, 2000

Plenary lecture at Antman 60th birthday meeting, May, 2000  
Lecture at ITP conference on fluids, June, 2000  
Plenary lecture at AFOSR meeting, July, 2000  
Plenary lecture, Royal Society Discussion Meeting, November, 2000

## 2001

Colloquia at Stanford, Santa Cruz, UC Berkeley (Physics), UC Davis, Arizona  
Minisymposium organizer and lecturer, Snowbird Dyn. Systems Meeting, May, 2001  
Plenary lecture, CAIMS, Victoria, June, 2001  
Plenary lecture at AFOSR meeting, July, 2001  
Plenary lecture, Joint SIAM annual meeting/Control & Optimization meeting, San Diego, July, 2001  
Floer Memorial Lecture, UC Berkeley, October, 2001  
Plenary lecture, Alan Newell 60th Birthday meeting, Arizona, November, 2001

## 2002

Plenary lecture at Klausfest-II, Kloster Irsee, January, 2002  
Colloquium Lecture, UC Santa Barbara, February, 2002  
Lecture at vortex dynamics workshop, UC Santa Barbara, March, 2002  
Plenary Lecture, Canadian Applied and Industrial Mathematics Society, June, 2002  
Speaker at the workshop on Mechanics and Symmetry, Warwick, July, 2002  
Organizer, Oberwolfach workshop on Dynamics, Numerics, & Fluid Mechanics, July 28–Aug 2, 2002  
Meeting in honor of the 60th birthday of JEM, Aug 7–10, Fields Institute, Toronto  
Speaker, Workshop on Efficient Algorithms for Multiscale Dynamics, Berlin, September 23-25, 2002  
Speaker, Workshop on Dynamical Systems and Mission Design, Paderborn, Sept 30-Aug 1, 2002  
Taft Lectures, University of Cincinnati, October 3-5, 2002  
Invited lecture, Conference in honor of Arthur Krener, October, 2002  
Colloquium, Aeronautics, Stanford University, December, 2002

## 2003

Plenary Lecture, New Trends in Astrodynamics, University of Maryland, January 21-23, 2003  
Crocco Lectures, MAE Department, Princeton University, March 3–6, 2003  
Gentry Lectures, Wake Forest University, and Colloquium lecture, NC State Univ, March 24–27, 2003  
Plenary lecture, Conference in honor of Anthony Tromba, May, 2003  
Invited lecture, IPAM, UCLA, May, 2003  
Invited lecture, Conference in honor of Alan Weinstein, July, 2003  
Lecture, MBARI, Adaptive Ocean Sampling Network, August, 2003

## 2004

Lecture, Conference on Robust Design of Dynamical Systems, Hartford, CT, January, 2004  
The Averaged Fluid and EPDiff Equations, Univ. of Paderborn, Colloq. Lecture, January 20, 2004  
Colloquia, Bremen, April, 2004, Leipzig, Munich, Stuttgart, Germany, May, 2004  
Lecture, Bernoulli Center, September, 2004  
6 Lectures, Ravello Summer School, Italy, September, 2004  
Colloquium, Columbia University, October, 2004  
2 Lectures, New Zealand Mathematics Institute, November, 2004

## 2005

AMS Annual Meeting, Special Current Events Session Lecture, January, 2005  
Colloquium lectures, UC Irvine, January, 2005  
Coupled 60 Conference, Houston, plenary lecture, February, 2005  
2 Lectures, University of Texas, Austin, February, 2005

2 Lectures (Mathematics and Mechanical Engineering), Stanford, March, 2005  
Plenary lecture, Flaschka 60th, March 2005  
J. von Neumann Lecture, SIAM, July, 2005  
Oberwolfach organizer and lecture, August, 2005  
Distinguished Lecture Series, USC, September, 2005  
Soo Distinguished Lecture, Univ. of Illinois, October, 2005  
Fellows lecture series, United Technologies Research Center, October, 2005  
K.D. Wood Colloquium, University of Colorado, Boulder, November, 2005

## 2006

Lecture, Structured Integrators Workshop, Stanford, March, 2006  
Invited MAA meeting lecture, San Bernardino, April, 2006  
Lecture at Bioloocomotion workshop, Boulder, June, 2006  
USNCTAM Workshop lecture, Boulder, June, 2006  
Lecture at Workshop in honor of JEM, Surrey, June, 2006  
Royal Society Lecture, July, 2006  
Ziewet Lectures, University of Michigan, September, 2006  
Colloquium, ME, MIT, October, 2006  
Kievel Lectures, Humboldt State University, November, 2006.

## 2007

Invited Lecture, MSRI Workshop on Dynamical Systems, January, 2007  
Fields-Carleton Distinguished Lecture Series, March, 2007  
Invited Lecture, Third structured integrators workshop, USC, April, 2007  
Minisymposium, Snowbird Conference on Dynamical Systems, May, 2007  
Lecturer and Organizer, Fest for Darryl Holm, Switzerland, July, 2007  
Lecture, AFOSR contractors meeting, Long Beach, August, 2007  
Invited Lecture, BIRS, Banff, August, 2007

## 2008

Colloquium, USC, January, 2008  
Invited Lecture, UTRC, February, 2008  
Invited Lecture, Fourth structured integrators workshop, Stanford, April, 2008  
Invited Lecture, ICRA, Pasadena, May 2008  
Organizer, 60th Birthday conference for John Ball, Edinburgh, June, 2008  
Invited Lecture, Oberwolfach, July 2008  
Distinguished Lecture Series, Irvine, October, 2008  
Nokia Distinguished Lecture, UC Berkeley, November, 2008

## 2009

Invited Lecture, UC San Diego, March, 2009  
Invited Lecture, AFOSR Contractor's meeting, July, 2009

## PhD Students

- [1970] G. Chichilnisky, *Group Actions on Spin Manifolds*  
M. Cantor, *Global Analysis over Noncompact Spaces*
- [1975] M. McCracken, *The Stokes Equations in  $L_p$*
- [1977] J. Arms, *Linearization Stability of Coupled Gravitational and Gauge Fields*
- [1979] G. Lugo, *Structure of Twistor and  $H$ -spaces*
- [1980] T. Ratiu, *Euler-Poisson Equations on Lie Algebras*  
O. Hijab, *Minimum Energy Estimation*
- [1983] D. Patterson, *Calculus Students' use of Visualization*

- D. Bao, *Aspects in the Dynamics of Supergravity*
- [1986] G. Sanchez de Alvarez, *Geometric Methods of Classical Mechanics Applied to Control Theory*  
R. Montgomery, *The Bundle Picture in Mechanics*
- [1987] D. Lewis, *Rotating Liquid Drops, Hamiltonian Structure, Bifurcation and Stability*  
A. Phelps, *A Simplification of Nonlinear Observer Theory*
- [1988] U. Mbanefo, *Mixed Boundary Value Problems of Stress Singularities*
- [1990] G. Patrick, *The Dynamics of Coupled Rigid Bodies*  
M. Alber, *Geometric Phases, Geometric Asymptotics, and Integrable Systems*
- [1991] G. Bor, *Non self dual Yang-Mills Fields*  
S.J. Chern, *Fluid Stability on Rotating Spheres*
- [1995] R. Fillipini, *The Symplectic Geometry of the Theorems of Borel-Weil and Peter-Weyl*  
N. Getz, *Control of Nonminimum Phase Systems*
- [1997] W-S. Koon, *Nonholonomic mechanical systems*;  
A. Bloam, *Geometric Mechanics and Nekhoroshev Estimates*
- [1999] M. Perlmutter, *Symplectic Reduction by Stages*;  
S. Jalnapurkar, *Nonholonomic and Lagrangian control systems*
- [2000] C.-Y. Xu, *Asymptotic Stability of Equilibria with Applications to Rotating Viscoelastic Rods*  
S. Pekarsky, *Discrete Mechanics, Multisymplectic Geometry and Continuum Mechanics*
- [2001] A. Hernandez, *Regularization of the Amended Potential Around Symmetric Points*
- [2002] Dong Eui Chang, *Controlled Lagrangian and Hamiltonian Systems*  
Luz Vianey Vela-Arevalo, *Wavelet Analysis of Resonant Structures in Hamiltonian Systems*
- [2003] Razvan Fetecau, *Variational Methods for Nonsmooth Mechanics*  
Francois Lekien, *Time-Dependent Dynamical Systems and Geophysical Flows*  
Anil Hirani, *Discrete Exterior Calculus*
- [2004] Shane Ross, *Cylindrical Manifolds and Tube Dynamics in the Restricted Three-Body Problem*  
Melvin Leok, *Foundations of Computational Geometric Mechanics*  
Matthew West, *Variational Integrators*  
Sergiy Vasylykevych (Math), *The Poisson Structure of Ideal Fluids*
- [2005] Harish Bhat, *Lagrangian Averaging, Nonlinear Waves, and Shock Regularization*  
Jimmy Fung (Joint with Richard Murray), *Coarse analysis of multiscale systems: diffuser flows, charged particle motion, and connections to averaging theory*
- [2006] Shawn Shadden, *A Dynamical Systems Approach to Unsteady Systems*
- [2007] Nawaf Bou-Rabee, *Hamilton-Pontryagin integrators on Lie groups*
- [2008] Katalin Grubits, *Low-dimensional Representations of Transitions in Molecular Systems*
- [2009] Ari Stern, ACM, *Geometric discretization of Lagrangian mechanics and field theories*  
Philip Du Toit *Transport and Separatrices in Time-Dependent Flows*  
Dmitry Pavlov, Mathematics, *Structure-preserving discretization of incompressible fluids*

**PhD Students in Progress.** Ashley Moore, Molei Tao (with Houman Owhadi), David Pekarek (ME), Paul Skerritt (Physics).

**Selected Masters Students.** T.J.R. Hughes, SESM, 1974, S. Sastry, EECS, 1980, F.A. Salam, EECS, 1982, D. Reilly, Math, 1983, Zexiang. Li, EECS, 1989, G.P. Heinzinger, EECS, 1990, Jeff Wendlandt, Mech. Eng, 1995.

**Postdoctoral Supervision.** H.-P. Kruse (Hamburg, on a Humboldt Award), UCB 92–94; H. Gumral (Turkey), UCB, 93–94; B. Coller, CDS, 1995–97; S. Shkoller, San Diego and LANL, 1996–1999; W.-S. Koon, CDS, 1998–; B. Shashikanth, CDS, 1998–2000; C. Kane, CDS, 1997–1999; S. Kelly, ME, 1998–1999; P. Krysl, Computer Science, 1998–2001; M. Clerc, CDS, 2001; C. Coulliette, CDS, 2000–2003; Eva Kanso, 2003–2005; Troy Smith, 2003–2005; Frederic Gaebern, 2003–2005; Rouslan Kreshetnikov, 2004–2006. Konda Reddy Chevva, 2007–2008; Sigrid Leyendecker, 2006–2008, CIMMS/CDS/Aero, (joint with M. Ortiz); Sujit Nair,

2007–2009, CDS, Caltech; Joris Vankershaver, 2007–2009; Marin Kobilarov, 2008– (A KISS postdoctoral scholar).

## Selected Professional Service

- Editor for Springer Verlag’s *Applied Mathematical Sciences Series*, *Texts in Applied Mathematics*, and *Interdisciplinary Applied Mathematics*.
- Current Editorial Boards  
Journal of Nonlinear Science; Journal of Geometry and Physics; Dynamics and Stability of Systems; Proceedings of the Royal Society of Edinburgh; Canadian Journal of Applied Mathematics; Foundations of Computational Mathematics; Journal of Mathematical Physics; Proceedings of the Royal Society; SIAM Journal on Applied Dynamical Systems
- Professional Service  
AMS Committee on Summer Research Conferences, 1983-86, Chair, 1985-86; AMS Science Policy Committee, 1989–92; AMS Program Committee, 1993–1996; MSI Advisory Committee, 1990–1994; Scientific Advisory Panel, Fields Institute, 1994-1998; Council of the American Mathematical Society, 1995–1998; Board of Trustees, Institute for Pure and Applied Math., UCLA, 1999–present; chair, 2001-2005; Organizing Committee for the Snowbird dynamics meeting, May, 2003, SIAM dynamical systems activity group; SIAM Board of Trustees, 2005-2008; Matheon Scientific Advisory Board, 2004–.

# B i b l i o g r a p h y

JERROLD E. MARSDEN

November 23, 2009

**1965**

1. Marsden, J. E. A theorem on harmonic homologies, *Canad. Math. Bull.*, **8**, (1965), 375-377. ([pdf](#))



**1966**

1. Beattie, M., J. E. Marsden and R. Sharpe [A universal factorization theorem in topology](#), *Canad. Math. Bull.*, **9**, (1966), 201–207. [\(pdf\)](#)
2. Beattie, M., J. E. Marsden and R. Sharpe [Order in finite affine planes](#), *Canad. Math. Bull.*, **9**, (1966), 407–411. [\(pdf\)](#)

**1967**

1. Marsden, J. E. A correspondence principle for momentum operators, *Canad. Math. Bull.*, **10**, (1967), 247–250. (pdf)

**1968**

1. Marsden, J. E. [Generalized Hamiltonian mechanics](#), *Arch. Rational Mech. Anal.*, **28**, (1968), 323–361. [\(pdf\)](#)
2. Marsden, J. E. [Hamiltonian one parameter groups](#), *Arch. Rational Mech. Anal.*, **28**, (1968), 362–396. [\(pdf\)](#)
3. Marsden, J. E. [A Banach space of analytic functions for constant coefficient equations of evolution](#), *Canad. Math. Bull.*, **11**, (1968), 599–601. [\(pdf\)](#)
4. Marsden, J. E. [Countable and net convergence](#), *Amer. Math. Monthly*, **75**, (1968). [\(pdf\)](#)

1969

1. Marsden, J. E. Hamiltonian systems with spin, *Canad. Math. Bull.*, **12**, (1969), 203–208. (pdf)
2. Marsden, J. E. Non smooth geodesic flows and classical mechanics, *Canad. Math. Bull.*, **12**, (1969), 209–212. (pdf)
3. Ebin, D. G. and J. E. Marsden Groups of diffeomorphisms and the solution of the classical Euler equations for a perfect fluid, *Bull. Amer. Math. Soc.*, (N. S.), **75**, (1969), 962–967. (pdf)

## 1970

1. Abraham, R. and J. E. Marsden [Hamiltonian mechanics on Lie groups and hydrodynamics](#), *Proc. Sympos. Pure Math.*, **16**, (1970), 237–244. (pdf)
2. Ebin, D. G. and J. E. Marsden [1970], [Groups of diffeomorphisms and the motion of an incompressible fluid](#), *Ann. of Math.*, **92**, 102–163. (pdf)
3. Ebin, D. G. and J. E. Marsden [On the motion of incompressible fluids](#), *Actes Du Congres Int.*, **2**, (1970), 211–214. (pdf)
4. Marsden, J. E. and A. Weinstein [1970], [A comparison theorem for Hamiltonian vector fields](#), *Proc. AMS*, **26**, 629–631. (pdf)
5. Chernoff, P. R. and J. E. Marsden [On continuity and smoothness of group actions](#), *Bull. Amer. Math. Soc.*, **76**, (1970), 1044–1049. (pdf)

1971

1972

1. Fischer, A. E. and J. E. Marsden General relativity as a dynamical system on the manifold of Riemannian metrics which cover diffeomorphisms, *Springer Lecture Notes in Physics*, **14**, (1972), 176–188. (pdf)
2. J. E. Marsden, D. G. Ebin, and A. E. Fischer [1972], Diffeomorphism groups, hydrodynamics and relativity, in *Proc. of the 13th Biennial Seminar of Canadian Mathematical Congress*, (J. Vanstone, ed.), 135–279. (pdf)
3. Fischer, A. E. and J. E. Marsden [1972], The Einstein equations of evolution—a geometric approach, *J. of Math. Phys.*, **13**, No. 4, April 1972, 546–568. (pdf)
4. Marsden, J. E. [1972], Darboux’s theorem fails for weak symplectic forms, *Proc. of the Amer. Math. Soc.*, **3**, 590–592. (pdf)
5. Fischer, A. E. and J. E. Marsden The Einstein evolution equations as a first-order quasi-linear symmetric hyperbolic system I, *Comm. Math. Phys.*, **28**, (1972), 1–38. (pdf)

## 1973

1. Fischer, A. E. and J. E. Marsden [New theoretical techniques in the study of gravity](#), *Gen. Relativity Gravitation*, **4**, (1973), 309–317. (pdf)
2. Marsden, J. E. [On product formulas for nonlinear semigroups](#), *J. Funct. Anal.*, **13**, (1973), 51–72. (pdf)
3. Marsden, J. E. [On global solutions for non-linear Hamiltonian evolution equations](#), *Comm. Math. Phys.*, **30**, (1973), 79–81. (pdf)
4. Marsden, J. E. [The Hopf bifurcation for nonlinear semigroups](#), *Bull. Amer. Math. Soc.*, **79**, (1973), 537–541. (pdf)
5. Marsden, J. E. [On completeness of homogeneous Pseudo-Riemannian manifolds](#), *Indiana U. Math. J.*, **22**, (1973), 1065–6. (pdf)
6. Fischer, A. E. and J. E. Marsden [General relativity, partial differential equations, and dynamical systems](#), *Proc. Sympos. Pure Math.*, **23**, (1973), 309–327. (pdf)
7. Fischer, A. E. and J. E. Marsden [Linearization stability of the Einstein equations](#), *Bull. Amer. Math. Soc.*, **79**, (1973), 997–1003. (pdf)
8. Marsden, J. E. [1973], [A proof of the Calderon extension theorem](#), *Canad. Math. Bull.*, **16**, 133–136. (pdf)



1974

1. Marsden, J. E. and A. Weinstein Reduction of symplectic manifolds with symmetry, *Reports on Math. Phys.*, **5**, (1974), 121–130. (pdf)
2. Fischer, A. E. and J. E. Marsden Manifolds of Riemannian metrics with prescribed scalar curvature, *Bull. Amer. Math. Soc.*, **80**, (1974), 479–484. (pdf)
3. Fischer, A. E. and J. E. Marsden Global analysis and general relativity, *Gen. Relativity Gravitation*, **5**, (1974), 73–77. (pdf)
4. Marsden, J. E. A formula for the solution of the Navier–Stokes equation based on a method of Chorin, *Bull. Amer. Math. Soc.*, **80**, (1974), 154–158. (pdf)
5. Fischer, A. E. and J. E. Marsden General relativity as a Hamiltonian system, *Sympos. Math.*, **XIV**, (1974), 193–205. (pdf)

1975

1. Fischer, A. E. and J. E. Marsden [Linearization stability of nonlinear partial equations](#), *Proc. Symp. Pure Math.*, **27**, (1975), 219–263. [\(pdf\)](#)
2. Fischer, A. E. and J. E. Marsden [Deformations of the scalar curvature](#), *Duke Math. J.*, **42**, (1975), 519–547. [\(pdf\)](#)
3. Arms, J. M., A. Fischer and J. E. Marsden [Une approche symplectique pour des théorèmes de décomposition en géométrie ou relativité générale](#), *C. R. Acad. Sci.*, Paris, **281**, (1975), 517–520 . [\(pdf\)](#)

1976

1. Choquet–bruhat, Y. and J. E. Marsden [Sur la positivité de la masse](#), *C. R. Acad. Sci.*, Paris, **282**, (1976), 609–612. (pdf)
2. Choquet–bruhat, Y. and J. E. Marsden [Solution of the local mass problem in general relativity](#), *Comm. Math. Phys.*, **51**, (1976), 283–296. (pdf)
3. Chernoff, P. R. and J. E. Marsden, [Some basic properties of infinite dimensional Hamiltonian systems](#), *Colloq. Intern.*, **237**, 313–330. (pdf)
4. Fischer, A. E. and J. E. Marsden, [Deformations of non-linear partial differential equations](#), *Coll. Int. C. N. R. S.*, **237**, 331–345. (pdf)
5. Cantor, M., A. Fischer, J. E. Marsden, N. O Murchadha and J. York [The Existence of Maximal Slicings in Asymptotically Flat Spacetimes](#), *Commun. math. Phys.*, **49**, (1976), 187–190. (pdf)
6. Choquet–bruhat, Y., A. E. Fischer and J. E. Marsden [Equations des contraintes sur une variété non compacte](#), *C. R. Acad. Sci.*, Paris, **284**, (1976), 975–978. (pdf)
7. Bourguignon, J. -P., D. G. Elbin and J. E. Marsden [Sur le noyau des opérateurs pseudo-différentiels á symbole surjectif et non injectif](#), *C. R. Acad. Sci.*, Paris, **282**, (1976), 867–870. (pdf)
8. Marsden, J. E. [Well-posedness of the equations of a non-homogeneous perfect fluid](#), *Comm. Partial Differential Equations*, **1**, (1976), 215–230. (pdf)
9. Fischer, A. E. and J. E. Marsden [A new Hamiltonian structure for the dynamics of general relativity](#), *Gen. Relativity Gravitation*, **7**, (1976), 915–920. (pdf)

1977

1. Chernoff, P. and J. E Marsden [Some remarks on hamiltonian systems and quantum mechanics](#), *Foundations of probability theory, statistical inference and statistical theories of science (Proc. Internat. Res. Colloq., Univ. Western Ontario, London, Ont., 1973)*, **III**, (1977), 35-53; see also Univ. Western Ontario Ser. Philos. Sci., **6**, Reidel, Dordrecht, 674-679. [\(pdf\)](#)
2. Hughes, T. J. R., T. Kato and J. E. Marsden [Well-posed quasi-linear second-order hyperbolic systems with applications to nonlinear elastodynamics and general relativity](#), *Arch. Rational Mech. Anal.*, **63**, (1977), 273-294. [\(pdf\)](#)
3. Marsden, J. E. [Attempts to relate the Navier-Stokes equations to turbulence](#), *Lecture Notes in Math.*, **615**, (1977), 1-22. [\(pdf\)](#)
4. Hughes, T. J. R. and J. E. Marsden [Some applications of geometry in continuum mechanics](#), *Rep. Math. Phys.*, **12**, (1977), 35-44. [\(pdf\)](#)
5. Fischer, A. E. and J. E. Marsden [1977], [The manifold of conformally equivalent metrics](#), *Can. J. Math.*, **XXIX**, No. 1, 1977, 193-209. [\(pdf\)](#)

1978

1. Hughes, T. J. R. and J. E. Marsden [Classical elastodynamics as a linear symmetric hyperbolic system](#), *J. Elast.*, **8**, (1978), 97–110. ([pdf](#))
2. Chorin, A. J., T. J. R. Hughes, J. E. Marsden and M. McCracken [Product formulas and numerical algorithms](#), *Comm. Pure Appl. Math.*, **31**, (1978), 205–256. ([pdf](#))
3. Holmes, P. J. and J. E. Marsden [Bifurcations of dynamical systems and nonlinear oscillations in engineering systems](#), *Springer Lect. Notes in Math.*, **648**, (1978), 163–206. ([pdf](#))
4. Holmes, P. J. and J. E. Marsden [Bifurcation to divergence and flutter in flow-induced oscillations: An infinite dimensional analysis](#), *Automatica*, **14**, (1978), 367–384. ([pdf](#))
5. Hughes, T. J. R. and J. E. Marsden [Topics in the mathematical foundations of elasticity](#), *Nonlinear Analysis and Mechanics*, (R. J. Knops, ed.), Pitman Research Notes, **II**, No. 27, (1978), 30–285. ([pdf](#))
6. Marsden, J. E. [Qualitative methods in bifurcation theory](#), *Bull. Amer. Math. Soc.*, **84**, (1978), 1125–1148. ([pdf](#))
7. Ball, J. M., R. J. Knops and J. E. Marsden [1978], [Two examples in nonlinear elasticity](#), *Lec. Notes in Math.*, **665**, 41–49. ([pdf](#))

1979

1. Arms, J. M. and J. E. Marsden The absence of Killing fields is necessary for linearization stability of Einstein's equations, *Indiana University Math. J.*, **28**, (1979), 119–125. (pdf)
2. Holmes, P. J. and J. E. Marsden Qualitative techniques for bifurcation analysis of complex systems, *Ann. New York Acad. Sci.*, **316**, (1979), 608–622. (pdf)
3. Fischer, A. E. and J. E. Marsden Topics in the dynamics of general relativity, *Isolated Gravitating Systems in General Relativity*, Italian Physical Society, (J. Ehlers, ed.), 322–395. (pdf)
4. Choquet–bruhat, Y., A. E. Fischer and J. E. Marsden Maximal hypersurfaces and positivity of mass, In *Isolated Gravitating Systems in General Relativity*, Italian Physical Society, (J. Ehlers, ed.), (1979), 396–456. (pdf)
5. Fischer, A. E. and J. E. Marsden The initial value problem and the dynamical formulation of general relativity, In *General Relativity, An Einstein Centenary Survey*, Cambridge University Press, (S. W. Hawking and W. Israel, eds.), (1979), 138–211. (pdf)
6. Marsden, J. E. On geometry of the Liapunov–Schmidt procedure, *Springer Lect. Math.*, **755**, (1979), 77–82. (pdf)

1980

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