Юрген Мозер
Краткая биография и список публикаций

Родился 4 июля 1928 г. в Кенигсберге, Германия;
умер 17 декабря 1999 г. в Цюрихе, Швейцария

Образование

1947 – 1952	студент Геттингенского университета, Германия
1952	Dr. rer. nat. (Ph.D.), Геттингенский университет

Должности, академическая карьера

1953 – 1954	получение стипендии Фулбрайта, визит в Нью-Йоркский университет
1954 – 1955	ассистент (у К. Зигеля) в Геттингене
1955 – 1956	научный ассистент (research associate), Нью-Йоркский университет
1956 – 1957	старший преподаватель (assistant professor), Нью-Йоркский университет
1957 – 1960	адъюнкт-профессор (associate professor), Массачусетский технологический институт, Кембридж
1960 – 1980	профессор, Института математических наук им. Куранта, Нью-Йорк
1960 – 1967	консультант IBM, Йорктаун Хайтс (Yorktown Heights), штат Нью-Йорк
1961 – 1963	получение стипендии Слоуна, визит в СССР
1967 – 1970	директор Института математических наук им. Куранта, Нью-Йорк
1980 – 1995	профессор, Федеральная политехническая школа Цюриха (ETH), Швейцария
1983 – 1986	президент Международного математического союза (IMU)
1984 – 1995	директор Математического института ETH, Цюрих, Швейцария
1991 – 1997	заведующий Математическим отделением Германской академии естествоиспытателей «Леопольдина»

Членство в академиях и обществах

American Mathematical Society (AMS)
Society for Industrial and Applied Mathematics (SIAM)
International Astronomical Union (IAU) – Consultant
American Academy of Arts and Sciences, Cambridge/MA (1964)
National Academy of Sciences of the USA (1971)
Akademie der Wissenschaften und der Literatur, Mainz, Germany (1981)
The Royal Swedish Academy of Sciences (1981)
Deutsche Akademie der Naturforscher Leopoldina, Halle, Germany (1982)
International Mathematical Union, President (1983 – 1986)
The Finnish Academy of Science and Letters (1987)
Российская академия наук (1994)
Académie des Sciences de la France (1995)
Moscow Mathematical Society (1995)
The London Mathematical Society (1996)
Schweizerische Mathematische Gesellschaft (1997)

Научные премии и награды:

George D. Birkhoff Prize in Applied Mathematics (1968)
Craig Watson Medal, National Academy of Sciences, USA (1969)
J. von Neumann Lecture, SIAM, Seattle (1984)
L.E.J. Brouwer Medal, Groningen (1984)
Professor Honórario, IMPA, Rio de Janeiro (1989)
Dr. rer. nat. h.c., Ruhr-Universität Bochum (1990)

Doctor h.c., Université Pierre et Marie Curie de Paris (1990)
Georg–Cantor–Medaille, DMV-Tagung Berlin (1990)
Wolf Prize (Wolf Foundation Israel) (1994/95)

Список публикаций[1]

1. Störungstheorie des kontinuierlichen Spektrums für gewöhnliche Differentialgleichungen zweiter Ordnung. Math. Ann. 125, 1953, 366–393.
2. Über periodische Lösungen des restringierten Dreikörperproblems, die sich erst nach vielen Umläufen schliessen. Math. Ann 126, 1953, 325–335.
3. Über periodische Lösungen kanonischer Differentialgleichungssysteme. Nachrichten der Akademie der Wissenschaften, Göttingen, Math. Phys. Kl. IIa, 1953, 23–48.
4. Singular perturbation of eigenvalue problems for linear differential equations of even order. Comm. Pure Appl. Math. 8, 1955, 251–278.
5. Nonexistence of integrals for canonical systems of differential equations. Comm. Pure Appl. Math. 8, 1955, 409–436.
6. Stabilitätsverhalten kanonischer Differentialgleichungssysteme. Nachr. Akad. Wiss. Göttingen. Math. Phys. Kl. IIa, 1955, 87–120.
7. The resonance lines for the synchroton. Proc. of the CERN Symposium, I, 1956, 290–292.
8. Analytic invariants on an area-preserving mapping near an unstable fixed point. Comm. Pure Appl. Math. 9, 1956, 673–692.

9[III]. On the generalizations of a theorem of A. Liapounoff. Comm. Pure Appl. Math., 11, 1958, 257–271.

10. New aspects in the theory of stability of Hamiltonian systems. Comm. Pure Appl. Math., 11, 1958, 81–114.
11. Stability of the Asteroids. The Astronomical Journal, 63, 1958, 439–443.
12. Remarks on the preceding paper of Louis Howard. Journal of Math. Phys., 37, 1959, 299–304.
13. On the elimination of the irrationality condition and Birkhoff's concept of complete stability. Boletin de la Soc. Mat. Mexicana, 1960, 167–175.
14. On the integrability of an area-preserving Cremona mappings near an elliptic fixed point, Boletin de la Soc. Mat. Mexicana, 1960, 176–180.

15[III]. A new proof of di Giorgi's theorem concerning the regularity problem for elliptic differential equations. Comm. Appl. Math., Vol. 13, 1960, 457–468.

16. Bistable system of differential equations. Symposium on the numerical treatment of ordinary differential equations, integral and integro-differential equations. Proc. of the Rome Symposium (Sept. 1960), organized by the Prov. Internat. Computation Centre, Birkhäuser Verlag, Basel, 1960, 320–329.
17. The order of a singularity in Fuchs' theory. Math. Zeitschrift, 72, 1960, 379–398.
18. Bistable systems of differential equations with applications to tunnel diode circuits. IBM Journal of Research and Development, Vol. 5, No.3, 1961, 226–240.
19. A new technique for the construction of solutions for nonlinear differential equations. Proc. Nat. Acad. of Sci., USA, Vol. 47, No. 11, 1961, 1824–1831.
20. On the regularity problem for elliptic and parabolic differential equations. Proceedings of an International Conference on Partial Differential Equations and Continuum Mechanics. The Univ. of Wisconsin Press, 1961, 159–169.

[1] Номера статьей с пометками: [I, II, III] — имеется рус. перевод, опубликованный в I, II, III томе «Избранных работ», соответственно (см. стр. 9); * — имеется рус. перевод, опубликованный в русскоязычном журнале; rep. — репринтное издание; [en] — англ. перевод.

21. On Harnack's theorem for elliptic differential equations. Comm. Pure Appl. Math., 14, 1961, 577–591.

22[II]. On invariant curves of area-preserving mappings of an annulus. Nachr. Akad. Wiss. Göttingen, Math. Phys. Kl. IIa, 1962, 1–20.

23. New results on the stability of periodic motions. Proc. Internat. Congress Math., Stockholm 1962, 584–586.

24. Stability and nonlinear character of ordinary differential equations. Nonlinear problems. Proc. Symposium, Madison, Wisconsin, April 30 – May 1, 1962, Ed. Langer. The University of Wisconsin Press 1963, 139–150.

25. Perturbation theory for almost periodic solutions for undamped nonlinear differential equations. Internat. Symposium on Nonlinear Differential Equations and Nonlinear Mechanics. Acad. Press, 1963, 71–79.

26. On the differential equations of electrical circuits and the global nature of the solutions. Internat. Symposium on Nonlinear Diff. Equations and Nonlinear Mechanics. Acad. Press, 1963, 147–154.

27. Some problems and results in the theory of nonlinear differential equations. Proc. IBM Scientific Computing Symposium. Dec. 9–11, 1963; Data Proc. Division, White Plains, N.Y., 1965, 5–16.

28. On invariant manifolds of vector fields and symmetric partial differential equations. Differential Analysis, Bombay Coll., 1964, 227–236.

29. On the volume elements on a manifold. Transactions of the AMS, 120, No. 2, 1965, 286–294.

30. Some results in the stability of nonlinear networks containing negative resistances. IEEE Trans. on Circuit Theory. Corresp., Vol. CT-11, No. 1, 1964, 165–167.

31. A theory of nonlinear networks (with R.K. Brayton).
I: Quarterly of Appl. Math. 22, No. 1, 1964, 1–33
II: Quarterly of Appl. Math. 22, No. 2, 1964, 81–104.

31[rep.]. I: Reprinted in Nonlinear Networks: Theory and Analysis, ed. Alan N. Wilson, Jr., JEEE Press, New York 1975, 132–164.

32. A Harnack inequality for parabolic differential equations. Comm. Pure Appl. Math., 17, 1964, 101–134.

33. Combination tones for Duffing's equation. Comm. Pure Appl. Math. 18, 1965, 167–181.

34. A rapidly convergent iteration method and nonlinear differential equations.
I: Scuola Normale Sup. Pisa Ser. III, Vol. 20, 1966, 265–315
II: Scuola Normale Sup. Pisa, Ser. III, Vol. 20, 1966, 499–535.

34*. Russian Translation of [34]. Uspekhi Mat. Nauk 23, 1968, 179–328.

35. On the theory of quasiperiodic motions. SIAM Review, Vol. 8, No. 2, 1966, 145–172.

36. Quasi-periodic solutions for the three-body problem (with W.H. Jeffreys). Astronomical Journal 71, No. 7, 1966, 568–578.

37. On the theory of quasiperiodic solutions of differential equations. Proc. Internat. Symposium, Mayaguez, P.R., 1965. Ed. by J. Hale and La Salle in Differential Equations and Dynamical Systems, Acad. Press, New York, 1967, 15–26.

38. On non-oscillating networks. Quarterly of Appl. Math., 25, 1967, 1–9.

39. Convergent series expansions for quasi-periodic motions. Math. Ann. 169, 1967, 136–176.

40[II]. Lectures on Hamiltonian Systems. Memoirs of the AMS, 61, 1968, 1–60.

41. Quasi-periodic solutions in the three-body problem. Bull. Astronom. Ser. 3, Tome 3, 1968, 53–59.

42. Jointly with L.J. Laslett, E.M. McMillan: Long-Term Stability for Particle Orbits. AEC Research and Development Report NYO-1480-101, New York University, 1968, 49–58.

43. On a theorem of Anosov. Journal of Diff. Eq., Vol. 5, No. 3, 1969, 411–440.

44. On the boundedness of the solutions and the singularity of the Störmerproblem. Celestial Mechanics 2, 1970, 334–338.

45[III]. Regularization of Kepler's problem and the averaging method on a manifold. Comm. Pure Appl. Math., Vol. 23, 1970, 609–636.

46. On the construction of almost periodic solutions for ordinary differential equations. Proc. Int. Conf. on Functional Analysis and related Topics, Tokyo, 1969, 60–67, University of Tokyo Press, 1970.

47[III]. On pointwise estimates for parabolic differential equations. Comm. Pure Appl. Math., Vol. 24, 1971, 727–740.

48. A sharp form of an inequality by N. Trudinger. Indiana Univ. Math. Journal, 20, 1971, 1077–1092.

49. On a nonlinear problem in differential geometry. Proceedings Symposium held at Univ. Bahia, Salvador, Aug. 1971 ed. M. Peixoto. Dynamical Systems, Academic Press, 1973, 273–280.

50. On a class of quasi-periodic solutions for Hamiltonian systems. Dynamical Systems. Proceedings Symposium held at Univ. of Bahia, Salvador, Aug. 1971, ed. M. Peixoto, Academic Press, 1973, 281–288.

51. Stability theory in celestial mechanics. Proc. Int. Astronomical Union, Warsaw 1975. The stability of the solar system and of small stellar systems, ed. Kozai 1974, 1–9.

52. Jointly with S.S. Chern: Real hypersurfaces in complex manifolds. Acta Math. 133, 1974, 219–271.

52*,[III]. Russian translation of [52], Uspekhi Mat. Nauk, 38, 1983, 149–193.

53. A lemma on hyperbolic fixed points of diffeomorphisms. Uspekhi Mat. Nauk, 29, 2 (176), 1974, 228–232.

54. Neue Anwendungen klassischer Stabilitätsprobleme. 1. Vortrag: Ist das Sonnensystem stabil? Wolfgang Pauli-Vorlesungen ETH Zürich, WS 1974/75. (Publiziert in Neue Zürcher Zeitung, 14.5.1975).

54*(en). Is the solar system stable? English version of [54]. The Mathematical Intelligencer 1, No. 2, 1978, 65–71.

55. Holomorphic equivalence and normal forms of hypersurfaces. Differential Geometry, part 2, Proc. Symposia in Pure Math., vol. 27, ed. Chern and Osserman, Am. Math. Soc. 1975, 109–112.

56[I]. Finitely many mass points on the line under the influence of an exponential potential – An integrable system. Proc. Battelle Rencontres Lecture Notes in Physics 38, 1975.

57[I]. Three integrable Hamiltonian systems connected with iso-spectral deformations. Advances in Math. 16, 1975, 197–220.

58. Periodic orbits near an equilibrium and a theorem by a Alan Weinstein. Comm. Pure Appl. Math. 29, 1976, 727–747.

59. A theorem by A. Weinstein and bifurcation theory. Report of the Univ. Louvain, January 1976.

60. The scattering problem for some particle systems on the line, Geometry and Topology. Lecture Notes in Math., Vol. 597, 1977, 441–463.

61. Proof of a generalized form of a fixed point theorem due to George D. Birkhoff, Geometry and Topology. Lecture Notes in Math., Vol. 597, 1977, 464–494.

62. Jointly with H. Airault and H.P. McKean: Rational and elliptic solutions of the Korteweg–de Vries equations and a related many body problem. Comm. Pure Appl. Math., Vol. 30, 1977, 98–148.

63. Jointly with M. Adler: On a class of polynomials connected with the Korteweg–de Vries equation. Comm. Math. Physics 61, 1978, 1–30.

64. On a class of polynomials connected with the Korteweg–de Vries equation. Proc. Uppsala 1977, Int. Conf. on Diff. Eq., Uppsala 1977, 144–154.

65. A fixed point theorem in symplectic geometry. Acta Math. 1978, 17–34.

66. Various aspects of integrable Hamiltonian systems. Proc. CIME Conf., Bressanone, 1978; also published in Progress of Mathematics, Vol.8, Boston: Birkhäuser, 1980, 233-289.

66*,[I]. Russian translation of [66], Uspekhi Mat. Nauk 36, 1981, 109–151.

67. Nearly Integrable Hamiltonian Systems, Am. Inst. Physics Conf. Proceedings 46, AIP 1978, 1–15.

68. Field Medals (III): A Broad Attack on Analysis Problems. Science, 202, 1978, 612–613.

69. The holomorphic equivalence of real hypersurfaces. Proc. Int. Congress of Mathematicians, Helsinki 1978, 659–668.

70. Stable and unstable motion in dynamical systems. Symposium in "Nonlinear orbit dynamics and the beam-beam interactions". AIP Conference Proceedings Nr. 57, Brookhaven, Nat. Lab. March 19–21, ed. M. Month, J.C. Herrera. American Institute of Physics, 1979, 222–235.

71. Hidden symmetries in dynamical systems. American Scientist, Vol. 67, Nr. 6, 1979, 689–695.

72[I]. Geometry of quadrics and spectral theory. The CHERN Symposium 1979, Berkely, Springer Verlag New York, 1980, 147–187.

73. An example of a Schrödinger equation with almost periodic potential and nowhere dense spectrum. Comm. Math. Helvetici, 56, 1981, 198–224.

74[III]. Jointly with R. Johnson: The rotation number for almost periodic potentials. Comm. Math. Phys. 84, 1982, 403–438.

75[I]. Integrable Hamiltonian Systems and Spectral Theory. Fermi Lectures, Pisa 1981. Lezioni Fermiane, Acad. Nat. dei Lincei, Pisa 1981.

75[rep.]. Revised reprint of [75] in the Proceedings of the 1983 Beijing Symposium on Differential Geometry and Differential Equations, ed. Liao Shantao, S.S. Chern, Science Press, Beijing, China 1986, 157–229.

76. Jointly with S. Webster: Normal forms for real surfaces in C near complex tangents and hyperbolic surface transformations. Acta Math. 150, 1983, 255–296.

76[*,III]. Russian translation of [76], Uspekhi Mat. Nauk 41, 1986, 143–174.

77. Jointly with J. Pöschel: On the stationary Schrödinger equation with a quasi-periodic potential. Physica 124A (1984), 535–542.

78. Jointly with J. Pöschel: An extension of a result by Dinaburg and Sinai on quasi-periodic potentials. Comm. Math. Helvetici, 59, 1984, 39–85.

79. Breakdown of Stability. 2 lectures held in Sardinia (CERN Symposium). Lecture Notes in Physics No. 247, ed. Jowett, Month, Turner, Springer 1986, 492–518

80. Analytic surfaces in C and their local hull of holomorphy. Annales Academiae Scientiarum Fenniae, Series A.I. Mathematica, Vol. 10, 1985, 397–410.

81. Monotone twist mappings and the calculus of variation. Ergodic Theory and Dynamical Systems 6, 1986, 401–413.

82. Recent developments in the theory of Hamiltonian systems. Expanded version of the John Neumann lecture held at the SIAM Conference in Seattle, July 1984. SIAM Review, 28, 1986, 459–485.

83[II]. Minimal solutions of variational problems on a torus. Annales de l'Inst. H. Poincaré: Analyse nonlinéaire 3, 1986, 229–272.

84[II]. On the construction of invariant curves and Mather sets via a regularized variational principle. In Proc. Nato Advanced Research Workshop in Periodic Solutions of Hamiltonian Systems and Related Topics, ed. P. Rabinowitz et. al. NATO ASI Series, Ser. C. Math. and Phys. Sciences vol. 209, Reidel Publ. Comp. 1987, 221–234.

85. Presidential Address at the 10th General Assembly of IMU, Oakland, Cal. USA, July 31 – Aug. 1, 1986. Bull. of the IMU, 26, 1986, 10–12. Addresses at the International Congress of Mathematicians 1986 Berkeley. Proceedings of the Int. Congress Math. 1986 in Berkeley, published by the AMS 1988.

86[II]. Minimal foliations on a torus. Proceedings of the CIME Conference on Topics in Calculus of Variations, July 20–28, 1987 in Montecatini, Italy, Lecture Notes in Math. 1365, 1988.

87[II]. A stability theorem for minimal foliations on a torus. Ergodic Theory and Dynamical Systems 8, 1988, 251–281.

88. Über die Stabilitätstheorie der Himmelsmechanik. Mitt. der Deutschen Akad. der Naturforscher Leopoldina (R.3) 33, 1987 (1989), 171–174.

89. Quasi-periodic solutions of nonlinear elliptic partial differential equations. Bol. Soc. Mat., Vol. 20, No. 1, 1989, 29–45.

90[I]. Jointly with A. Veselov: Discrete version of some classical integrable systems and factorization of matrix polynomials. Commun. Math. Phys. 139, 1991, 217–243.

91. Jointly with B. Dacorogna: On a partial differential equation involving the Jacobian determinant. Annales de l'Inst. H. Poincaré: Analyse nonlinéaire 7, nr. 1, 1990, 1–26.

92. On commuting circle mappings and simultaneous Diophantine approximations. Mathematische Zeitschrift 205, 1990, 105–121.

93. Jointly with M. Struwe: On a Liouville-type theorem for linear and nonlinear elliptic differential equations on a torus. Bol. Soc. Braz. Mat., Vol. 23, 1992, Ns. 1–2, 1–20.

94. On quadratic symplectic mappings. Mathematische Zeitschrift 216, 1994, 417–430.

95. An unusual variational problem connected with Mather's theory for monotone twist mappings. Progress in Nonlinear Differential Equations and their Applications, Vol. 12. Seminar on Dynamical Systems, St. Petersburg 1991. Editors: Lazutkin, et al., Birkhäuser Basel 1994, 81–89.

96. Smooth approximation of Mather sets of monotone twist mappings. Comm. Pure Appl. Math., Vol. 47, 1994, 625–652.

97. Remark on the smooth approximation of volume-preserving homeomorphisms by symplectic diffeomorphisms. Preprint FIM 1992.

98. Jointly with A. Veselov: Two dimensional "Discrete Hydrodynamics" and Monge–Ampère equation. Preprint FIM April 1993.

99[II]. On the persistence of pseudo-holomorphic curves on an almost complex torus (with appendix by Jürgen Pöschel). Invent. math. 119, Springer-Verlag 1995, 401–442.

100. Laudatio für S. Hildebrandt, Bonn, gehalten anlässlich der von Staudt-Preisverleihung, Erlangen 5.7.94. Mitteilungen der Deutschen Mathematiker Vereinigung 4, 1994, 6–12.

101. Pseudo-holomorphic curves on a torus. Proceedings of the Royal Irish Academy, Vol. 95A, Supplement, 1995, 13–21.

102. Ist das Sonnensystem stabil? Mitteilungen der Deutschen Mathematiker Vereinigung 4, 1996, 17–28.

103. Jointly with Hans R. Jauslin and Heinz-Otto Kreiss: On the forced Burgers equation with periodic boundary conditions. Preprint FIM April 1997.

104. Dynamical Systems — Past and Present, *International Congress of Mathematicians (Berlin, August 18–27, 1998)*, *Doc. Math. J.*, Extra Volume ICM I, 1998, 381–402.

105[II]. With M. Levi: A Lagrangian proof of the invariant curve theorem for twist mappings, preprint FIM, 1998.

106. Remark on the paper "On Invariant Curves of Area-Preserving Mapping of an Annulus" (Nachr. Akad. Wiss. Göttingen, Math. Phys. Kl. IIa, 1962, 1–20), Regul. Chaotic Dyn., 2001, 6(3), 337–338 (received February 14, 1999).

Книги

Jointly with C.L. Siegel: Lectures on Celestial Mechanics, Springer-Verlag, N.Y., 1971.

Stable and Random Motions in Dynamical Systems, Princeton University Press, 1973.

Integrable Hamiltonian Systems and Spectral Theory. Pisa 1981. Lezioni Fermiane, Acad. Nat. dei Lincei, Pisa 1981.

Jointly with E. Zehnder: Notes on Dynamical Systems, vol. 12 of Lecture Notes, AMS, 2005.

Сборники работ

Dynamical Systems, Theory and Applications. Lecture Notes in Physics 38, Springer-Verlag, 1975.

Collected Papers by Fritz John. 2 volumes, Birkhäuser, 1985.