

About the Authors

Anthony Bloch is a Professor of Mathematics at the University of Michigan, where he is currently Associate Chair for Graduate Affairs. He received a B.Sc.Hons from the University of the Witwatersrand, Johannesburg in 1978, an M.S. from the California Institute of Technology in 1979, an M.Phil from Cambridge University in 1981, and a Ph.D. from Harvard University in 1985. His research interests are in mechanics and nonlinear control, Hamiltonian systems and integrable systems, and related areas of nonlinear dynamics. He has held visiting positions at the Mathematical Sciences Institute at Cornell University, the Mathematical Sciences Research Institute at Berkeley, and the Fields Institute in Canada, and has been a member of the Institute for Advanced Study in Princeton. He was a T. H. Hildebrandt Assistant Professor at Michigan from 1985 to 1988 and was a faculty member at The Ohio State University before returning to Michigan in 1994. He has received a Presidential Young Investigator Award and a Guggenheim Fellowship and is a Fellow of the IEEE. He has also received an Excellence in Research and a Faculty Recognition award from the University of Michigan. He is an Associate Editor at Large for the *IEEE Transactions on Automatic Control* and an Associate Editor of *Mathematics of Controls, Signals and Systems*, *Nonlinear Science*, *Systems and Control Letters*, *Dynamical Systems*, the *Electronic Journal of Differential Equations* and the *Electronic Journal of Mathematical and Physical Sciences*.

John Baillieul holds a joint appointment as Professor of Aerospace/Mechanical Engineering and Professor of Manufacturing Engineering at Boston University, and he is currently Chairman of Aerospace/Mechanical Engineering. He has also served as Associate Dean for Academic Programs in the B.U. College of Engineering. After receiving the Ph.D. from Harvard University in 1975, he joined the Mathematics Department of Georgetown University. During the academic year 1983–84 he was the Vinton Hayes Visiting Scientist in Robotics at Harvard University, and in 1991 he was visiting scientist in the Department of Electrical Engineering at MIT. He was Editor-in-Chief of the *IEEE Transactions on Automatic Control*, 1992–2002. Currently, he is on the editorial boards of the *Proceedings of the IEEE*, the *IEEE Transactions on Automatic Control*, *Communications in Information and Systems*, and *Robotics and Computer Integrated Manufacturing*. He is a Fellow of the IEEE for his contributions to nonlinear control theory, robotics, and the control of complex mechanical systems. He is a recent recipient of the IEEE Third Millennium Medal for various professional contributions. At the level of the corporate IEEE, Professor Baillieul served as *TAB Transactions* Chair (1998–2001), member at large of the Publications Services and Products Board (PSPB) (1999–), and Chair of the PSPB Strategic Planning Committee (2001–). His research deals with robotics, the control of mechanical systems, and mathematical system theory.

Peter Crouch has been Dean of the College of Engineering and Applied Sciences at Arizona State University since 1995. From 1992 to 1995 he was Chair of the Electrical Engineering Department at Arizona State and from 1989 to 1995 Director of the Center for Systems Engineering. He has been on the faculty at Arizona State since 1984 and prior to that taught at the University of Warwick, England. He received his Ph.D. from Harvard University in Applied Sciences in 1977, an M.Sc. in Control Theory from Warwick University in 1974 and a B.Sc. in Engineering Science in 1973 also from Warwick. His research interests lie in control theory, nonlinear systems theory and dynamical systems, their applications to problems in electrical, mechanical engineering, aerospace engineering and semiconductor manufacturing, and related problems on numerical simulation. He is a Fellow of the *IEEE Transactions on Automatic Control* and Associate Editor of the *Journal of Dynamical and Control Systems, Systems and Control Letters*, and the *Journal of Mathematical Control and Information*.

Jerrold Marsden is a Professor of Control and Dynamical Systems at the California Institute of Technology. He received his B.Sc. at Toronto in 1965 and his Ph.D. in 1968, both in Applied Mathematics. He has done extensive research in the area of geometric mechanics, with applications to rigid body systems, fluid mechanics, elasticity theory, plasma physics as well as to general field theory. His primary current interests are in applied dynamics and control theory, especially how these subjects relate to mechanical systems, systems with symmetry and multiscale systems. He was the recipient of the Norbert Wiener prize of the AMS and SIAM in 1990, was elected a fellow of the American Academy of Arts and Sciences in 1997, and received a Max Planck research award in 2000. He has been a Carnegie Fellow at Heriot-Watt University (1977), a Killam Fellow at the University of Calgary (1979), recipient of the Jeffrey-Williams prize of the Canadian Mathematical Society in 1981, a Miller Professor at the University of California, Berkeley (1981–1982), a recipient of the Humboldt Prize in Germany (1991 and 1999), and a Fairchild Fellow at Caltech (1992). He has served in several administrative capacities, such as the Advisory Panel for Mathematics at NSF, the Advisory committee of the Mathematical Sciences Institute at Cornell, and as director of the Fields Institute, 1990–1994. He served as the Chair of the Board of Trustees of IPAM for 2002–2004, the Institute for Pure and Applied Mathematics, and is currently the director of CIMMS, the Center for Integrative Multiscale Modeling and Simulation at Caltech. He has been an editor for Springer-Verlag's *Applied Mathematical Sciences* series since 1982 and serves on the editorial boards of several journals in mechanics, dynamics, and control.



<http://www.springer.com/978-0-387-95535-3>

Nonholonomic Mechanics and Control

Bloch, A.M.

2003, XIX, 484 p. 40 illus., Hardcover

ISBN: 978-0-387-95535-3