Publication List

Journal Articles

1. *A multiplicity result for a class of nonlinear problems with applications to a nonlinear wave equation.* Jour. of Nonlinear Analysis, Theory, Methods and Applications, 5, No. 1 (1981), 1-11

2. *Existence and multiplicity result for a class of second order elliptic equations.* Proc. of the Royal Society of Edinburgh, **88A** (1981), 83-92

3. *A new proof for a result of Ekeland and Lasry concerning the number of periodic Hamiltonian trajectories on a prescribed energy surface.* Bolletino UMI **6**, 1-B (1982), 931-942

4. *A variational approach to a wave equation problem at resonance.* Metodi asintoctici e topologici in problemi differenziali non lineari; ed. L. Boccardo, A.M. Micheletti, Collano Atti di Congressi, Pitagora Editrice, Bologna (1981), 187-200

5. *On the range of a wave operator with nonmonotone nonlinearity.* Math. Nachrichten **106** (1982), 327-340

6. *Variational and topological methods in partially ordered Hilbert spaces.* Math. Annalen **261** (1982), 493-514

7. *On strongly indefinite functionals with applications.* Transactions of the AMS **275**, No. 1 (1983), 185-213

8. *A note on the topological degree at a critical point of mountainpass-type.* Proc. of the AMS **90**, No. 2 (1984), 309-315

9. *Homoclinic, heteroclinic and periodic orbits for indefinite Hamiltonian systems* (with J. Toland). Math. Annalen **268** (1984), 387-403

10. *The topological degree at a critical point of mountainpasstype.* AMS Proceedings of Symposia in Pure Math. **45**, Part 1 (1986) 501-509

11. *A geometric description of the neighborhood of a critical point given by the mountainpass-theorem*. Proc. of the London Math. Society **31** (1985), 566-570

12. *Periodic solutions of prescribed minimal period for convex Hamiltonian systems* (with I. Ekeland). Inv. Math. **81** (1985), 155-188

13. *Free oscillations of prescribed energy at a saddle point of the potential in Hamiltonian dynamics* (with J. Toland). Delft Progress Report **10** (1985), 238-249

14. *Lagrangian embeddings and critical point theory*. Ann. IHP, Analyse Nonlineare **6** (1985), 407-463

15. *Subharmonic solutions for convex non autonomous Hamiltonian systems* (with I. Ekeland). Comm. Pure and Appl. Math., Vol. XI, No. 1 (1987), 1-36

16. *Relations between global invariants of convex contact manifolds and local invariants of their periodic Hamiltonian trajectories*. Proc. of a Conference on Recent Advances in Hamiltonian Systems 1987, World Scientific (1987), 177-205

17. *Periodic solutions on hypersurfaces and a result by C. Viterbo* (with E. Zehnder). Inv. Math. **90** Fasc 1 (1987), 1-9

18. *Global and local invariants for convex hypersurfaces and their periodic trajectories; a survey*. (with I. Ekeland). Nato ASI Series C: **209**, Periodic solutions of Hamiltonian systems and related topics, (1987), 139-146

19. *A remark on a priori bounds for periodic solutions of Hamiltonian systems*(with V. Benci and P. Rabinowitz). Nato ASI Series C: **209**, Periodic solutions of Hamiltonian systems and related topics (1987), 85-88

20. *A strong form of the mountain pass theorem and application*. Nonlinear Diffusion Equations and their Equilibrium States I, Springer, MSRI Publications, 341-351

21. *Convex Hamiltonian energy surfaces and their periodic trajectories* (with I. Ekeland). Comm. in Math. Physics **113** (1987), 419-469

22. *Sur les hypersurfaces convexes et leurs caractéristiques fermées.* (with I. Ekeland), CRAS, Paris **304**, Serie I (1987), 237-240

23. *The Weinstein conjecture in cotangent bundles and related results* (with C. Viterbo). Annali di Scuola Normale Superiore di Pisa, Serie IV, Vol. XV, Fasc III (1988), 411-445

24. *Two symplectic fixed point theorems with applications to Hamiltonian dynamics* (with I. Ekeland). Journ. Math. Pure et Appl. **68** (1989), 467-489

25. *Liusternik–Schnirelman–theory for Lagrangian intersections.* Ann. IHP, Analyse Nonlinéaire **5**, no. 5 (1988), 465-499

26. *The Weinstein conjecture in* $P \times \mathbf{C}^e$ (with A. Floer and C. Viterbo). Math. Zeit. **203** (1990), 469-482

27. *Symplectic topology and Hamiltonian dynamics* (with I. Ekeland). Math. Zeit. **200** (1989), 355-378

28. *Recent progress in symplectic geometry.* Lectures in Pure and Appl. Math **121**, 49-94 (Marcel Decker)

29. *Capacités symplectiques* (with I. Ekeland). CRAS, Paris, t. 307, Serie I (1988) 37-40

30. *Symplectic topology and Hamiltonian dynamics* (with I. Ekeland). Séminaire sur les Equations aux Dérivées Partielles 1987–1988, Exp. No XXIII 4pp Ecole Polytechnique, Palaiseau, 1988

31. *Symplectic topology and Hamiltonian dynamics II* (with I. Ekeland). Math. Zeit. **203** (1990), 553-567

32. *A new capacity for symplectic manifolds* (with E. Zehnder). Analysis et cetera (P. Rabinowitz, E. Zehnder eds.) Academic Press 1990, 405-428

33. *First order elliptic systems and the existence of homoclinic orbits in Hamiltonian systems* (with K. Wysocki). Math. Annalen **288** (1990), 483-503

34. *On the topological properties of symplectic maps.* Proceedings of the Royal Society of Edinburgh **115 A** (1990), 25-38

35. *The Weinstein conjecture in the presence of holomorphic spheres* (with C. Viterbo). Comm. Pure Appl. Vol. XLV (1992), 583-622

36. *Towards the definition of symplectic boundary* (with Y. Eliashberg). Geometric and Functional Analysis **2**, No. 2 (1992) 211-220

37. *Coherent orientation for periodic orbit problems in symplectic geometry* (with A. Floer). Math. Zeit. **212** (1993), 13-38

38. *Symplectic homology I: Open sets in* C^n (with A. Floer), Math. Zeit. **215** (1994), 37-88

39. *Symplectic homology II:A General Construction* (with K. Cieliekak, A. Floer and K. Wysocki). Math. Zeit. **218** (1995), 103-122

40. *Applications of symplectic homology I* (with A. Floer and K. Wysocki). Math. Zeit. **217** (1994), 577-606

41. *Symplectic capacities.* Proceedings of the Durham Conference on Low–Dimensional Topology, (edited by S. Donaldson and C. Thomas), Cambridge University Press, London Mathematical Society Lecture Notes 151 (1990)

42. *Topological properties of symplectic maps.* Pitman Research Notes on Mathematics **243** (1992), 113-119

43. *Symplectic invariants.* Proceedings of the ICM Kyoto 1990, Springer 1991, 521-528

44. *An energy–capacity inequality for the symplectic holonomy of hypersurfaces flat at infinity* (with Y. Eliashberg). Symplectic Geometry, edited by D. Salamon, London Mathematical Society Lecture Note Series **192** (1993), 95-114

45. *Floer homology and Novikov rings* (with D. Salamon). The Floer Memorial Volume, Progress in Math. Vol. 133, Birkhäuser

46. *Estimates for the energy of a symplectic map.* Comm. Math. Helv. **68**(1993), 48-72

47. *Unseen symplectic boundaries* (with Y.Eliashberg). Volume in honour of E. Calabi

48. *Pseudoholomorphic curves in symplectisation with applications to the Weinstein conjecture in dimension three.* Inv. Math. 114(1993), 515-563

49. *A Hamiltonian characterization of the three–ball* (with Y. Eliashberg). Journal of Differential and Integral Equations, Vol.7 No.5 (1994), 1303-1324

50. *Transversality results in the elliptic Morse theory of the action functional* (with A. Floer and D. Salamon). Duke Mathematical Journal, Vol. 80 No. 1 (1995), 251-292

51. *Properties of pseudoholomorphic curves in symplectisations II: Embedding controls and algebraic invariants* (with K. Wysocki and E. Zehnder). Geometric and Functional Analysis, Vol. 5 No.2 (1995), 270–328

52. *A Characterisation of the Tight Three-Sphere* (with K. Wysocki and E. Zehnder). Duke Mathematical Journal, Vol. 81, No. 1 (1995), 159–226

53. *Lagrangian intersections in contact geometry* (with Y. Eliashberg and D. Salamon). Geometric and Functional Analysis, Vol.5 No. 2 (1995), 244–269

54. *Symplectic invariants and Hamiltonian dynamics* (with E. Zehnder). The Floer Memorial Volume, Progress in Mathematics 133, Birkhäuser 1995

55. *Properties of pseudoholomorphic curves in symplectisations I: Asymptotics* (with K. Wysocki and E. Zehnder). Ann. Inst. Henri Poincaré, Analyse Nonlineaire, Vol. 13, No.3 (1996), 337-379

56. *Applications of symplectic homology II* (with K. Cieliebak, A. Floer and K. Wysocki). Math. Zeit. **223** (1996), 27-45

57. *Properties of pseudoholomorphic curves in symplectisations IV: Asymptotics with degeneracies* (with K. Wysocki and E. Zehnder), Contact and Symplectic Geometry, edited by C. Thomas, Cambrige University Press 1996

58. *On genericity for holomorphic curves in* 4*-dimensional almost-complex manifolds* (with V. Lizan and J.-C. Sikorav). Journal of Geometric Analysis, Vol. 7, No. 1, 1998

59. *The Dynamics on Three-Dimensional Strongly Convex Energy Surfaces* (with K. Wysocki and E. Zehnder). Annals of Mathematics, Vol. 148 (1998), 197-289

60. *Unknotted periodic orbits for Reeb flows on the three-sphere* (with K. Wysocki and E. Zehnder). Topol. Meth. in Nonli. Analysis 7 (1996), 219–244

61. *Holomorphic curves in contact dynamics* (with M. Kriener). Proceedings of Symposia in Pure Mathematics Vol. 66 (1999), 77-131

62. *A Characterisation of the Tight Three-Sphere II* (with K. Wysocki and E. Zehnder). Comm. Pure Appl. Math. Vol LII (1999),1139-1177

63. *Properties of pseudoholomorphic curves in symplectisations III: Fredholm theory* (with K. Wysocki and E. Zehnder). In Progress in Nonlinear Differential Equations and Their Applications Vol. 35 (Ed. J. Escher and G. Simonett), 381-477

64. *Holomorphic curves and dynamics in dimension three.* IAS/Park City Math. Ser. Vol. 7, AMS 1999, 35-101

65. *Pseudoholomorphic curves and dynamics* (with E. Zehnder). "The Arnold-Fest", Fields Inst. Commun. AMS, 1999, 225-239

66. *Dynamics, Topology and Holomorphic Curves* . Proceedings of the ICM Berlin, vol. I

67. *Introduction to Symplectic Field Theory* (with Y. Eliashberg and A. Givental), GAFA 2000, Special Volume, Part II, pp560-673

68. *Holomorphic curves and real three-dimensional dynamics*, GAFA 2000, Special Volume, part II, pp674-704

69. *Pseudoholomorphic curves and dynamics in three dimensions* (with K. Wysocki and E. Zehnder). Handbook on Dynamical Systems Vol. 1A, Elsevier (2002), 1129-1188

70. *Finite Energy Cylinders of Small Area* (with K. Wysocki and E. Zehnder). Journal of Ergodic Theory and Dynamical Systems Vol. 22 No. 5 (2002), 1451–1486

71. *Finite Energy Foliations Of Tight Three-Spheres and Hamiltonian Dynamics* (with K. Wysocki and E. Zehnder). Annals Vol. 157 No. 1 (2003), 125-255

72. *Compactness Results in Symplectic Field Theory* (with F. Bourgeois, Y. Eliashberg, K. Wysocki and E. Zehnder). Geometry and Topology Vol. 7 (2004), 799-888

73. *The Weinstein Conjecture for Planar Contact Structures in Dimension Three* (with C. Abbas and K. Cieliebak), Comment. Math. Helv. 80 (2005), no. 4, 771–793

74. *A General Fredholm Theory and Applications*, Current Developments in Mathematics, 2004, Year Published: 2006, Ed. Barry Mazur, Harvard University; Wilfried Schmid, Harvard University; Shing-Tung Yau, Harvard University; David Jerison, M.I.T.; Tomasz Mrowka, M.I.T.; Richard Stanley, M.I.T., International Press

75. Quantitative symplectic geometry (with K. Cieliebak, J. Latschev and F. Schlenk), Dynamics, ergodic theory, and geometry, 1–44, Math. Sci. Res. Inst. Publ., 54, Cambridge Univ. Press, Cambridge, 2007

76. *A General Fredholm theory I: A splicing-based differential geometry*, JEMS, Vol. 9, No. 4, (2007), 841-876

77. *A General Fredholm Theory II: Implicit Function Theorems* (with K. Wysocki and E. Zehnder), GAFA Volume 19, Number 1,(2009),206-293

78. *On the Weinstein conjecture in higher dimensions* (with P. Albers), Comment. Math. Helv. Volume 84, Issue 2,(2009), 429-436

79. *A General Fredholm Theory III: Fredholm Functors and Polyfolds* (with K. Wysocki and E. Zehnder), Geometry and Topology 13:4 ,(2009), 2279-2387

80. *Integration theory on the zero sets of polyfold Fredholm sections* (with K. Wysocki and E. Zehnder), Math. Ann. 346,(2010), 139-198

81. *Sc-Smoothness, Retractions and New Models for Smooth Spaces* (with H. Hofer, K. Wysocki and E. Zehnder), Discrete and Continuous Dynamical Systems, Vol 28 (2), (2010), 665-788

82. *Global Surfaces of Section in the Planar Restricted Three-Body Problem* (with P. Albers, J. Fish, U. Frauenfelder and O. van Koert), Arch. Ration. Mech. Anal. 204 (2012), no. 1, 273-284

83. *First Steps Towards a Symplectic Dynamics* (with B. Bramham), Surv. Differ. Geom., 17, Int. Press, Boston, MA, 2012, 127-177

84. *Feral Pseudoholomorphic Curves and Minimal Sets* (with J. Fish), Oberwolfach Report 12 (2015), no. 3

85. *Polyfolds and Fredholm Theory*, Lectures on Geometry, Clay Lecture Notes Series, edited by N. Woodhouse, Oxford University Press 2017, 87-156

86. *Applications of Polyfold Theory I: Gromov-Witten Theory* (with K. Wysocki and E. Zehnder), Memoirs of the AMS, Vol 248, number 1179 (2017) , 224 pages

87. *Exhaustive Gromov Compactness for Pseudoholomorphic Curves* (with J. Fish), Asterisque Vol 415 (2020), 87-112.

88. *Almost Existence from the Feral Curve Perspective and Some Questions* (with J. Fish), Ergodic Theory and Dynamical Systems, 42 no. 2 (2022), 792-834.

89. *Feral pseudoholomorphic curves and minimal sets*, (with J. Fish), Annals of Mathematics Vol. 197 no. 2, March 2023, 533-738

Books: Mathematical

1. *Symplectic Invariants and Hamiltonian Dynamics* (with E. Zehnder). Advanced Texts in Mathematics, Birkhäuser

2. *The Floer Memorial Volume* (edited jointly with C. Taubes, A. Weinstein and E. Zehnder), Progress in Mathematics Vol. 133, Birkhäuser

3. *Holomorphic Curves and Global Questions in Contact Geometry* (with C. Abbas), Birkhäuser Advanced Texts / Basler Lehrbücher A Series of Advanced Textbooks in Mathematics, XII, 322 pages, 2019

4. *Polyfold and Fredholm Theory* (with K. Wysocki and E. Zehnder) Ergebnisse der Mathematik und ihrer Grenzgebiete, 3. Folge, A Series of Moderns Surveys in Mathematics 72, Springer, 1023 pages, 2021.

Books: Non-mathematical

1. *Innovation, Venture Capital, Arbeitsplaetze* (Edited jointly with A. Scheidegger and G. Scheuenstuhl, in German) Haupt Verlag (1998).

Books: History of modern math (submitted)

1. *The Floer Jungle: Charting the Development of a Theory* (with Siobhan Roberts), 230 pages.