

Robert S. Strichartz

Publication List (updated 2/18)

(All papers available on request, by number. Asterisk (*) indicates works not in final form.)

Research Papers

- R1 *Isometric isomorphisms of measure algebras*, Pacific Journal of Mathematics, 15 (1965), 315–317.
- R2 *Isomorphisms of group algebras*, Proceedings of the American Mathematical Society, 17 (1966), 858–862.
- R3 *Multipliers on fractional Sobolev spaces*, Journal of Mathematics and Mechanics, 16 (1967), 1031–1060.
- R4 *Sobolev inequalities and extension theorems for functions with certain L^p -derivatives*, Studia Mathematica, 30 (1968), 1–15.
- R5 *Fubini-type theorems*, Annali della Scuola Normale Superiore di Pisa Classe di Scienze, XXII (1968), 399–408.
- R6 *L^p estimates for integral transforms*, Transactions of the American Mathematical Society, 136 (1969), 33–50.
- R7 *A multilinear version of the Marcinkiewicz interpolation theorem*, Proceedings of the American Mathematical Society, 21 (1969), 441–444.
- R8 *Convolutions with kernels having singularities on a sphere*, Transactions of the American Mathematical Society, 148 (1970), 461–471.
- R9 *A priori estimates for the wave equation and some applications*, Journal of Functional Analysis, 5 (1970), 218–235.
- R10 *The stationary observer problem for $\square u = Mu$ and related equations*, Journal of Differential Equations, 9 (1971), 205–223.
- R11 *A note on Sobolev algebras*, Proceedings of the American Mathematical Society, 29 (1971), 205–207.
- R12 *Invariant pseudo-differential operators on a Lie group*, Annali della Scuola Normale Superiore di Pisa, 26 (1972), 587–611.
- R13 *Multipliers for spherical harmonic expansions*, Transactions of the American Mathematical Society, 167 (1972), 115–124.
- R14 *A functional calculus for elliptic pseudo-differential operators*, American Journal of Mathematics, 94 (1972), 711–722.
- R15 *The Hardy space H^1 on manifolds and submanifolds*, Canadian Journal of Mathematics, 24 (1972), 915–925.
- R16 *A note on Trudinger's extension of Sobolev's inequalities*, Indiana University Mathematical Journal, 21 (1972), 841–842.
- R17 *Boundary values of solutions of elliptic equations satisfying H^p conditions*, Transactions of the American Mathematical Society, 176 (1973), 445–462.
- R18 a. *Harmonic analysis on hyperboloids*, Journal of Functional Analysis, 12 (1973), 341–383.
b. (Informal summary of the above) *A non-compact analogue of spherical harmonics*, Proceedings of Symposia in Pure Mathematics, vol. 26, American Mathematical Society, Providence, 1973, 357–358.
- R19 *Multiplier transformation on compact Lie groups and algebras*, Transactions of the American Mathematical Society, 193 (1974), 99–110.
- R20 *Fourier transforms and non-compact rotation groups*, Indiana University Mathematical Journal, 24 (1974), 499–526. Errata 30 (1981), 479–480.
- R21 *The explicit Fourier decomposition of $L^2(SO(n)/SO(n-m))$* , Canadian Journal of Mathematics, 27 (1975), 294–310.
- R22 *Singular integrals on nilpotent Lie groups*, Proceedings of American Mathematical Society, 53 (1975), 367–374.
- R23 *Bochner identities for Fourier transforms*, Transactions of the American Mathematical Society, 228 (1977), 307–327.

- R24 *Restrictions of Fourier transforms to quadratic surfaces and decay of solutions of wave equations*, Duke Journal of Mathematics, 44 (1977), 705–714.
- R25 *Minimum energy solutions of certain underdetermined problems in partial differential equations*, Journal of Differential Equations, 27 (1978), 64–91.
- R26 *Bounded mean oscillation and Sobolev spaces*, Indiana University Mathematics Journal, 29 (1980), 539–558.
- R27 *Asymptotic behavior of waves*, Journal of Functional Analysis, 40 (1981), 341–357.
- R28 *Traces of BMO–Sobolev spaces*, Proceedings American Mathematical Society, 83 (1981), 509–513.
- R29 *L^p estimates for Radon transforms in Euclidean and non–Euclidean spaces*, Duke Mathematical Journal, 48 (1981), 699–727.
- R30 *Explicit solutions of Maxwell’s equations on a space of constant curvature*, Journal of Functional Analysis, 46 (1982), 58–87.
- R31 *A Poisson summation formula for integrals over quadratic surfaces*, Transactions American Mathematical Society, 270 (1982), 163–173.
- R32 *Singular integrals supported on submanifolds*, Studia Mathematica, 74 (1982), 137–151.
- R33 *Compositions of singular integral operators*, Journal of Functional Analysis, 49 (1982), 91–127.
- R34 *Improved Sobolev inequalities*, Transactions American Mathematical Society, 279 (1983), 397–409.
- R35 *Analysis of the Laplacian on a complete Riemannian manifold*, Journal of Functional Analysis, 52 (1983), 48–79.
- R36 *Mean value properties of the Laplacian via spectral theory*, Transactions American Mathematical Society, 284 (1984), 219–228.
- R37 *L^p contractive projections and the heat semi–group for differential forms*, Journal of Functional Analysis, 65 (1985), 348–357.
- R38 *Harmonic analysis on Grassmannian bundles*, Transactions American Mathematical Society, 296 (1986), 387–409.
- R39 *Sub–Riemannian geometry*, Journal of Differential Geometry, 24 (1986), 221–263. Errata 30 (1989), 545–596.
- R40 *The Campbell–Baker–Hausdorff Dynkin formula and solutions of differential equations*, Journal of Functional Analysis, 72 (1987), 320–345.
- R41 *Linear algebra of curvature tensors and their covariant derivatives*, Canadian Journal of Mathematics, 40 (1988), 1105–1143.
- R42 *Local harmonic analysis on spheres*, Journal of Functional Analysis, 77 (1988), 403–433.
- R43 *Uncertainty principles in harmonic analysis*, Journal of Functional Analysis, 84 (1989), 97–114.
- R44 *Harmonic analysis as spectral theory of Laplacians*, Journal of Functional Analysis, 87 (1989), 51–148. Errata 109 (1992), 457–460.
- R45 *Magnified curves on a flat torus, determination of almost periodic functions, and the Riemann–Lebesgue Lemma*, Proceedings of the American Mathematical Society, 107 (1989), 755–759.
- R46a *Fourier asymptotics of fractal measures*, Journal of Functional Analysis, 89 (1990), 154–187.
- R46b *Besicovitch meets Wiener — Fourier expansions and fractal measures*, Bulletin of the American Mathematical Society, 20 (1989), 55–59.
- R47 *H^p Sobolev spaces*, Colloquium Mathematician, 60/61 (1990), 129–139.
- R48 *Harmonic analysis on constant curvature surfaces with point singularities*, Journal of Functional Analysis, 91 (1990), 37–116.
- R49 *Self–similar measures and their Fourier transforms I*, Indiana University Mathematics Journal, 39 (1990), 797–817.
- R50 *L^p harmonic analysis and Radon transforms on the Heisenberg group*, Journal of Functional Analysis, 96 (1991), 350–406.
- R51 *Spectral asymptotics of fractal measures on Riemannian manifolds*, Journal of Functional Analysis, 102 (1991), 176–205.

- R52 *Wavelet expansions of fractal measures*, *Journal of Geometric Analysis*, 1 (1991), 269–289.
- R53 *Self-similarity on nilpotent Lie groups*, *Contemporary Mathematics*, 140 (1992), 123–157.
- R54 (with Prem Janardhan and David Rosenblum) *Numerical experiments in Fourier asymptotics of Cantor measures and wavelets*, *Experimental Mathematics*, 1 (1992), 249–273.
- R55 *Self-similar measures and their Fourier transforms II*, *Transactions of the American Mathematical Society*, 336 (1993), 335–361.
- R56 *Self-similar measures and their Fourier transforms III*, *Indiana University Mathematics Journal*, 42 (1993), 367–411.
- R57 *Wavelets and self-affine tilings*, *Constructive Approximation*, 9 (1993), 327–346.
- R58 *Complementary series and exotic Sobolev norms*, *Journal of Functional Analysis*, 114 (1993), 493–508.
- R59 *Characterization of eigenfunctions of the Laplacian by boundedness conditions*, *Transactions of the American Mathematical Society*, 338 (1993), 971–979.
- R60 *A fractal Radon inversion problem*, *Journal d'Analyse Mathématique*, 64 (1994), 219–240.
- R61 (with Arthur Taylor and Tong Zhang) *Densities of self-similar measures on the line*, *Experimental Mathematics*, 4 (1995), 101–128.
- R62 *Estimates for sums of eigenvalues for domains in homogeneous spaces*, *Journal of Functional Analysis*, 137 (1996), 152–190.
- R63 (with Ron Dror and Suman Ganguli) *A search for best constants in the Hardy–Littlewood maximal theorem*, *Journal of Fourier Analysis and Applications* 2 (1996), 473–486.
- R64 (with David Glickenstein) *Nonlinear self-similar measures and their Fourier transforms*, *Indiana University Mathematics Journal* 45 (1996), 205–220.
- R65 *Piecewise linear wavelets on Sierpinski gasket type fractals*, *Journal of Fourier Analysis and Applications*, 3 (1997), 387–416.
- R66 *Fractals in the large*, *Canadian Journal of Mathematics*, 50 (1998), 638–657.
- R67 (with John–Peter Lund and Jade P. Vinson) *Cauchy transforms of self-similar measures*, *Experimental Mathematics*, 7 (1998), 177–190.
- R68 *Remarks on “Dense analytic subspaces in fractal L^2 -spaces” by P. E. T. Jorgensen and S. Pedersen*, *Journal d'Analyse Mathématique* 75 (1998), 229–231.
- R69 (with Elizabeth Ayer) *Exact Hausdorff measure and intervals of maximal density for Cantor sets*, *Transactions American Mathematical Society* 351 (1999), 3725–3741.
- R70 *Isoperimetric estimates on Sierpinski gasket type fractals*, *Transactions American Mathematical Society* 351 (1999), 1705–1752.
- R71 (with Kyallee Dalrymple and Jade P. Vinson) *Fractal differential equations on the Sierpinski gasket*, *Journal of Fourier Analysis and Applications* 5 (1999), 203–285.
- R72 (with Yang Wang) *Geometry of self-affine tiles I*, *Indiana University Mathematics Journal* 48 (1999), 1–23.
- R73 (with Richard Kenyon, Jie Li and Yang Wang) *Geometry of self-affine tiles II*, *Indiana University Mathematics Journal* 48 (1999), 25–42.
- R74 (with Oren Ben–Basset and Alexander Teplyaev) *What is not in the domain of the Laplacian on Sierpinski gasket type fractals*, *Journal of Functional Analysis* 166 (1999), 197–217.
- R75 *Some properties of Laplacians on fractals*, *Journal of Functional Analysis* 164 (1999), 181–208.
- R76 *Taylor approximations on Sierpinski gasket type fractals*, *Journal of Functional Analysis*, 174 (2000), 76–127.
- R77 (with Michael Usher) *Splines on fractals*, *Mathematical Proceedings of the Cambridge Philosophical Society*, 129 (2000), 331–360.
- R78 *Gibbs’ phenomenon and arclength*, *Journal of Fourier Analysis and Applications*, 6 (2000), 533–536.
- R79 *Mock Fourier series and transforms associated with certain Cantor measures*, *Journal d'Analyse Mathématique*, 81 (2000), 209–238.

- R80 *The shape of the error in wavelet approximation and piecewise linear interpolation*, Mathematical Research Letters, 7 (2000), 317–327.
- R81 (with Jun Kigami and Daniel Sheldon) *Green's functions on fractals*, Fractals 8 (2000), 385–402.
- R82 *The Laplacian on the Sierpinski gasket via the method of averages*, Pacific Journal of Mathematics, 201 (2001), 241–256.
- R83 (with Michael Gibbons and Arjun Raj) *The finite element method on the Sierpinski gasket*, Constructive Approximation 17 (2001), 561–588.
- R84 (with Jun Kigami and Katharine C. Walker) *Constructing a Laplacian on the diamond fractal*, Experimental Mathematic, 10 (2001), 437–448.
- R85 (with Nina Huang) *Sampling theory for functions with fractal spectrum*, Experimental Mathematics 10 (2001), 619–638.
- R86 *Harmonic mappings of the Sierpinski gasket to the circle*, Proceedings American Mathematical Society 130 (2001), 805–817.
- R87 (with Anders Öberg and Andrew Q. Yingst) *Level sets of harmonic functions on the Sierpinski gasket*, Arkiv för Matematik, 40 (2002), 335–362.
- R88 (with Scott Bailey and Theodore Kim) *Inside the Lévy dragon*, American Mathematical Monthly, 109 (2002), 689–703.
- R89 (with Bryant Adams, S. Alex Smith and Alexander Teplyaev) *The spectrum of the Laplacian on the pentagasket*, Trends in Mathematics: Fractals in Graz 2001, Birkhauser (2003), 1–24.
- R90 (with Jeremy Stanley and Alexander Teplyaev) *Energy partition on fractals*, Indiana University Mathematics Journal 52 (2003), 133–156.
- R91 *Function spaces on fractals*, Journal of Functional Analysis 198 (2003), 43–83.
- R92 (with Richard Oberlin and Brian Street) *Sampling on the Sierpinski gasket*, Experimental Mathematics 12 (2003), 403–418.
- R93 *Fractafolds based on the Sierpinski gasket and their spectra*, Transactions American Mathematical Society 355 (2003), 4019–4043.
- R94 (with P. Edward Herman and Roberto Peirone) *p -energy and p -harmonic functions on Sierpinski gasket type fractals*, Potential Analysis 20 (2004), 125–148.
- R95 (with Carto Wong) *The p -Laplacian on the Sierpinski gasket*, Nonlinearity 17 (2004), 595–616.
- R96 (with Robert Meyers and Alexander Teplyaev) *Dirichlet forms on the Sierpinski gasket*, Pacific Journal of Mathematics 217 (2004), 149–174.
- R97 (with Jonathan Needleman, Alexander Teplyaev and Po-Lam Yung) *Calculus on the Sierpinski gasket I: polynomials, exponentials and power series*, Journal of Functional Analysis 215 (2004), 290–340.
- R98 (with Kevin Coletta and Kealey Dias) *Numerical analysis on the Sierpinski gasket, with applications to Schrödinger equation, wave equation and Gibbs' phenomenon*, Fractals 12 (2004), 413–449.
- R99 *Analysis on products of fractals*, Transactions American Mathematical Society 357 (2005), 571–615.
- R100 *Laplacians on fractals with spectral gaps have nicer Fourier series*, Mathematical Research Letters, 12 (2005), 269–274.
- R101 (with Kasso Okoudjou) *Weak uncertainty principles on fractals*, Journal of Fourier Analysis and Applications, 11 (2005), 315–331.
- R102 (with Shawn Drenning, Judith Palagallo and Thomas Price) *Outer boundaries of self-similar tiles*, Experimental Mathematics, 14 (2005), 199–209.
- R103 *Solvability for differential equations on fractals*, Journal d'Analyse Mathématique, 96 (2005), 247–267.
- R104 (with Nitsan Ben-Gal, Abby Shaw-Krauss, and Clint Young) *Calculus on the Sierpinski gasket II: point singularities, eigenfunctions, and normal derivatives of the heat kernel*, Transactions American Mathematical Society, 358 (2006), 3883–3936.
- R105 *Convergence of mock Fourier series*, Journal d'Analyse Mathématique, 20 (2006), 333–353.

- R106 (with Kasso Okoudjou) *Asymptotics of eigenvalue clusters for Schrodinger operators on the Sierpinski gasket*, Proceedings American Mathematical Society, 135 (2007), 2453–2459.
- R107 (with Brian Bockelman) *Partial differential equations on products of Sierpinski gaskets*, Indiana University Mathematics Journal, 56 (2007), 1361–1375.
- R108 (with Mihai Cucuringu) *Self-similar energy forms on the Sierpinski gasket with twists*, Potential Analysis, 27 (2007), 45–60.
- R109 (with Carlos Avenancio–Leon) *Local behavior of harmonic functions on the Sierpinski gasket*, Illinois Journal of Mathematics, 51 (2007), 1061–1075.
- R110 (with Jonas Azzam and Michael Hall) *Conformal energy, conformal Laplacian, and energy measures on the Sierpinski gasket*, Transactions American Mathematical Society, 360 (2008), 2089–2130.
- R111 (with Anna Blasiak and Baris Evren Ugurcan) *Spectra of self-similar Laplacians on the Sierpinski gasket with twists*, Fractals, 16 (2008), 43–68.
- R112 (with Mihai Cucuringu) *Infinitesimal resistance metrics on Sierpinski gasket type fractals*, Analysis, 28 (2008), 319–331.
- R113 (with Luke Rogers and Alexander Teplayaev) *Smooth bumps, a Borel theorem, and partitions of smooth functions on p.c.f. fractals*, Transactions American Mathematical Society, 361 (2009), 1765–1790.
- R114 (with Jessie DeGrado and Luke Rogers) *Gradients of Laplacian eigenfunctions on the Sierpinski gasket*, Proceedings of the American Mathematical Society, 137 (2009), 531–540.
- R115 (with Kasso Okoudjou and Luke Rogers) *Generalized eigenfunctions and a Borel theorem on the Sierpinski gasket*, Canadian Mathematical Bulletin, 52 (2009), 105–116.
- R116 (with Edward Fan and Zuhair Khandker) *Harmonic oscillators on infinite Sierpinski gaskets*, Communications in Mathematical Physics, 287 (2009), 351–382.
- R117 (with Adam Allan and Michael Barany) *Spectral operators on the Sierpinski gasket I*, Complex Variables and Elliptic Equations, 54 (2009), 521–543.
- R118 *A fractal quantum mechanical model with Coulomb potential*, Communications on Pure and Applied Analysis, 8 (2009), 743–755.
- R119 *Periodic and almost periodic functions on infinite Sierpinski gaskets*, Canadian Journal of Mathematics, 61 (2009), 1182–1200.
- R120 (with Huo-Jun Ruan) *Covering maps and periodic functions on higher dimensional Sierpinski gaskets*, Canadian Journal of Mathematics, 61 (2009), 1151–1181.
- R121 (with Shawn Drenning) *Spectral decimation on Hambly’s homogeneous hierarchical gaskets*, Illinois Journal of Mathematics, 53 (2009), 915–937.
- R122 (with Tyrus Berry and Steven Heilman) *Outer approximation of the spectrum of a fractal Laplacian*, Experimental Mathematics, 18 (2009), 449–480.
- R123 (with Marius Ionescu, Erin P.J. Pearse, Luke G. Rogers and Huo-Jun Ruan) *The resolvent kernel for pcf self-similar fractals*, Transactions of the American Mathematical Society, 362 (2010), 4451–4479.
- R124 *Waves are recurrent on noncompact fractals*, Journal of Fourier Analysis and Applications, 16 (2010), 148–154.
- R125 (with Shu Tong Tse) *Local behavior of smooth functions for the energy Laplacian on the Sierpinski gasket*, Analysis, 30 (2010), 285–299.
- R126 (with Steven M. Heilman) *Homotopies of eigenfunctions and the spectrum of the Laplacian on the Sierpinski carpet*, Fractals, 18 (2010), 1–34.
- R127 (with Ying Ying Chan) *Homeomorphisms of fractafolds*, Fundamenta Mathematicae, 209 (2010), 177–191.
- R128 (with Kasso A. Okoudjou and Luke G. Rogers) *Szegő limit theorems on the Sierpinski gasket*, Journal of Fourier Analysis and Applications, 16 (2010), 434–447.
- R129 *Transformation of spectra of graph Laplacians*, Rocky Mountain Journal of Mathematics, 40 (2010), 2037–2062.
- R130 (with Luke Rogers) *Distribution theory on P.C.F. fractals*, Journal d’Analyse Mathématique, 112 (2010), 137–191.

- R131 (with Sarah Constantine and Miles Wheeler) *Analysis of the Laplacian and spectral operators on the Vicsek set*, Communications on Pure and Applied Analysis, 10 (2010), 1–44.
- R132 (with Steven M. Heilman and Philip Owrutsky) *Orthogonal polynomials with respect to self-similar measures*, Experimental Mathematics, 20 (2011), 238–259.
- R133 (with Taryn C. Flock) *Laplacians on a family of Julia sets I*, Transactions of the American Mathematical Society, 364 (2012), 3915–3965
- R134 (with Alexander Teplyaev) *Spectral analysis on infinite Sierpinski fractafolds*, Journal d'Analyse Mathématique, 116 (2012), 255–297
- R135 *Spectral asymptotics revisited*, Journal of Fourier Analysis and Applications, 18 (2012), 626–659
- R136 *Exact spectral asymptotics on the Sierpinski gasket*, Proceedings American Mathematical Society, 140 (2012), 1749–1755.
- R137 (with Justin Owen) *Boundary value problems for harmonic functions on a domain in the Sierpinski gasket*, Indiana University Mathematics Journal, 61 (2012), 319–335
- R138 (with Tarik Aougab and Chu Yue Dong) *Laplacians on a family of Julia sets II*, Communications on Pure and Applied Analysis, 12 (2013), 1–58.
- R139 (with Kasso Okondjou and Elizabeth K. Tuley) *Orthogonal polynomials on the Sierpinski gasket*, Constructive Approximation, 37 (2013), 311–340.
- R140 (with Calum Spicer and Emad Totari) *Laplacians on Julia Sets III: Cubic Julia sets and formal matings*, Contemporary Mathematics 600 (2013), 327–348.
- R141 (with Matthew Begué and Tristan Kalloniatis) *Harmonic functions and the spectrum of the Laplacian on the Sierpinski carpet*, Fractals, 21 (2013), 13500023 (32 pages).
- R142 (with Hua Qiu) *Mean value properties of harmonic functions on Sierpinski gasket type fractals*, Journal of Fourier Analysis and Applications, 19 (2013), 943–966.
- R143 (with Marius Ionescu and Luke G. Rogers) *Pseudo-differential operators on fractals*, and other metric measure spaces, Revista Matematica Iberoamericana, 29 (2013), 1159–1190.
- R144 (with Skye Aaron, Zach Conn, and Hui Yu), *Hodge-deRham theory on fractal graphs and fractals*, Communications on Pure and Applied Analysis, 13 (2014), 903–928.
- R145 (with Weilin Li) *Boundary value problems on a half Sierpinski gasket*, Journal of Fractal Geometry, 1 (2014), 1–43.
- R146 (with Renee Bell and Ching-Wei Ho) *Energy measures of harmonic functions on the Sierpinski gasket*, Indiana University Mathematics Journal, 63 (2014), 831–868.
- R147 (with Pak Hin Li, Nicholas Ryder and Baris Evren Ugurcan) *Extensions and their minimizations on the Sierpinski gasket*, Potential Analysis, 41 (2014), 1167–1201.
- R148 (with Zijian Guo, Rachel Kogan, and Hua Qiu) *Boundary value problems for a family of domains in the Sierpinski gasket*, Illinois Journal of Mathematics, 58 (2014), 487–519.
- R149 (with Denali Molitor and Nadia Ott) *Using Peano curves to construct Laplacians on fractals*, Fractals, 23 (2015), 1550048 (29 pp).
- R150 (with Jason Bello and Yiran Li) *Hodge-deRham theory of k -forms on carpet type fractals*, Excursions in Harmonic Analysis, Vol 3, 23–62, Appl. Numer. Harmon. Anal., Birkhauser (2015).
- R151 *Another way to look at spectral asymptotics on spheres*, Journal of Fourier Analysis and Applications, 21 (2015), 401–404.
- R152 (with Sujay Jayakar) *Average number of lattice points in a disk*, Communications on Pure and Applied Analysis, 15 (2016), 1–8.
- R153 *Average error for spectral asymptotics on surfaces*, Communications on Pure and Applied Analysis, 15 (2016), 9–39.
- R154 (with Robert Ravier) *Sampling theory with average values on the Sierpinski gasket*, Constructive Approximation, 44 (2016), 159–194.

- R155 “*Graph paper*” *trace characterizations of functions of finite energy*, Journal d’Analyse Mathématique, 128 (2016), 239–260.
- R156 *Spectral asymptotics on compact Heisenberg manifolds*, Journal of Geometric Analysis, 26 (2016), 2450–2458.
- R157 *Half sampling on bipartite graphs*, Journal of Fourier Analysis and Applications, 22 (2016), 1157–1173.
- R158 (with Sophia Zhu) *Spectrum of the Laplacian on the Vicsek set “with no loose ends”*, Fractals 25 (2017), 1750062 (15 pages).
- R159* (with Timothy Murray), *Spectral asymptotics of the Laplacian on surfaces of constant curvature*, Communications on Pure and Applied Analysis, to appear.
- R160* (with Samantha Fairchild, Ilse Haim, Rafael G. Setra and Travis Westuru) *The abelian sandpile model on fractal graphs*, submitted for publication.
- R161* (with Jens Malmquist) *Numerical integration for fractal measures*, Journal of Fractal Geometry, to appear.
- R162* (with Jonathan Fox) *Unexpected spectral asymptotics for wave equations on certain compact spacetimes*, Journal d’Analyse Mathématiques, to appear.
- R163* (with Sizhen Fang, Dylan A. King, and Eun Bi Lee) *Spectral decimation for families of self-similar symmetric laplacians on the sierpinski gasket*, submitted for publication.
- R164* (with Yiran Mao, Levente Szabo and Wing Hong Wong) *Analysis on the Projective octagasket*, submitted for publication.
- R165* *Defining curvature as a measure via Gauss-Bonnet on certain singular surfaces*, submitted for publication.

Expository Publications

- E1 *Radon inversion — variations on a theme*, American Mathematical Monthly, 89 (1982), 377–384, 420–423.
- E2 *Para-differential operators — Another step forward for the method of Fourier*, Notices of the American Mathematical Society, 29 (1982), 402–406.
- E3 *Mathematics on display*, Mathematical Intelligencer, 5 (1983), 37–40.
- E4 *What’s up, moonface?*, UMAP Journal, 6 (1985), 3–34.
- E5 *Realms of mathematics: elliptic, hyperbolic, sub-elliptic*, Mathematical Intelligencer, 9 (1987), 56–64.
- E6 Book review of “*Noncommutative harmonic analysis*” by Michael E. Taylor, Bulletin of the American Mathematical Society, 17 (1987), 152–156.
- E7 (with R. R. Coifman, G. Graziosi and J. Hallquist) *The School of Zygmund* in “A Century of Mathematics in America III”, American Mathematical Society (1989), 343–368.
- E8 Book review of “*Heat kernels and spectral theory*”, by E. B. Davis, Bulletin (New Series) of the American Mathematical Society, 23 (1990), 222–227.
- E9 *How to make wavelets*, American Mathematical Monthly, 100 (1993), 539–556.
- E10 *Construction of Orthonormal Wavelets. Wavelets: Mathematics and Applications*, (J. Benedetto and M. Frazier, eds.) (1993), CRC Press.
- E11 *Self-similarity in harmonic analysis* (Survey article), Journal of Fourier Analysis and Applications, 1 (1994), 1–37.
- E12 *Analysis on fractals*, Notices American Mathematical Society 46 (1999), 1199–1208.
- E13 *Evaluating integrals using self-similarity*, American Mathematical Monthly, 107 (2000), 316–326.
- E14 (with Steven M. Heilman) *Localized eigenfunctions: here you see them, there you don’t*, Notices American Mathematical Society, 57 (2010) 624–629.
- E15 *Bochner’s “Formalism” Illustrated: from the Pythagorean Theorem to Fourier Series to Wavelets*, in “I, Mathematician vol 2”, (2016) 41–65, Peter Casazza, Steve G. Krantz and Randi D. Ruden, editors, COMAP.

Unpublished Educational Materials

- U1 *The bouncing ball — an exercise in mathematical modeling*
- U2 *What to do till the topologist comes (mathematical activities for children)*.

Books

- B1 *A guide to distribution theory and Fourier transforms*, World Scientific Publishing, 2003 (reprinted from 1993 CRC Press edition).
- B2 *The way of analysis*, Jones and Bartlett Publishers, 1995.
- B3 *Differential equations on fractals: a tutorial*, Princeton University Press, 2006.

Web Sites

(created by students working under my supervision)

- W1 Michael Gibbons and Arjun Raj, *The finite element method on the Sierpinski gasket* (1999), <http://www.mathlab.cornell.edu/>
- W2 Nina (Tillman) Huang, *Sampling theory for functions with fractal spectrum* (2000), <http://www.mathlab.cornell.edu/~tillman/>
- W3 Gregory Padowski, *Harmonic mappings of the Sierpinski gasket* (2000), <http://www.mathlab.cornell.edu/~gp36>
- W4 Scott Bailey and Theodore Kim, *Lévy's dragon* (2001),
<http://www.mathlab.cornell.edu/~twk6/>
- W5 P. Edward Herman, *p -energy on the Sierpinski gasket* (2001),
<http://www.mathlab.cornell.edu/~eddie/>
- W6 Richard Oberlin and Brian Street, *Sampling on the Sierpinski gasket* (2001), <http://www.mathlab.cornell.edu/~brian/sampling/>
- W7 Alex Smith, *The finite element method on the pentagasket* (2002),
<http://www.mathlab.cornell.edu/~sas60>
- W8 Carto Wong, *p -Laplacian on the Sierpinski gasket* (2002),
<http://www.mathlab.cornell.edu/~carto/>
- W9 Jonathan Needleman and Polam Yung, *Polynomials and power series on the Sierpinski gasket* (2002), <http://www.mathlab.cornell.edu/>
- W10 Kevin Coletta, *The finite element method on the Sierpinski gasket* (2002), <http://www.mathlab.cornell.edu/~coletk/>
- W11 Kealey Dias, *Fourier series on fractals* (2003),
<http://www.mathlab.cornell.edu/~kdias/>
- W12 Nitsan Ben-Gal, *Normal derivatives and polynomials on the Sierpinski gasket* (2003), www.math.cornell.edu/~bengal/
- W13 Abby Shaw-Krauss, *Singularities at periodic points of the Sierpinski gasket* (2003), www.math.cornell.edu/~abbysk/
- W14 Clint Young, *Infinite blow-ups of the Sierpinski gasket* (2003),
www.math.cornell.edu/~bj94192/
- W15 Brian Bockelman, *Finite element method* (2003),
www.math.cornell.edu/~stu28041/fem/index.htm
- W16 Shawn Drenning, *Self Similar Tiles and Fractal Analysis* (2004 – 2009),
www.math.cornell.edu/~sld32
- W17 Michael Hall, *Conformal energy, conformal Laplacian and energy measures on the Sierpinski gasket* (2005),
www.math.cornell.edu/~mhall
- W18 Tyrus Berry, *Outer approximation* (2005),
www.math.cornell.edu/~thb9d
- W19 Carlos Avenancio-Leon, *Local behavior of harmonic functions on the Sierpinski gasket* (2005),
www.math.cornell.edu/~avenancioleon

- W20 Philip Owrutsky, *Orthogonal polynomials on singular measures* (2006),
www.math.cornell.edu/~orthopoly
- W21 Anna Blasiak, *Self-similar Laplacians on the Sierpinski gasket with twists* (2006),
www.math.cornell.edu/~reu/twists
- W22 Zuhair Khandker, *Harmonic oscillators on infinite Sierpinski gaskets* (2006),
www.math.cornell.edu/~khandker
- W23 Steven M. Heilman, *Math Research* (2007-2009),
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- W24 Taryn C. Flock, *Laplacian on a family of quadratic Julia sets* (2008),
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