

Suggested Papers for M397S

This list is subject to change and in any case is only a list of suggestions. I am welcome to your suggestions.

- 1944** Chern, Shiing-shen, *A simple intrinsic proof of the Gauss-Bonnet formula for closed Riemannian manifolds*. Ann. of Math. (2) 45, (1944). 747–752.
- 1951** Serre, J. P., *Homologie singulière des espaces fibrés. I, Applications*, Annals of Mathematics 54 (1951) 425–505.
- 1953** Borel, A., *La cohomologie mod 2 de certains espaces homogènes*, Commentarii Mathematici Helvetici 27 (1953) 165–197.
- Serre, Jean-Pierre, *Groupes d'homotopie et classes de groupes abéliens*. (French) Ann. of Math. (2) 58, (1953). 258–294.
- 1954** Thom., R., *Quelques propriétés globales des variétés différentiables*, Commentarii Mathematici Helvetici 28 (1954) 17–86.
- 1955** Serre, Jean-Pierre, *Géométrie algébrique et géométrie analytique*. (French) Ann. Inst. Fourier, Grenoble 6 (1955–1956), 1–42.
- Serre, Jean-Pierre, *Faisceaux algébriques cohérents*. (French) Ann. of Math. (2) 61, (1955). 197–278.
- Whitney, Hassler, *On singularities of mappings of euclidean spaces. I. Mappings of the plane into the plane*, Ann. of Math. (2) 62 (1955), 374–410.
- 1956** Milnor, J. W. , *On manifolds homeomorphic to the 7-sphere*, Annals of Mathematics 64 (1956) 399–405.
- 1957** Calabi, Eugenio, *On Kähler manifolds with vanishing canonical class*. Algebraic geometry and topology. A symposium in honor of S. Lefschetz, pp. 78–89. Princeton University Press, Princeton, N. J., 1957.
- Chern, S. S.; Hirzebruch, F.; Serre, J.-P., *On the index of a fibered manifold*. Proc. Amer. Math. Soc. 8 (1957), 587–596.
- Grothendieck, Alexander, *Sur quelques points d'algèbre homologique*. (French) Tôhoku Math. J. (2) 9 1957 119–221.
- Milnor, J. W. , *The geometric realization of a semi-simplicial complex*, Annals of Mathematics 65 (1957) 357–362.
- 1958** Dold., A, *Homology of symmetric products and other functors of complexes*, Annals of Mathematics 68 (1958) 54–80.
- 1958** Borel, Armand; Serre, Jean-Pierre, *Le théorème de Riemann-Roch*. (French) Bull. Soc. Math. France 86 (1958) 97–136.
- Borel, A.; Hirzebruch, F. *Characteristic classes and homogeneous spaces. I*. Amer. J. Math. 80 (1958) 458–538.
- Milnor., J, *The Steenrod algebra and its dual*, Annals of Mathematics 67 (1958) 150–171.

- 1959** Bott, Raoul. *The stable homotopy of the classical groups*. Ann. of Math. (2) 70 (1959) 313–337.
- Kostant, Bertram, *A formula for the multiplicity of a weight*. Trans. Amer. Math. Soc. 93 1959 53–73.
- Kostant, Bertram, *The principal three-dimensional subgroup and the Betti numbers of a complex simple Lie group*. Amer. J. Math. 81 1959 973–1032.
- Singer, I. M., *The geometric interpretation of a special connection*. Pacific J. Math. 9 (1959) 585–590.
- 1960** Adams, J. F. , *On the non-existence of elements of Hopf invariant one*, Annals of Mathematics 72 (1960) 20–104.
- Kervaire, M. A. , *A manifold which does not admit any differentiable structure*, Commentarii Mathematici Helvetici 34 (1960) 257–270.
- Yamabe, Hidehiko, *On a deformation of Riemannian structures on compact manifolds*. Osaka Math. J. 12 1960 21–37.
- 1961** Kostant, Bertram, *Lie algebra cohomology and the generalized Borel-Weil theorem*. Ann. of Math. (2) 74 1961 329–387.
- Mumford, David, *The topology of normal singularities of an algebraic surface and a criterion for simplicity*. Inst. Hautes Études Sci. Publ. Math. No. 9 (1961) 5–22.
- Smale, Stephen, *Generalized Poincaré’s conjecture in dimensions greater than four*. Ann. of Math. (2) 74 (1961) 391–406.
- 1962** Brown, E. H. Jr., *Cohomology theories*, Annals of Mathematics 75 (1962) 467–484.
- 1963** Kervaire, M. A. and Milnor, J. W. , *Groups of homotopy spheres I.* , Annals of Mathematics 77 (1963) 504–537.
- Kostant, Bertram, *Lie group representations on polynomial rings*. Amer. J. Math. 85 1963 327–404.
- 1964** Atiyah, M. F.; Bott, R.; Shapiro, A., *Clifford modules*. Topology 3 (1964) suppl. 1, 3–38.
- Hironaka, Heisuke, *Resolution of singularities of an algebraic variety over a field of characteristic zero*. I, II. Ann. of Math. (2) 79 (1964), 109-203; *ibid.* (2) 79 1964 205-326.
- 1965** Moser, Jürgen, *On the volume elements on a manifold*, Trans. Amer. Math. Soc. 120 (1965) 286–294.
- Wall, C. T. C. , *Finiteness conditions for CW-complexes*, Annals of Mathematics 81 (1965) 56–69.
- 1966** Adams, J. F. , *On the groups $J(X)$. IV*, Topology 5 (1966) 21–71.
- Adams, J. F. and Atiyah, M. F. , *K-theory and the Hopf invariant*, The Quarterly Journal of Mathematics, Oxford 17 (1966) 31–38.
- Kac, Mark, *Can one hear the shape of a drum?*, Amer. Math. Monthly 73 (1966) no. 4, part II, 1–23.

- 1967** Bott, Raoul, *Vector fields and characteristic numbers*. Michigan Math. J. 14 (1967) 231–244.
Phillips, Anthony, *Submersions of open manifolds*. Topology 6 (1967), 171–206.
- 1968** Atiyah, M. F.; Singer, I. M., *The index of elliptic operators. I*. Ann. of Math. (2) 87 (1968) 484–530
Segal, G., *Classifying spaces and spectral sequences*, Institut des Hautes Études Scientifique Publications Mathématiques 34 (1968) 105–112.
Griffiths, Phillip A., *Periods of integrals on algebraic manifolds. I. Construction and properties of the modular varieties*. Amer. J. Math. 90 (1968), 568–626.
- 1969** Deligne, P.; Mumford, D., *The irreducibility of the space of curves of given genus*. Inst. Hautes Études Sci. Publ. Math. No. 36 (1969) 75–109.
Kirby, Robion C., *Stable homeomorphisms and the annulus conjecture*. Ann. of Math. (2) 89 (1969) 575–582.
Quillen, Daniel, *Rational homotopy theory*. Ann. of Math. (2) 90, (1969), 205–295
- 1970** Kostant, Bertram, *Quantization and unitary representations. I. Prequantization*. Lectures in modern analysis and applications, III, pp. 87–208. Lecture Notes in Math., Vol. 170, Springer, Berlin, (1970).
Quillen, Daniel, *On the (co-) homology of commutative rings*. 1970 Applications of Categorical Algebra (Proc. Sympos. Pure Math., Vol. XVII, New York, 1968) pp. 65–87. Amer. Math. Soc., Providence, R.I.
- 1972** Quillen, Daniel, *On the cohomology and K-theory of the general linear groups over a finite field*, Annals of Mathematics 96 (1972) 552–586.
- 1973** Atiyah, M.; Bott, R.; Patodi, V. K., *On the heat equation and the index theorem*. Invent. Math. 19 (1973), 279–330.
Białynicki-Birula, A., *Some theorems on actions of algebraic groups*. Ann. of Math. (2) 98 (1973), 480–497.
Quillen, D. G., *Higher algebraic K-theory I*, Algebraic K-theory I, Battelle Institute Conference (1972), Springer Lecture Notes in Math. 341 (1973) 85–147.
Ray, D. B.; Singer, I. M., *Analytic torsion*. Partial differential equations (Proc. Sympos. Pure Math., Vol. XXIII, Univ. California, Berkeley, Calif., 1971), pp. 167–181. Amer. Math. Soc., Providence, R.I., 1973.
- 1974** Adams, J. F., *Stable homotopy and generalised homology*, reprint of the 1974 original, Chicago Lectures in Mathematics, University of Chicago Press, Chicago, IL, 1995.
Chern, Shiing Shen; Simons, James, *Characteristic forms and geometric invariants*. Ann. of Math. (2) 99 (1974), 48–69.
Deligne, Pierre, *La conjecture de Weil. I*. (French) Inst. Hautes Etudes Sci. Publ. Math. No. 43 (1974), 273–307.
Hitchin, Nigel, *Compact four-dimensional Einstein manifolds*. J. Differential Geometry 9 (1974), 435–441.
Kleiman, Steven L., *The transversality of a general translate*. Compositio Math. 28 (1974), 287–297.
Segal, Graeme, *Categories and cohomology theories*. Topology 13 (1974), 293–312.

- 1977** Sullivan, Dennis, *Infinitesimal computations in topology*. Inst. Hautes Etudes Sci. Publ. Math. No. 47 (1977), 269–331 (1978).
- 1978** Atiyah, M. F.; Hitchin, N. J.; Singer, I. M., *Self-duality in four-dimensional Riemannian geometry*. Proc. Roy. Soc. London Ser. A 362 (1978), no. 1711, 425–461.
Kirby, Robion, *A calculus for framed links in S^3* . Invent. Math. 45 (1978), no. 1, 35–56.
S.-T. Yau, *On the Ricci curvature of a compact Kähler manifold and the complex Monge-Ampère equation I*. Comm. Pure Appl. Math. 31 (1978) 339–411.
- 1979** Chern, Shiing Shen, *Complex manifolds without potential theory*. With an appendix on the geometry of characteristic classes. Second edition. Universitext. Springer-Verlag, New York-Heidelberg, 1979.
Mori, Shigefumi, *Projective manifolds with ample tangent bundles*. Ann. of Math. (2) 110 (1979), no. 3, 593–606.
Schoen, Richard; Yau, Shing Tung, *On the proof of the positive mass conjecture in general relativity*. Comm. Math. Phys. 65 (1979), no. 1, 45–76.
Segal, Graeme, *The topology of spaces of rational functions*. Acta Math. 143 (1979), no. 1-2, 39–72.
- 1982** Atiyah, M. F., *Convexity and commuting Hamiltonians*. Bull. London Math. Soc. 14 (1982), no. 1, 1–15.
Freedman, Michael Hartley, *The topology of four-dimensional manifolds*. J. Differential Geom. 17 (1982), no. 3, 357–453.
Guillemin, V.; Sternberg, S., *Convexity properties of the moment mapping*. Invent. Math. 67 (1982), no. 3, 491–513.
Hamilton, Richard S., *Three-manifolds with positive Ricci curvature*. J. Differential Geom. 17 (1982), no. 2, 255–306.
Harvey, Reese; Lawson, H. Blaine, Jr. *Calibrated geometries*, Acta Math. 148 (1982), 47–157
Parker, Thomas; Taubes, Clifford Henry, *On Witten’s proof of the positive energy theorem*. Comm. Math. Phys. 84 (1982), no. 2, 223–238.
Uhlenbeck, Karen K., *Connections with L^p bounds on curvature*. Comm. Math. Phys. 83 (1982), no. 1, 31–42.
- 1983** Atiyah, M. F.; Bott, R., *The Yang-Mills equations over Riemann surfaces*. Philos. Trans. Roy. Soc. London Ser. A 308 (1983), no. 1505, 523–615.
Donaldson, S. K., *An application of gauge theory to four-dimensional topology*. J. Differential Geom. 18 (1983), no. 2, 279–315.
Goresky, Mark; MacPherson, Robert, *Intersection homology. II*. Invent. Math. 72 (1983), no. 1, 77–129.
Mumford, David, *Towards an enumerative geometry of the moduli space of curves*. Arithmetic and geometry, Vol. II, 271–328, Progr. Math., 36, Birkhuser Boston, Boston, MA, 1983.
Witten, Edward, *Supersymmetry and Morse theory*. J. Differential Geom. 17 (1982), no. 4, 661–692 (1983).

- 1984** Atiyah, M. F.; Bott, R., *The moment map and equivariant cohomology*. Topology 23 (1984), no. 1, 1–28.
- Kirwan, Frances Clare, *Cohomology of quotients in symplectic and algebraic geometry*. Mathematical Notes, 31. Princeton University Press, Princeton, NJ, 1984.
- Schoen, Richard, *Conformal deformation of a Riemannian metric to constant scalar curvature*. J. Differential Geom. 20 (1984), no. 2, 479–495.
- 1985** Donaldson, S. K., *Anti self-dual Yang-Mills connections over complex algebraic surfaces and stable vector bundles.*, Proc. London Math. Soc. (3) 50 (1985), no. 1, 1–26.
- Fefferman, Charles; Graham, C. Robin, *Conformal invariants*. The mathematical heritage of lie Cartan (Lyon, 1984). Astrisque 1985, Numero Hors Serie, 95–116.
- Gromov, M., *Pseudoholomorphic curves in symplectic manifolds*. Invent. Math. 82 (1985), no. 2, 307–347.
- Jones, Vaughan F. R., *A polynomial invariant for knots via von Neumann algebras*, Bull. Amer. Math. Soc. 12 (1985), 103–111.
- Quillen, Daniel, *Superconnections and the Chern character*. Topology 24 (1985), no. 1, 89–95.
- Segal, Graeme; Wilson, George, *Loop groups and equations of KdV type*. Inst. Hautes tudes Sci. Publ. Math. No. 61 (1985), 5–65.
- 1986** Cheeger, Jeff; Gromov, Mikhael, *Collapsing Riemannian manifolds while keeping their curvature bounded. I*. J. Differential Geom. 23 (1986), no. 3, 309–346.
- 1987** Drinfeld, V. G., *Quantum groups*. Proceedings of the International Congress of Mathematicians, Vol. 1, 2 (Berkeley, Calif., 1986), 798–820, Amer. Math. Soc., Providence, RI, 1987.
- Hitchin, Nigel, *Stable bundles and integrable systems*. Duke Math. J. 54 (1987), no. 1, 91–114.
- Hitchin, N. J., *The self-duality equations on a Riemann surface*. Proc. London Math. Soc. (3) 55 (1987), no. 1, 59–126.
- 1988** Floer, Andreas, *Morse theory for Lagrangian intersections*. J. Differential Geom. 28 (1988), no. 3, 513–547.
- 1989** Bott, Raoul; Taubes, Clifford, *On the rigidity theorems of Witten*. J. Amer. Math. Soc. 2 (1989), no. 1, 137–186.
- Gordon, C. McA.; Luecke, J., *Knots are determined by their complements*. J. Amer. Math. Soc. 2 (1989), no. 2, 371–415.
- Witten, Edward, *Quantum field theory and the Jones polynomial*. Comm. Math. Phys. 121 (1989), no. 3, 351–399.
- 1990** Donaldson, S. K. *Polynomial invariants for smooth four-manifolds.*, Topology 29 (1990), no. 3, 257–315.
- 1992** Candelas, Philip; de la Ossa, Xenia C.; Green, Paul S.; Parkes, Linda, *A pair of Calabi-Yau manifolds as an exactly soluble superconformal theory*. Nuclear Phys. B 359 (1991), no. 1, 21–74.

- 1992** Kontsevich, Maxim, *Intersection theory on the moduli space of curves and the matrix Airy function*. Comm. Math. Phys. 147 (1992), no. 1, 1–23.
- 1994** Hamilton, R., *Worn stones with flat sides*, in A tribute to Ilya Bakelman (College Station, TX 1993), Discourses Math. Appl. 3 (1994), 69–78 .
- Kontsevich, M.; Manin, Yu. *Gromov-Witten classes, quantum cohomology, and enumerative geometry*. Comm. Math. Phys. 164 (1994), no. 3, 525–562.
- Kronheimer, Peter; Mrowka, Tomasz, *The genus of embedded surfaces in the projective plane*, Math. Res. Lett. 1 (1994), no. 6, 797–808.
- Taubes, Clifford Henry, *The Seiberg-Witten invariants and symplectic forms*. Math. Res. Lett. 1 (1994), no. 6, 809–822.
- Witten, Edward, *Monopoles and four-manifolds*. Math. Res. Lett. 1 (1994), no. 6, 769–796.
- 1995** Kontsevich, Maxim, *Homological algebra of mirror symmetry*. Proceedings of the International Congress of Mathematicians, Vol. 1, 2 (Zürich, 1994), 120–139, Birkhuser, Basel, 1995.
- Weinstein, A., *The symplectic structure on moduli space*. The Floer memorial volume, 627–635, Progr. Math., 133, Birkhuser, Basel, 1995.
- 1996** Gross, Benedict H., *On the Satake isomorphism*. Galois representations in arithmetic algebraic geometry (Durham, 1996), 223–237, London Math. Soc. Lecture Note Ser., 254, Cambridge Univ. Press, Cambridge, 1998.
- 1998** Anderson, Jared E.; Putnam, Ian F., *Topological invariants for substitution tilings and their associated C^* -algebras*. Ergodic Theory Dynam. Systems 18 (1998), no. 3, 509–537.
- 2000** Khovanov, Mikhail, *A categorification of the Jones polynomial*. Duke Math. J. 101 (2000), no. 3, 359–426
- 2003** Kontsevich, Maxim, *Deformation quantization of Poisson manifolds*, Lett. Math. Phys. 66 (2003), no. 3, 157–216.
- 2004** Segal, Graeme, *The definition of conformal field theory*. Topology, geometry and quantum field theory, 421–577, London Math. Soc. Lecture Note Ser., 308, Cambridge Univ. Press, Cambridge, 2004.