

Selected works (listed by topics¹) (DAN BURGHELEA)

1) Stable (simplicial) homotopy theory:

- 17. (with A. Deleanu), The homotopy category of spectra, I, Illinois J. Math., 11, 1967, 454–473.
- 20. (with A. Deleanu), The homotopy category of spectra, II, Math. Ann., 178, 1968, 131–144.
- 24. (with A. Deleanu), The homotopy category of spectra, III, Math. Z., 108, 1969, 154–170.
- 21. Some properties of homotopy classes of maps of Kan spectra, Invent. Math. 5, 1968, 1–7.

2) Infinite dimensional topology (Hilbert manifolds):

- 25. (with N. Kuiper), Hilbert manifolds, Ann. of Math., 90, 1969, 379–417.
- 27. Diffeomorphisms for Hilbert manifolds and handle decomposition, Bull. Amer. Math. Soc., 76, 1970, 352–357.
- 28. (with D. Henderson), Smoothing and homeomorphisms for Hilbert manifolds, Bull. Amer. Math. Soc., 76, 1970, 1261–1265.
- 26. Embedding Hilbert manifolds with given normal bundle, Math. Ann. 187 1970, 207–219.
- 33. Differentiable knots in Hilbert space and a conjecture of R. D. Anderson, Rev. Roumaine Math. Pures Appl., 17, 1972, 341–352.
- 83. (with C.Tomei and N.Saldahna) Results on infinite dimensional topology and applications to the structure of the critical set of Nonlinear Sturm-Liouville Operators. (to appear) Journal of Diff. Equations, Academic Press, 2002 or 2003.

3) Complex analytic geometry:

- 32. (with A.Duma), Complex analytic structures on Hilbert manifolds, J. of Differential Geometry, Tom 5, 1971, 371-385
- 36. (with A. Verona), Local homological properties of analytic sets, Manuscripta Math.,

¹my publication list contains 83 articles and five books, the numbers corresponds to the item's number in my complete list of publications

7, 1972, 55–66.

4) Automorphisms of manifolds (diffeomorphisms, homeomorphisms):

34. (with P. Antonelli and P. Kahn), The non-finite homotopy type of some diffeomorphism groups, *Topology*, 11, 1972, 1–49.

41. The structure of block-automorphisms of $M \times S^1$, *Topology*, 16, 1977, no. 1, 65–78.

• (Book) (with P. Antonelli and P. Kahn), The concordance-homotopy groups of geometric automorphism groups, *Lecture Notes in Mathematics*, Vol. 215, Springer-Verlag, Berlin-New York, 1971.

38. (with R. Lashof), The homotopy type of the space of diffeomorphisms. I, *Trans. Amer. Math. Soc.*, 196, 1974, 1–36.

39. (with R. Lashof), The homotopy type of the space of diffeomorphisms. II, *Trans. Amer. Math. Soc.*, 196, 1974, 37–50.

42. (with R. Lashof), Stability of concordances and the suspension homomorphism, *Ann. of Math.*, 105, 1977, no. 3, 449–472.

43. On the decomposition of the automorphisms-group of $M \times S^1$, *Rev. Roumaine Math. Pures Appl.*, 22, 1977, no. 1, 17–30.

• (Book), (with R. Lashof and M. Rothenberg), Groups of automorphisms of manifolds, *Lecture Notes in Mathematics*, Vol. 473, Springer-Verlag, Berlin-New York, 1975.

46. The rational homotopy groups of $\text{Diff}(M)$ and $\text{Homeo}(M^n)$ in the stability range. Algebraic topology, Aarhus 1978, *Lecture Notes in Math.*, 763, Springer-Verlag, Berlin-New York, 1979. pp. 604–626.

48. (with R. Lashof), Geometric transfer and the homotopy type of the automorphism groups of a manifold, *Trans. Amer. Math. Soc.*, 269, 1982, no. 1, 1–38.

5) Algebraic K-theory of spaces, cyclic homology, free loop spaces:

(topology)

45. Some rational computations of the Waldhausen algebraic K -theory, *Comment. Math. Helv.*, 54, 1979, no. 2, 185–198.

56. (with Z. Friedorowicz), Hermitian algebraic K -theory of simplicial rings and topological spaces, *J. Math. Pures Appl.*, 64, 1985, no. 2, 175–235.

57. Cyclic homology and the algebraic K -theory of spaces. I, Applications of algebraic K -theory to algebraic geometry and number theory, (Boulder, Colo., 1983), *Contemp. Math.*, 55, Amer. Math. Soc., Providence, R.I., 1986, 89–115.

58. (with Z. Friedorowicz), Cyclic homology and algebraic K -theory of spaces. II, *Topology*, 25, 1986, no. 3, 303–317.

55. (with M. Vigue Poirrier), A model for cyclic homology and algebraic K -theory of 1-connected topological spaces, *J. Differential Geom.*, 22, 1985, no. 2, 243–253.

63. The free loop space. I (algebraic topology), *Algebraic topology* (Evanston, IL, 1988), *Contemp. Math.*, 96, Amer. Math. Soc., Providence, RI, 1989, 59–85 .

65. (with Z. Fiedorowicz and W.Gajda), Adams operations in Hochschild and cyclic homology of de Rham algebra and free loop spaces, *K- Theory*, 4, 1991, no. 3, 269–287. Erratum: "Adams operations in Hochschild and cyclic homology of de Rham algebra and free loop space", *K-Theory*, 5, (1991), no. 3, 293.

73. Free loop spaces, power maps and K -theory, *Algebraic K-theory* (Poznań, 1995), 35–58, *Contemp. Math.*, 199, Amer. Math. Soc., Providence, RI, 1996.

(algebra)

54. The cyclic homology of the group rings, *Comment. Math. Helv.*, 60, 1985, no. 3, 354–365.

59. (with C. Ogle), The Kunneth formula in cyclic homology, *Math. Z.*, 193, 1986, no. 4, 527–536.

60. (with M. Vique Poirrier), Cyclic homology of commutative algebras. I, *Algebraic topology–rational homotopy* (Louvain-la-Neuve, 1986), *Lecture Notes in Math.*, Vol 1318, Springer-Verlag, Berlin-New York, 1988, 51–72.

6) Transformation groups:

35. Free differentiable S^1 and S^3 actions on homotopy spheres, *Ann. Sci. Ecole Norm. Sup.*, 45, 1972, 183–215.

40. (with R. Schultz), On the semisimple degree of symmetry, *Bull. Soc. Math. France*, 103, 1975, no. 4, 433–440.

47. (with A. Assadi), Examples of asymmetric differentiable manifolds, *Math. Ann.*, 255, 1981, no. 3, 423–430.

50. (with A. Assadi), Symmetry of manifolds and their lower homotopy groups, *Bull. Soc. Math. France*, 111, 1983, no. 2, 97–108.

61. A localization theorem for functional S^1 -spaces, *Math. Ann.*, 282 (1988), no. 3, 513–527.

7) Regularized determinants and applications:

64. (with L. Friedlander and T. Kappeler), On the determinant of elliptic differential and finite difference operators in vector bundles over S^1 , *Comm. Math. Phys.*, 138, 1991, no. 1, 1–18.

67. (with L. Friedlander and T. Kappeler), Regularized determinants for pseudo differential operators in vector bundles over S^1 , *Integral Equations Operator Theory*, 16, 1993, no. 4,

496–513.

70. (with L. Friedlander and T. Kappeler), On the determinant of elliptic boundary value problems on a line segment, Proc. Amer. Math. Soc. 123 (1995), no. 10, 3027–3038.

66. (with L. Friedlander and T. Kappeler), Meyer-Vietoris type formula for determinants of elliptic differential operators, J. Funct. Anal. 107, 1992, no. 1, 34–65.

68. (with L. Friedlander and T. Kappeler and P.McDonald), On the functional logdet and related flows on the space of closed embedded curves on S^2 , J. Funct. Anal., 120, 1994, no. 2, 440–466.

8) Spectral geometry and torsion:

71. (with L. Friedlander and T. Kappeler), Asymptotic expansion of the Witten deformation of the analytic torsion, J. Funct. Anal., 137, 1996, no. 2, 320–363.

72. (with L. Friedlander and T. Kappeler and P.McDonald), Analytic and Reidemeister torsion for representations in finite type Hilbert modules, Geom. And Funct. Anal., 6, 1996, 751–859.

79. (with L.Friedlander and T. Kappeler), Torsion for manifold with boundary and glueing formulas, Math. Nachr., 208,1999, 31-91.

77. Removing Metric anomalies from Ray Singer torsion, Letters in Mathematical Physics 47, 1999, 149-158.

81. (with L.Friedlander and T. Kappeler), Relative torsion, Communications in Contemporary Mathematics, 3, 2001 No.1, 15-85

82. (with S Haller) On the topology and analysis of a closed one form.I, (Novikov theory revisited) Monographie d L'Enseignement Mathematique 38 (2001) 133-175

85. (w. Stefan Haller) Euler structures, the variety of representations and the Milnor-Turaev torsion, Geom. Topol. 10 pp. 1185-1238

86. (w. Stefan Haller) A Riemmanian invariabnt, Euler structures and some topological applications. (in Proc. of the conference on C^* -algebras and Elliptic Theory), Trends in Mathematics, 2006, 37-60, Birkhauser-Verlag, Basel.

87. (w. Stefan Haller) Complex valued Ray-Singer torsion, Journal of Functional Analysis, 248, 2007, pp. 27-78

88. (w. Stefan Haller) Dynamics, Laplace transform and spectral geometry, Journal of Topology, LMS, vol 1, 2008

89. (w.Stefan Haller)Torsion, as a function on the space of representations arXiv.org e-Print archive.math.DG 0507587 to appear in C^* -algebras and Elliptic Theory II, Trends in Mathematics, Birkhauser-Verlag, Basel (Ed D.Burghlelea, R Melrose, A.Mischenko, E Troytski.)

(Posted and submitted for publications):

90. (w.Stefan Haller)Complex valued Ray–Singer torsion II arXiv.org e-Print archive. math.DG 0610875

9) Nonlinear problems

83. (with C. Tomei and N. Saldanha) Results on infinite dimensional topology and applications to the structure of the critical set of Nonlinear Sturm-Liouville Operators. J. Differential Equations 188 (2003) 569-590

84. (with C.Tomei and N.Saldanha): The topology of the monodromy map of the second order ODE Journal-ref: J. Differential Equations 227, 581-597 (2006).

(Posted and submitted for publications):

90. (w. N Saldanha and C.Tomei) The geometry of the critical set of nonlinear periodic Sturm- Liouville operators , arXiv:0707.1256

9) Works in preparation:

a) (with L. Friedlander and T. Kappeler), Witten Helffer Sjöstrand Theory and applications, (monograph, to be finished in 2003)

b) Cyclic theory in geometry and topology (lectures at Punjab University, India , 1995) (book in preparation)

c) Morse-Witten-Helffer-Sjöstrand theory in the presence of symmetry and applications

d) (with L. Friedlander and T. Kappeler), Bott-Witten-Helffer-Sjöstrand theory (application to localization theorems for analytic torsion)

e) (with S. Haller) Laplace transform from spectral geometry (of a Riemannian manifold equipped with a closed one form) to topology (applications of Dirichlet series to topology)

f) (with S. Haller) Symplectic dynamics and symplectic torsion

g) The free loop space of symplectic manifolds, analysis and geometric applications

h) New invariants in topology based on linear algebra á la von Neumann

i)Asymptotic symmetry a new an alternative mathematica approach to Quasicrystals and aperiodic tilings.

Complete list of Publications(listed by years) (DAN BURGHELEA)

1962

1. On the compactification of topological spaces (in Rumanian) Com. Acad. R. P. Romane, 12, (1962), 667–670.

1963

2. (with N. Popescu), On the singular homology of CW-complexes (in (Romanian) Acad. R. P. Romane Stud. Cerc. Mat. 14, (1963), 115–134.
3. On the exact sequences associated with maps. (in Romanian) Acad. R. P. Romane Stud. Cerc. Mat., 14, (1963), 661–667.
4. Au sujet d'un théorème relatif aux espaces d'Eilenberg-MacLane. (in French) Rev. Math. Pures Appl. (Bucharest) 8, (1963), 493–496.
5. Sur les applications q -triviales. (in French) Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys., 11, (1963), 727–730.

1964

6. Sur les applications qui induisent des isomorphismes des groupes de Whitehead. (in French) C. R. Acad. Sci. Paris, 259,(1964), 1928–1931.

1965

7. (with A. Deleanu) he spectral sequence of Shih Weishu and the generalized cohomology theories. II. Bull. Math. Soc. Sci. Math. R. S. Roumanie, 9 , (1965), 167–176

1966

8. Principal fiber spaces and Postnikov systems. (in Romanian) Stud. Cerc., Mat. 18, (1966), 585–630.
9. (with A. Deleanu) On certain two-space homology-cohomology groups. Rev. Roumaine Math. Pures Appl., 11, (1966) 703–712.
10. (with A. Deleanu) The spectral sequence of Shih Weishu and the generalized cohomology theories. I. Rev. Roumaine Math. Pures Appl., 11, (1966) 559–571.
11. Sur les groupes de Whitehead. (in French) Bull. Acad. Polon. Sci. Sér. Sci. Math. Astronom. Phys., 14, (1966), 305–307.
12. (with A. Deleanu) La catégorie homotopique des spectres I. (in French) C. R. Acad. Sci. Paris Sér. A-B 262, (1966), A859–A861..
13. (with A. Deleanu) La catégorie homotopique des spectres II. (in French) C. R. Acad. Sci. Paris Sér. A-B, 262 (1966), A901–A903.
14. (with A. Deleanu) La catégorie homotopique des spectres III. (in French) C. R. Acad. Sci. Paris Sér. A-B, 262, (1966), A946–A947.
15. (with A. Deleanu) Une suite spectrale et l'homomorphisme de Hurewicz pour les spectres semi-simpliciaux. (in French) C. R. Acad. Sci. Paris Sér. A-B, 262 (1966), A1393–A1395.
16. (with A. Deleanu) Résolutions de Cartan-Serre et de Postnikov dans la catégorie homotopique des spectres. (in French) C. R. Acad. Sci. Paris Sér. A-B, 263 (1966),

A361–A364.

1967

17. (with A. Deleanu) The homotopy category of spectra. I. Illinois J. Math., 11, (1967), 454–473.

1968

18. Note sur les applications qui induisent pour l'homotopie l'homomorphisme "zéro". (in French) Rev. Roumaine Math. Pures Appl., 13, (1968), 151–157.

19. Sur le nombre des composantes connexes des groupes de difféomorphismes. (French) C. R. Acad. Sci. Paris Sér. A-B, 266, (1968), A196–A198.

20. (with A. Deleanu) The homotopy category of spectra. II. Math. Ann., 178, (1968), 131–144.

21. Some properties of homotopy classes of maps of Kan spectra. Invent. Math., 5, (1968), 1–7.

22. H-cobordism for Hilbert Manifolds, preprint E.T.H., Zürich, 1968.

23. Some Applications of Browder-Levine Theorem, preprint E.T.H., Zürich, 1968.

1969

24. (with A. Deleanu) The homotopy category of spectra. III. Math. Z., 108 (1969), 154–170.

25. (with N. Kuiper) Hilbert manifolds. Ann. of Math., 90, (1969), 379–417.

1970

26. Embedding Hilbert manifolds with given normal bundle. Math. Ann., 187, (1970), 207–219.

27. Diffeomorphisms for Hilbert manifolds and handle decomposition. Bull. Amer. Math. Soc., 76, (1970), 352–357.

28. (with D. Henderson) Smoothing and homeomorphisms for Hilbert manifolds. Bull. Amer. Math. Soc., 76, (1970), 1261–1265.

29. (with P. Antonelli and P. Kahn) Gromoll groups, $\text{Diff}S^n$ and bilinear constructions of exotic spheres. Bull. Amer. Math. Soc., 76, (1970), 772–777.

30. (with P. Antonelli and P. Kahn) The non finite type of some Diff_0M^n . Bull. Amer. Math. Soc., 76, (1970), 1246–1250.

1971

31. (with P. Antonelli and P. Kahn) Concordance-homotopy groups and the non infinite type of some Diff_0M^n . Bull. Amer. Math. Soc., 77, (1971), 719–724.

32. (with A. Duma) Structures analytiques complexes sur les variétés hilbertiennes. (French) 1971 Espaces Analytiques (Séminaire, Bucharest, 1969) pp. 145–148, Editura Acad. R.S.R., Bucharest

32. (with A. Duma) Complex analytic structures on Hilbert manifolds, *J. Diff. Geom.*, Vol 22, (1985), 243–53

1972

33. Differentiable knots in Hilbert space and a conjecture of R. D. Anderson. *Rev. Roumaine Math. Pures Appl.*, 17, (1972), 341–352.

34. (with P. Antonelli and P. Kahn) The non-finite homotopy type of some diffeomorphism groups. *Topology*, 11, (1972), 1–49.

35. Free differentiable S^1 and S^3 actions on homotopy spheres. *Ann. Sci. École Norm. Sup.*, 5, (1972), 183–215.

36. (with A. Verona) Local homological properties of analytic sets. *Manuscripta Math.*, 7, (1972), 55–66.

1973

37. On the homotopy type of $\text{diff}(M^n)$ and connected problems. *Colloque International sur l'Analyse et la Topologie Différentielle (Colloq. Internat. CNRS, No. 210, Strasbourg, 1972)*. *Ann. Inst. Fourier (Grenoble)*, 23, (1973), no. 2, 3–17.

1974

38. (with R. Lashof) The homotopy type of the space of diffeomorphisms. I. *Trans. Amer. Math. Soc.*, 196, (1974), 1–36

39. (with R. Lashof) The homotopy type of the space of diffeomorphisms. II. *Trans. Amer. Math. Soc.*, 196, (1974), 37–50.

1975

40. (with R. Schultz), On the semisimple degree of symmetry. *Bull. Soc. Math. France*, 103, (1975), no. 4, 433–440.

1977

41. The structure of block-automorphisms of $M \times S^1$. *Topology* 16 (1977), no. 1, 65–78.

42. (with R. Lashof) Stability of concordances and the suspension homomorphism. *Ann. of Math. (2)* 105 (1977), no. 3, 449–472.

43. On the decomposition of the automorphisms-group of $M \times S^1$. *Rev. Roumaine Math. Pures Appl.* 22 (1977), no. 1, 17–30.

1978

44. Automorphisms of manifolds. Algebraic and geometric topology (Proc. Sympos. Pure Math., Stanford Univ., Stanford, Calif., 1976), Part 1, pp. 347–371, Proc. Sympos. Pure Math., XXXII, Amer. Math. Soc., Providence, R.I., 1978.

1979

45. Some rational computations of the Waldhausen algebraic K -theory. Comment. Math. Helv. 54 (1979), no. 2, 185–198.

46. The rational homotopy groups of $\text{Diff}(M)$ and $\text{Homeo}(M^n)$ in the stability range. Algebraic topology, Aarhus 1978 (Proc. Sympos., Univ. Aarhus, Aarhus, 1978), pp. 604–626, Lecture Notes in Math., 763, Springer, Berlin, 1979.

1981

47. (with A. Assadi) Examples of asymmetric differentiable manifolds. Math. Ann. 255 (1981), no. 3, 423–430.

1982

48. (with R. Lashof) Geometric transfer and the homotopy type of the automorphism groups of a manifold. Trans. Amer. Math. Soc. 269 (1982), no. 1, 1–38.

1983

49. Converting compact ANR fibrations into locally trivial bundles with compact manifolds as fibers. Compositio Math. 49 (1983), no. 1, 95–107.

50. (with A. Assadi) Symmetry of manifolds and their lower homotopy groups. Bull. Soc. Math. France 111 (1983), no. 2, 97–108.

51. (with A. Assadi) The non triviality of the first rational homology group of some connected invariant subsets of periodic transformations. Proc. Amer. Math. Soc. 88 (1983), no. 4, 701–707.

Errata to: "The non triviality of the first rational homology group of some connected invariant subsets of periodic transformations" [Proc. Amer. Math. Soc. 88 (1983), no. 4, 701–707; MR 84j:57030]. Proc. Amer. Math. Soc. 94 (1985), no. 1, 187.

1984

52. (with Z. Friedorowicz) Hermitian algebraic K -theory of topological spaces. Algebraic K -theory, number theory, geometry and analysis (Bielefeld, 1982), 32–46, Lecture Notes in Math., 1046, Springer, Berlin-New York, 1984.

53. Rational homotopy theory, group actions and algebraic K -theory of topological spaces. Algebraic homotopy and local algebra (Luminy, 1982), 60–86, Astisque, 113-114, Soc. Math. France, Paris, 1984.

1985

54. The cyclic homology of the group rings. *Comment. Math. Helv.* 60 (1985), no. 3, 354–365.

55. (with M. Vigue Poirrier) A model for cyclic homology and algebraic K -theory of 1-connected topological spaces. *J. Differential Geom.* 22 (1985), no. 2, 243–253.

56. (with Z. Friedorowicz) Hermitian algebraic K -theory of simplicial rings and topological spaces. *J. Math. Pures Appl.* (9) 64 (1985), no. 2, 175–235.

1986

57. Cyclic homology and the algebraic K -theory of spaces. I. Applications of algebraic K -theory to algebraic geometry and number theory, Part I, II (Boulder, Colo., 1983), 89–115, *Contemp. Math.*, 55, Amer. Math. Soc., Providence, R.I., 1986.

58. (with Z. Friedorowicz) Cyclic homology and algebraic K -theory of spaces. II. *Topology* 25 (1986), no. 3, 303–317.

59. (with C. Ogle) The Künneth formula in cyclic homology. *Math. Z.* 193 (1986), no. 4, 527–536.

1988

60. (with M. Vique Poirner) Cyclic homology of commutative algebras. I. Algebraic topology—rational homotopy (Louvain-la-Neuve, 1986), 51–72, *Lecture Notes in Math.*, 1318, Springer, Berlin-New York, 1988.

61. A localization theorem for functional S^1 -spaces. *Math. Ann.* 282 (1988), no. 3, 513–527.

62. (with T. Kappeler) Multiplicities of the eigenvalues of the discrete Schrödinger equation in any dimension. *Proc. Amer. Math. Soc.* 102 (1988), no. 2, 255–260.

1989

63. The free loop space. I. Algebraic topology. *Algebraic topology* (Evanston, IL, 1988), 59–85, *Contemp. Math.*, 96, Amer. Math. Soc., Providence, RI, 1989.

1991

64. (with L. Friedlander and T. Kappeler) On the determinant of elliptic differential and finite difference operators in vector bundles over S^1 . *Comm. Math. Phys.* 138 (1991), no. 1, 1–18.

Erratum: "On the determinant of elliptic differential and finite difference operators in vector bundles over S^1 " [*Comm. Math. Phys.* 138 (1991), no. 1, 1–18, MR 92f:58193]. *Comm. Math. Phys.* 150 (1992), no. 2, 431.

65. (with Z. Friedorowicz and W. Gajda) Adams operations in Hochschild and cyclic homology of de Rham algebra and free loop spaces. *K-Theory* 4 (1991), no. 3, 269–287. Erratum: "Adams operations in Hochschild and cyclic homology of de Rham algebra and

free loop space". *K-Theory* 5 (1991), no. 3, 293.

1992

66. (with L. Friedlander and T. Kappeler) Meyer-Vietoris type formula for determinants of elliptic differential operators. *J. Funct. Anal.* 107 (1992), no. 1, 34–65.

1993

67. (with L. Friedlander and T. Kappeler) Regularized determinants for pseudodifferential operators in vector bundles over S^1 . *Integral Equations Operator Theory* 16 (1993), no. 4, 496–513.

1994

68. (with L. Friedlander and T. Kappeler and P. McDonald) On the functional logdet and related flows on the space of closed embedded curves on S^2 . *J. Funct. Anal.* 120 (1994), no. 2, 440–466.

69. (with Z. Friedorowicz and W. Gajda) Power maps and epicyclic spaces. *J. Pure Appl. Algebra* 96 (1994), no. 1, 1–14.

1995

70. (with L. Friedlander and T. Kappeler) On the determinant of elliptic boundary value problems on a line segment. *Proc. Amer. Math. Soc.* 123 (1995), no. 10, 3027–3038.

1996

71. (with L. Friedlander and T. Kappeler) Asymptotic expansion of the Witten deformation of the analytic torsion. *J. Funct. Anal.* 137 (1996), no. 2, 320–363.

72. (with L. Friedlander and T. Kappeler and P. McDonald) Analytic and Reidemeister torsion for representations in finite type Hilbert modules. *Geom. Funct. Anal.* 6 (1996), no. 5, 751–859.

73. Free loop spaces, power maps and K -theory. *Algebraic K-theory (Poznań, 1995)*, 35–58, *Contemp. Math.*, 199, Amer. Math. Soc., Providence, RI, 1996.

74. Mathematics seen from inside and from outside (in Rumanian), *Analele Universitatii din Timisoara* Vol. 34, no 1, 1996, pages 3-22

1998

75. (with L. Friedlander and T. Kappeler) Witten deformation of the analytic torsion and the Reidemeister torsion, *Amer. Math. Soc. Transl. (2)* Vol 184, 1998, pages 23-39

76. (with C. Constantinescu) Cutting and gluing back along a closed simple curve on a Riemann surface (in *Analysis and Topology* (pp.191-213) eds. C. Andreian Cazacu, O. Lehto and Th. M. Rassias, 1998 World Scientific Publishing Company

1999

77. Removing Metric anomalies from Ray Singer torsion, Letters in Mathematical Physics 47: 149-158,, 1999, Kluwer academic publishers

78. (with L. Friedlander and T. Kappeler)Relative torsion for homotopy triangulations , Tel Aviv Topology Conference: Rothenberg Festschrift, 37-57, Contemp. Math., 231, Amer. Math. Soc., Providence, RI, 1999.

79. (with L. Friedlander and T. Kappeler) Torsion for manifold with boundary and glueing formulas. Math. Nachr., 208,(1999), 31-91 Preprint IHES

80. Lectures on Witten-Helffer-Sjöstrand theory (Proceedings of the third third international workshop in geometry and applications and the first German-Romanian seminar in Geometry, Sibiu, 1997), Astra Association, 85-99, (preprint Schrödinger Institute, No 572)

2001

81. (with L. Friedlander and T. Kappeler) Relative torsion, Comm. Cont. Math., 3, (2001) 15-85, 2001

82. (with S. Haller) On the topology and analysis of a closed one form.I, (Novikov theory revisited) Monographie d L'Enseignement Mathematique 38 (2001) 133-175

2003

83. (with C. Tomei and N. Saldanha) Results on infinite dimensional topology and applications to the structure of the critical set of Nonlinear Sturm-Liouville Operators. J. Differential Equations 188 (2003) 569-590

2006

84. (with C.Tomei and N.Saldanha): The topology of the monodromy map of the second order ODE Journal-ref: J. Differential Equations 227, 581-597 (2006).

85. (w. Stefan Haller) Euler structures, the variety of representations and the Milnor-Turaev torsion Geom. Topol. 10 pp. 1185-1238

86. (w. Stefan Haller) A Riemmanian invariabnt, Euler structures and some topological applications. (in Proc. of the conference on C^* -algebras and Elliptic Theory) , Trends in Mathematics, 37-60, Birkhauser-Verlag, Basel.

2007

87. (w. Stefan Haller) Complex valued Ray-Singer torsion, Journal of Functional Analysis, 248 pp. 27-78

2008

88. (w. Stefan Haller) Dynamics, Laplace transform and spectral geometry, Journal of Topology, LMS, vol 1, 2008

89. (w.Stefan Haller) Torsion, as a function on the space of representations arXiv.org e-Print archive.math.DG 0507587 to appear in C^* -algebras and Elliptic Theory II , Trends in Mathematics, Birkhauser-Verlag, Basel (Ed D.Burghlea, R Melrose, A.Mischenko, E Troytski.)

Posted and submitted for publications:

90. (w.Stefan Haller) Complex valued Ray–Singer torsion II arXiv.org e-Print archive.math.DG 0610875

91. (w. N Saldanha and C.Tomei) The geometry of the critical set of nonlinear periodic Sturm- Liouville operators , arXiv:0707.1256

Posted but not submitted)

91. (w.Stefan Haller) The geometric complex of a Morse-Bott-Smale pair and an extension of a theorem by Bismut-Zhang arXiv.org e-Print archive.math.GT/0409166 [abs, ps, pdf, other] :

92. A short course on Witten Hellfer Sjöstrand theory., arXiv.org e-Print archive math.DG/0101063

93.(w.Stefan Haller) Non-contractible periodic trajectories of symplectic vector fields, Floer cohomology and symplectic torsion arXiv.org e-Print archive math. SG/0104013

Books

1. (with P. Antonelli and P. Kahn) The concordance-homotopy groups of geometric automorphism groups. Lecture Notes in Mathematics, Vol. 215. Springer-Verlag, Berlin-New York, 1971. x+140 pp.

2. (with T. Hangan, H. Moscovici and A. Verona, in rumanian), Introduction to Differential Topology (in Romanian), Editura Stiintifica, 1972.

3. (with R. Lashof and M. Rothenberg) Groups of automorphisms of manifolds, Lecture Notes in Mathematics, Vol. 473. Springer-Verlag, Berlin-New York, 1975. vii+156 pp.

4. (with A. Albu and T. Ratiu) Differentiable actions of compact Lie groups (in Rumanian) Mathematical Monographs, No. 5 Facultatea de Ştiinţe ale Naturii, Universitatea din Timişoara, Timişoara, 1975. viii+149 pp.

5. Qualitative differential analysis for catastrophe-theory (in Romanian) Monographs, No. 7, Univ. Timisoara, 1977.