

**CURRICULUM VITAE**

**NAME:** Stephen Albert Fulling  
**DATE OF BIRTH:** April 29, 1945  
**PLACE OF BIRTH:** Evansville, Indiana  
**CITIZENSHIP** U.S.  
**MARITAL STATUS:** Single

**CURRENT OFFICE ADDRESS, ETC.**

Department of Mathematics  
 Texas A&M University  
 College Station, TX 77843-3368  
  
 620H Blocker Building  
 (979) 220-9606  
 fulling@math.tamu.edu  
<http://www.math.tamu.edu/~fulling/>

**CURRENT HOME ADDRESS AND TELEPHONE NUMBER**

1409 Lemon Tree Lane  
 College Station, Texas 77840-4445  
 (979) 696-0109

**EDUCATION**

| <b>Degree</b> | <b>University</b>                      | <b>Year</b> |
|---------------|--|-------------|
| A.B.          | Harvard College, Summa cum Laude       | 1967        |
| M.A.          | Princeton University, Dept. of Physics | 1969        |
| Ph.D.         | Princeton University, Dept. of Physics | 1972        |

**PROFESSIONAL EMPLOYMENT**

|       |  |
|-------|--|
| 1984- | Professor, Mathematics Department,<br>Texas A&M University           |
| 2000- | Professor (by courtesy), Physics Department,<br>Texas A&M University |

|                   |  |
|-------------------|--|
| Spring 2010, 2012 | On leave (on campus)   |
| Fall 2008         | On leave (visited various institutions)  |
| Spring 2007       | Faculty Development Leave, Isaac Newton Institute for Mathematical Sciences, University of Cambridge |
| Spring 2003       | On leave, Mathematical Sciences Research Institute, University of California – Berkeley              |
| Fall 1999         | Faculty Development Leave (visited various institutions)   |
| Fall 1989         | Faculty Development Leave (visited various institutions)   |
| Fall 1984         | On leave, Mathematics Department, State University of New York – Stony Brook                         |
| Spring 1981       | On leave, Institute for Theoretical Physics, University of California – Santa Barbara                |
| 1979-1984         | Associate Professor, Mathematics Department, Texas A&M University (tenured 1982)                     |
| 1976-1979         | Assistant Professor, Mathematics Department, Texas A&M University                                    |
| 1974-1976         | Research Assistant (=postdoc.), Mathematics Dept., King's College, University of London              |
| 1973-1974         | (simultaneous with below) Part-time Lecturer, University of Wisconsin–Milwaukee, Physics Dept.       |
| 1972-1974         | Postdoctoral Fellow, Physics Department, University of Wisconsin–Milwaukee                           |

## **SOCIETY MEMBERSHIPS**

Royal Society of Sciences at Uppsala [Sweden], elected 2004  
Phi Beta Kappa  
Sigma Xi  
American Association of Physics Teachers  
American Physical Society and its  
    Division of Particles and Fields,  
    Division of Cosmic Physics,  
    Topical Group on Gravitation,  
    Forum on the History of Physics,  
    Forum on Physics and Society  
American Association for the Advancement of Science  
Mathematical Association of America

## **INVITED CONFERENCE ADDRESSES**

Workshop on Quantum Field Theory in Curved Space-Time, University of British Columbia, July, 1977.

Invited participant, **est** Foundation Conference on Geometry, Gravity and Field Theory, San Francisco, January, 1978.

Seminar on Quantum Gravity, USSR Academy of Sciences, Moscow, December, 1978.

Albert Einstein Symposium, Rosario, Argentina, July, 1979.

Symposium on Gauge Theory and Gravitation, Nara, Japan, August, 1982.

Induced Gravitation Workshop, Erice, Italy, October, 1983.

Joint Fall Meeting, Texas Sections, American Physical Society and Association of Physics Teachers, College Station, Symposium on Mathematical Physics, November, 1985 (also helped organize the session).

Western States Mathematical Physics Meeting, CalTech, May, 1986.

Conference on Cosmology and Particle Physics, Fermilab, May, 1987.

Workshop on Quantum Gravity Theory and Computer Symbolic Manipulation, National Center for Supercomputing Applications, U. of Illinois, August, 1987.

Canadian Association of Physicists' Summer Institute in Theoretical Physics, Queens University, Kingston, Ontario, July, 1989.

American Mathematical Society Regional Meeting, Special Session on Geometric Inequalities and Convex Bodies, Denton, Texas, November, 1990.

Third Colloquium on Differential Equations, Plovdiv, Bulgaria, August, 1992.

American Mathematical Society Central Section Meeting, Special Session on Nonlinear Partial Differential Equations, College Station, Texas, October, 1993.

Invited participant, Conference on Heat Kernel Techniques and Quantum Gravity, Winnipeg, Manitoba, Canada, August, 1994.

Sixth International Seminar on Quantum Gravity, Moscow, Russia, June, 1995.

The Richard Arnowitt Fest, Texas A&M, April, 1998.

Invited participant, Workshop on Quantum Optics, Jackson Hole, July, 1999.

International Conference "Quantization, Gauge Theory and Strings" Dedicated to the Memory of Professor Efim Fradkin, Moscow, June, 2000.

Minisymposium in Honor of Leonard Parker, Oakland University, Michigan, October, 2000.

Informal talk in last-day discussion, International Meeting on Quantum Gravity and Spectral Geometry, Naples, July, 2001.

Workshop on Quantum Optics, Jackson Hole, Wyoming, August, 2001.

Invited participant, S. W. Hawking birthday conferences, Cambridge, 2002 and 2012.

Texas Geometry and Topology Meeting, Texas Tech, April, 2002.

Workshop on Casimir Forces, Harvard–Smithsonian Center for Astrophysics, November, 2002.

American Mathematical Society Southeastern Section Meeting, Special Session on Asymptotic Analysis, Stability, and Generalized Functions, Baton Rouge, March, 2003.

Workshop on Asymptotic Analysis, Stability, and Generalized Functions, Louisiana State U., Baton Rouge, March, 2003.

American Mathematical Society Western Section Meeting, Special Session on Spectral Geometry, Albuquerque, October, 2004.

35th Winter Colloquium on the Physics of Quantum Electronics, Snowbird, Utah, January, 2005.

Brian G. Wybourne Commemorative Meeting, Torun, Poland, June, 2005.

AMS-IMS-SIAM Joint Summer Research Conference on Quantum Graphs and Their Applications, Snowbird, Utah, June, 2005.

Princeton-TAMU Bose-Einstein Condensation Symposium, Princeton, New Jersey, October, 2005.

Conference on Heat Kernels in Mathematics and Physics, Blaubeuren, Germany, November, 2006.

Workshop on Quantum Graphs, their Spectra and Applications, Newton Institute, Cambridge, England, March, 2007.

Invited participant, Program on The Theory and Practice of Fluctuation-Induced Interactions, Kavli Institute for Theoretical Physics, University of California – Santa Barbara, November, 2008.

Fourth International Sakharov Conference on Physics, Moscow, Russia, May 2009.

9th Workshop on Quantum Field Theory under the Influence of External Conditions, Norman, Oklahoma, September, 2009.

XXVII Physics Meeting in the North-Northeast Brazil, Belém, Brazil, November, 2009.

MiltonFest on Nonperturbative Quantum Field Theory, U. of Oklahoma, Norman, April, 2010.

Analysis on Graphs and Its Applications – Follow-up Meeting, Newton Institute, Cambridge, July, 2010.

10th Workshop on Quantum Field Theory under the Influence of External Conditions, Benasque, Spain, September, 2011.

## OTHER ADDRESSES

Colloquium and seminar talks at universities (other than TAMU math. dept.):

- 1974: Colorado, Utah, Maryland, Johns Hopkins
- 1975: Oxford, Cambridge, Bern
- 1976: Wisconsin (Milwaukee), Chicago, Imperial College (London), Cambridge, University College (Cardiff), Paris (Institute Henri Poincare), Princeton
- 1977: Texas (Austin), Alberta (Edmonton), Texas A&M (Physics Dept.)
- 1979: Texas (Austin), Rice
- 1980: Wisconsin (Milwaukee), Chicago
- 1981: North Carolina (Chapel Hill), Manitoba (Winnipeg)
- 1982: Princeton
- 1984: Maryland, SUNY (Stony Brook)
- 1989: Manitoba, Case-Western Reserve (Cleveland)
- 1990: Oregon (Eugene), Oregon State (Corvallis)
- 1991: Texas A&M (Oceanography Dept.)
- 1992: Texas A&M (Physics Dept.)
- 1993: Alberta
- 1994: Texas A&M (Chemistry Dept.), Texas (Austin)
- 1995: Alberta, Texas A&M (Physics Club)
- 1999: Manitoba (Winnipeg), Texas A&M (Quantum Optics seminar), Costa Rica (San José)
- 2001: Texas A&M (Quantum Computation seminar), Texas A&M (College of Science, report on TMI grant)
- 2003: MSRI (Semiclassical Analysis seminar)
- 2006: Bristol
- 2007: Sussex, York, Cambridge (INI)
- 2008: Minnesota (IMA), California (Santa Barbara), California (KITP Santa Barbara)
- 2010: Tulane

American Physical Society Annual Meeting, Chicago, 1974

Eighth International Conference on General Relativity and Gravitation, Waterloo, 1977

Texas Partial Differential Equations Meeting, 1978, 1982, 1983, 1987, 1990, 1995, 1998, 2004

New Orleans Conference on Quantum Theory and Gravitation, 1979

Birmingham Conference on Spectral Theory of Differential Operators, 1981

Western States Mathematical Physics Meeting, CalTech, 1982

XIIIth International Colloquium on Group Theoretical Methods in Physics, College Park, 1984

Birmingham Conference on Differential Equations and Mathematical Physics, 1986, 1990, 1999

First International Conference on the Physics of Phase Space, College Park, 1986

International Symposium on Asymptotic and Computational Analysis, Winnipeg, 1989

T<sub>E</sub>X Users' Group Annual Meeting, College Station, 1990

Fourth Canadian Conference on General Relativity and Relativistic Astrophysics,  
 University of Winnipeg, 1991  
 Conference on Quantized Geometry, Ohio State University, 1991  
 Second International Wigner Symposium, Goslar, Germany, 1991  
 UAB–Georgia Tech Conference on Differential Equations and Mathematical  
 Physics, 1992  
 Summer School on Mathematical Quantum Theory, University of British Columbia,  
 1993  
 Cornelius Lanczos International Centenary Conference, North Carolina State  
 University (Raleigh), 1993  
 International Conference on Symmetry in Nonlinear Mathematical Physics,  
 Kiev, Ukraine, 1995  
 Internet Awareness Week, Texas A&M University, 1995  
 Conference on Combinatorics and Physics, Los Alamos, 1998  
 Fourth Workshop on Quantum Field Theory under the Influence of External  
 Conditions, Leipzig, Germany, 1998  
 Eyvind H. Wichmann Symposium, Berkeley, 1999  
 TeX Users Group Annual Meeting, Vancouver, 1999 (also organized and moderated a  
 panel discussion)  
 International Meeting on Quantum Gravity and Spectral Geometry, Naples, July, 2001.  
 QMath-8, Taxco, Mexico, December, 2001.  
 Sixth Workshop on Quantum Field Theory under the Influence of External Conditions,  
 U. Oklahoma, Norman, September, 2003.  
 Workshop on Semiclassical Approximation and Vacuum Energy, Texas A&M, January,  
 2005 (2 pedagogical talks and a research talk)  
 Seventh Workshop on Quantum Field Theory under the Influence of External  
 Conditions, Barcelona, Spain, September, 2005  
 Oklahoma-Texas-Louisiana Quantum Vacuum Research Group, Norman, Oklahoma,  
 June, 2006; College Station, Texas, August, 2008; June, 2009; July, 2010  
 Workshop on Spectral Theory and Its Applications, Newton Institute,  
 Cambridge, England, July, 2006  
 Midwest Geometry Conference (in memory of T. Branson), Iowa City, May, 2007  
 Eighth Workshop on Quantum Field Theory under the Influence of External  
 Conditions, Leipzig, Germany, September, 2007  
 International Conference on Spectral Geometry, Dartmouth, 2010

## GRANTS

College of Science Organized Research Funds, salary support, summer 1977 and spring semester 1979.

National Science Foundation Grant, August, 1977–January 1980. Renewed, April 1980–September 1982; July 1982–December 1984; June 1984–May 1986.

Sun Microsystems, equipment donation for Large-Scale Symbolic Computation, in collaboration with S.M. Christensen (NCSA, U. of Illinois) and L. Parker (U. of Wisconsin-

Milwaukee), 1989.

NATO Grant for International Collaboration in Research, with T. A. Osborn (U. of Manitoba), 1989 (renewed 1991).

TAMU Research Mini-Grant (undergraduate research assistant), summer 1993.

National Academy of Sciences – National Research Council COBASE Project Development Grant (visit of V. P. Gusynin from Ukraine), July 1994.

College of Science Research Enhancement Funds (graduate research assistant), summer 1996.

College of Science Technology-Mediated Instruction Materials Funds, summer 2001.

National Science Foundation, Workshop on Semiclassical Approximation and Vacuum Energy, Texas A&M, January 2005.

National Science Foundation, Collaborative Research: Quantum Vacuum Energy (linked to grant at U. of Oklahoma Physics Dept.), June 2006–present.

### **SERVICE (DEPARTMENTAL, UNIVERSITY, PROFESSIONAL)**

Department of Mathematics Outstanding Service Award, 2011.

Frequent referee for Physical Review D, Physical Review Letters, Journal of Physics A, Journal of Mathematical Physics, and other journals, and for various granting agencies. Certificate of Recognition as an Outstanding Referee for the Journals of the American Physical Society, 2008.

Associate Editor, Journal of Mathematical Analysis and Applications, May 2009–.

Frequent member of graduate-student committees (for oral examinations), mostly in the physics department.

External examiner on 3 Ph.D. dissertations for Canadian physics departments (British Columbia, Manitoba, Alberta), and one for the Mathematics Department of SUNY – Buffalo.

Course coordinator, Math 151–253 (engineering calculus), Fall 1978–Fall 1979.

Author of report to Dean of College of Science on instructional practices and teaching loads in the department, Fall 1979.

Developed upper-level course, Math 489Q/689Q/460, for science majors (Hilbert space, self-adjoint operators, eigenfunction expansions, group representations). Related 685 and 485 supervisions. Related textbook in preparation.

Helped design Math 640–642 sequence (analysis for applications) and Math 624 and 460 (tensors and general relativity).

Major revision of Math 401, particularly inclusion of perturbation theory for differential equations (1988).

Math 689, applied pseudodifferential operators (1994, 2000).

Foundation Coalition Freshman Team, 1996–1998.

Textbook for Math 311 (linear algebra with analysis applications) published 2000.

Participated in revision of Math 312 (renumbered 412) (2001), review of Math 311 and related courses (2003), design of a writing-intensive option for Math 467 (2009), splitting of Math 311 into Math 311 and Math 309 (2010).

Course coordinator, Math 152, Spring 2001 and Fall 2002.

Chair, committee to respond to planned withdrawal of physics majors from upper-level math courses, 2008. This assignment morphed into a continuing effort to rationalize our offerings (math minor and double major) for physics majors and to recruit therefor.

Active in organization of various seminars.

Host for 5 Frontiers in Mathematics visitors (H. Widom, M. Gutzwiller, R. Wald, J. Lyness, S. de Bièvre).

Mentor to 5 postdocs (S. Ruijsenaars, B. Bourgeois, G. Kennedy, M. Radzikowski, J. Wagner)

Mathematics Department Executive Committee, 1995–1996, 2010–2012

Subcommittee P (promotion to professor), 1988, 1991, 2010–2012

Subcommittee T (promotion and tenure), 1998 and 1999

Teaching Evaluation Committee, 2003–2005

Awards Committee, 2005–2006, 2007–2009

Undergraduate Studies Committee, 2009–2010

Mathematics Department hiring committees, several occasions, most recently 1994.

Faculty Senate, 1983–1988

Planning Committee, 1983–1987 (Chair 1986–1987)

Governance and Administration Subcommittee (chair), 1985–1986

Executive Committee, 1985–1986

Minority Conditions Subcommittee, 1985–1986

Academic Affairs Committee, 1987–1988

Core Curriculum Oversight Subcommittee, 1988–1989 (Chair 1988)

University Research Standards Officer, 1999–2006, 2008–

*Spectrum* (College of Science publication) Editorial Board, 1987–1989

Search Committee for Director of Center for Theoretical Physics, 1983–1985

Physics Head Search Committee, 1987–1988

Math Head Evaluation Committee, 1988

Math Head Search Committees, 1991–1993

Bakelman Memorial Symposium organizing committee, 1993

International advisory committee, Second International Wigner Symposium, Goslar, Germany, 1991

Conference organizing committee, Heat Kernel Techniques and Quantum Gravity, Winnipeg, Manitoba, Canada, 1994

International advisory committee, International Meeting on Quantum Gravity and Spectral Geometry, Naples, Italy, 2001

Local organizing committee, Mitchell Symposium on Observational Cosmology, TAMU, April 2004.

Organizing committee and editorial board of the proceedings (*Contemporary Mathematics* **415**, 2006), AMS-IMS-SIAM Joint Summer Research Conference on Quantum Graphs and Their Applications, Snowbird, Utah, 2005.

Local organizing committee, 9th Workshop on Quantum Field Theory under the Influence of External Conditions, Norman, Oklahoma, September, 2009.

Organizing committee, AMS Special Session, Mathematical Aspects of Spectral Problems Related to Physics, Waco, Texas, October, 2009.

Organizer, Workshop on Semiclassical Approximation and Vacuum Energy, TAMU, January 12-16, 2005.

Publisher and chief editor, **Discourses in Mathematics and Its Applications** (conceived 1983, first volume 1991, more volumes 1994–5).

Phi Beta Kappa, TAMU Chapter, ad hoc bylaws committee (during the formation of the chapter), Fall 2003; Committee on Members in Course [election of students], chair 2004, member 2005–6.

## TEACHING

At the University of Wisconsin–Milwaukee: Introductory Astronomy: Fall 1973, Spring 1974.

At SUNY–Stony Brook: Calculus; Special Topics in Quantum Field Theory in Curved Space-Time: Fall 1984.

At TAMU:

|              |   |
|--------------|---|
| Fall 1976:   | Math 230 and 601                            |
| Spring 1977: | Math 308 (2 sections) and 312               |
| Fall 1977:   | Math 210 (2 sections)                       |
| Spring 1978: | Math 152 and 489Q                           |
| Fall 1978:   | Math 151 and 311                            |
| Spring 1979: | Math 312 and two 685 students               |
| Fall 1979:   | Math 253 and 311 and one 485 student        |
| Spring 1980: | Math 130 and 151                            |
| Fall 1980:   | Math 152 and 308                            |
| Fall 1981:   | Math 151 and 308                            |
| Summer 1981: | Math 602                                    |
| Spring 1982: | Math 151 and 489Q                           |
| Fall 1982:   | Math 152 and 308 and one shared 485 student |
| Spring 1983: | Math 308 and 602 and one shared 485 student |
| Fall 1983:   | Math 151 and 450                            |
| Spring 1984: | Math 151                                    |
| Spring 1985: | Math 230 and 640 and one 685 student        |
| Fall 1985:   | Math 311 and 640                            |
| Spring 1986: | Math 308 and 624                            |
| Summer 1986: | one 685 student                             |
| Fall 1986:   | Math 142 and 311                            |
| Spring 1987: | Math 308 and 311                            |
| Summer 1987: | one 685 student                             |
| Fall 1987:   | Math 311 and 640, one 685 student           |
| Spring 1988: | Math 308 and 489[Q], one 691 student        |

Fall 1988: Math 151 and 401  
 Spring 1989: Math 308 and 401  
 Spring 1990: Math 401 and 624  
 Summer 1990: three 685 students  
 Fall 1990: Math 401 and 640, one 685 student  
 Spring 1991: Math 311 and 401, one 685 student  
 Fall 1991: Math 161 and 311, two 685 students  
 Spring 1992: Math 151 and 401, one 685 student  
 Summer 1992: one 685 student  
 Fall 1992: Math 311 and 460[GR] (as 485, 7 students), one other 485 student  
 Spring 1993: Math 308 and 311  
 Fall 1993: Math 312  
 Spring 1994: Math 151 and 689  
 Fall 1994: Math 401 and 640, one 485H student  
 Spring 1995: Math 171 and 311, one 485H student  
 Fall 1995: Math 311  
 Spring 1996: Math 302 and 311  
 Summer 1996: two 685 students  
 Fall 1996: Math 151 (Coalition) and 311, one 485H student  
 Spring 1997: Math 152 (Coalition) and 612  
 Fall 1997: Math 151 (Coalition)  
 Spring 1998: Math 152 (Coalition) and 642  
 Fall 1998: Math 311 and 401 (as 485, 7 students)  
 Spring 1999: Math 311, one 485 student  
 Spring 2000: Math 311 and 689  
 Fall 2000: Math 312  
 Spring 2001: Math 152 (WebCalc) and 401  
 Fall 2001: Math 151 (WebCalc)  
 Spring 2002: Math 302 and 311 (Honors)  
 Fall 2002: Math 152 and 302  
 Fall 2003: Math 401 and 629 (Distance)  
 Spring 2004: Math 311 (Honors)  
 Summer 2004: one Physics 485 student  
 Fall 2004: Math 302 and 412  
 Spring 2005: Math 401  
 Fall 2005: Math 412 and 489[GR], three Contract Honors students in 489, one Math 685 student  
 Spring 2006: Math 401  
 Fall 2006: Math 412 (Honors) and 629 (Distance), one Math 491H student  
 Spring 2007: one Math 491H student  
 Summer 2007: one Math 685 student  
 Fall 2007: Math 412 (Stacked Honors), one Phys 685 student  
 Spring 2008: Math 151 (Distance) and 489[GR]  
 Fall 2008: two Phys 691 students  
 Spring 2009: Math 401 and 467, two Phys 691 students  
 Summer 2009: one Math 691 student  
 Fall 2009: Math 467 (Stacked W) and 489[GR], one Math 685 and one Math 691 student  
 Spring 2010: One student each in Math 685 and 691  
 Summer 2010: Two students in Math 691  
 Fall 2010: Math 467 (regular and W sections), one student each in Math 491 and 691  
 Spring 2011: Math 467(W), one Math 491 and two Math 691 students  
 Fall 2011: Math 151 and 460, two Math 485 and one Phys 485 students

## UNDERGRADUATE RESEARCH SUPERVISED

1. C. E. Dean, Math 485 with research on spectral asymptotics for Hamiltonians exhibiting resonance, 1979–80.
2. D. M. Potts, informal research on infinite-precision arithmetic via the Chinese remainder theorem, 1992–94.
3. D. M. Potts, research culminating in Undergraduate Research Fellow thesis, *Large mass approximations in quantum physics and a bridge to quantum chemistry*, 1993–95.
4. C. J. Romero, Math 485 with research on spectral Riesz means of a topologically nontrivial differential operator, 1999.
5. J. H. Wilson, Undergraduate Research Fellow thesis, *Vacuum energy in quantum graphs*, 2006–07.
6. R. B. McDonald, Undergraduate Research Scholar thesis, *Neumann nodal curves*, 2007–08.
7. C. S. Trendafilova, Undergraduate Research Scholar thesis, *Cylindrical symmetry in general relativity and vacuum energy*, 2010–11.
8. C. S. Trendafilova, Undergraduate Research Fellow thesis, *Vacuum energy for static, cylindrically symmetric systems*, 2011–12.
8. K. Thapa, Undergraduate Research Scholar thesis, *Calculation of highly oscillatory integrals by quadrature methods*, 2011–12.

## GRADUATE STUDENTS SUPERVISED

1. J. H. Sanders, nonthesis M.S. with informal research on asymptotics for matrix-valued differential operators, 1985.
2. R. B. Upson, nonthesis M.S. with informal study of numerical methods for PDEs, 1987.
3. P. A. Carinhas, nonthesis M.S. in Physics (formally supervised by A. L. Ford) with informal research on asymptotics for fourth-order differential operators, 1987.
4. S. E. Mock, nonthesis M.S. with informal research on asymptotics for differential operators with nonscalar principal symbol, 1992.
5. K. S. Güntürk, Ph.D. in Physics, *Covariant Weyl quantization, symbolic calculus, and the product formula*, 2006.
6. J. D. Bondurant, nonthesis M.S. (finance option supervised by D. DeBlassie) with informal research on mathematical physics, 2003.
7. M. Agriesti, nonthesis M.S. (distance, teaching option), 2005.
8. Z. H. Liu, M.S. in Physics, *Cylinder kernel expansion of Casimir energy with a Robin boundary*, 2006.
9. T. A. Zapata, M.S. in Physics, *The WKB approximation for a linear potential and ceiling*, 2007.
10. K. Hoerster, nonthesis M.S. (distance, teaching option), 2007.
11. K. Resil, nonthesis M.S. in Physics (formally supervised by R. E. Allen) with informal research on quantum graphs, 2007.

12. Z. H. Liu, Ph.D. in Physics, *Closed Path Approach to Casimir Effect in Rectangular Cavities and Pistons*, 2009.
13. C. Bishop, nonthesis M.S. (distance, teaching option), 2009.
14. F. D. Mera, M.S., *The Schrödinger equation as a Volterra problem*, 2011.
15. J. D. Bouas, M.S., *Hertz potentials and differential geometry*, 2011.

## PUBLICATIONS

### Papers in refereed journals

1. S. A. Fulling and G. R. Satchler, Theoretical analysis of 30 MeV proton inelastic scattering, *Nucl. Phys. A* **111**, 81–99 (1968).
2. L. Parker and S. A. Fulling, Quantized matter fields and the avoidance of singularities in general relativity, *Phys. Rev. D* **7**, 2357–2374 (1973). Reprinted in *Cosmology* (American Association of Physics Teachers, Stony Brook, 1979).
3. S. A. Fulling, Nonuniqueness of canonical field quantization in Riemannian space-time, *Phys. Rev. D* **7**, 2850–2862 (1973).
4. S. A. Fulling, Comment on ‘Probability distribution of momenta in an infinite square-well potential’, *Amer. J. Phys.* **41**, 1374–1375 (1973).
5. B. L. Hu, S. A. Fulling, and L. Parker, Quantized scalar fields in a closed anisotropic universe, *Phys. Rev. D* **8**, 2377–2385 (1973).
6. L. Parker and S. A. Fulling, Adiabatic regularization of the energy-momentum tensor of a quantized field in homogeneous spaces, *Phys. Rev. D* **9**, 341–354 (1974).
7. S. A. Fulling and L. Parker, Renormalization in the theory of a quantized scalar field interacting with a Robertson–Walker space-time, *Ann. Phys. (N.Y.)* **87**, 176–204 (1974).
8. S. A. Fulling, L. Parker and B. L. Hu, Conformal energy-momentum tensor in curved space-time: Adiabatic regularization and renormalization, *Phys. Rev. D* **10**, 3905–3924 (1974); erratum *ibid.* **11**, 1714 (1975). ,
9. S. A. Fulling, Absence of trivial subrepresentations from tensor products of unitary representations of pseudo-orthogonal groups, *J. Math. Phys.* **15**, 1567–1570 (1974).
10. S. A. Fulling, Adiabatic expansions of solutions of coupled second-order linear differential equations. I, *J. Math Phys.* **16**, 875–883 (1975).
11. S. A. Fulling, Varieties of instability of a boson field in an external potential, *Phys. Rev. D* **14**, 1939–1943 (1976).
12. S. A. Fulling and P. C. W. Davies, Radiation from a moving mirror in two-dimensional space-time: Conformal anomaly, *Proc. Roy. Soc. A* **348**, 393–414 (1976).
13. P. C. W. Davies, S. A. Fulling and W. G. Unruh, Energy-momentum tensor near an evaporating black hole, *Phys. Rev. D* **13**, 2720–2723 (1976).
14. P. C. W. Davies and S. A. Fulling, Quantum vacuum energy in two-dimensional spacetimes, *Proc. Roy. Soc. A* **354**, 59–77 (1977).

15. S. M. Christensen and S. A. Fulling, Trace anomalies and the Hawking effect, *Phys. Rev. D* **15**, 2088–2104 (1977). Reprinted in Russian in *Chyornyye Dyry* (Mir, Moscow, 1978).
16. S. A. Fulling, ‘Radiation’ and ‘vacuum polarization’ near a black hole, *Phys. Rev. D* **15**, 2411–2414 (1977). Reprinted in Russian in *Chyornyye Dyry* (Mir, Moscow, 1978).
17. S. A. Fulling, Alternative vacuum states in static space-times with horizons, *J. Phys. A* **10**, 917–951 (1977).
18. P. C. W. Davies and S. A. Fulling, Radiation from moving mirrors and from black holes, *Proc. Roy. Soc. A* **356**, 237–257 (1977).
19. P. C. W. Davies, S. A. Fulling, S. M. Christensen, and T. S. Bunch, Energy-momentum tensor of a massless scalar quantum field in a Robertson–Walker universe, *Ann. Phys. (N.Y.)* **109**, 108–142 (1977).
20. S. A. Fulling, M. Sweeny, and R. M. Wald, Singularity structure of the two-point function in quantum field theory in curved space-time, *Commun. Math. Phys.* **63**, 257–264 (1978).
21. T. S. Bunch, S. M. Christensen, and S. A. Fulling, Massive quantum field theory in two-dimensional Robertson–Walker space-time, *Phys. Rev. D* **18**, 4435–4459 (1978).
22. S. A. Fulling, Remarks on positive frequency and Hamiltonians in expanding universes, *Gen. Rel. Grav.* **10**, 807–824 (1979).
23. S. A. Fulling, Adiabatic expansions of solutions of coupled second-order linear differential equations. II, *J. Math. Phys.* **20**, 1202–1209 (1979).
24. S. A. Fulling and F. J. Narcowich, A basis for the local solutions of an elliptic equation, *J. Math. Anal. Appl.* **86**, 246–267 (1982).
25. S. A. Fulling, F. J. Narcowich, and R. M. Wald, Singularity structure of the two-point function in quantum field theory in curved space-time. II, *Ann. Phys. (N.Y.)* **136**, 243–272 (1981).
26. C. E. Dean and S. A. Fulling, Continuum eigenfunction expansions and resonances: A simple model, *Amer. J. Phys.* **50**, 540–544 (1982).
27. S. A. Fulling, The local geometric asymptotics of continuum eigenfunction expansions. I, *SIAM J. Math. Anal.* **13**, 891–912 (1982).
28. S. A. Fulling, The local geometric asymptotics of continuum eigenfunction expansions. II, *SIAM J. Math. Anal.* **14**, 780–795 (1983).
29. S. A. Fulling, The local geometric asymptotics of continuum eigenfunction expansions. III, *J. Phys. A* **16**, 2615–2631 (1983).
30. W. M. Saslow, S. A. Fulling, and C.-R. Hu, Statics and dynamics of spin and electric dipoles in three, four, and other dimensions, *Phys. Rev. B* **31**, 364–371 (1985).
31. S. A. Fulling, What is the time derivative of a quantum observable?, *Ann. Phys. (N.Y.)* **165**, 315–318 (1985).
32. S. A. Fulling, The gravitational anomaly: An elementary, coordinate-space approach, *Gen. Rel. Grav.* **18**, 609–615 (1986).

33. S. A. Fulling and S. N. M. Ruijsenaars, Temperature, periodicity, and horizons, *Phys. Reports* **152**, 135–176 (1987).
34. S. A. Fulling and G. Kennedy, The resolvent parametrix of the general elliptic linear differential operator: A closed form for the intrinsic symbol, *Transac. Am. Math. Soc.* **310**, 583–617 (1988).
35. S. A. Fulling, The analytic approach to recursion relations, *J. Symbolic Comput.* **9**, 73–85 (1990).
36. S. A. Fulling, When is stability in the eye of the beholder?, *Phys. Rev. D* **42**, 4248–4250 (1990).
37. G. Chen, S. A. Fulling, F. J. Narcowich, and C. Qi, An asymptotic average decay rate for the wave equation with variable coefficient viscous damping, *SIAM J. Appl. Math.* **50**, 1341–1347 (1990).
38. F. H. Molzahn, T.A. Osborn, and S. A. Fulling, Gauge invariant asymptotic expansion of Schrödinger propagators on manifolds, *Ann. Phys. (N.Y.)* **204**, 64–112 (1990).
39. G. Chen, S. A. Fulling, F. J. Narcowich, and S. Sun, Exponential decay of energy of evolution equations with locally distributed damping, *SIAM J. Appl. Math.* **51**, 266–301 (1991).
40. P. B. Gilkey, T. P. Branson, and S. A. Fulling, Heat equation asymptotics of ‘nonminimal’ operators on differential forms, *J. Math. Phys.* **32**, 2089–2091 (1991).
41. F. H. Molzahn, T. A. Osborn, and S. A. Fulling, Multi-scale semiclassical approximations for Schrödinger propagators on manifolds, *Ann. Phys. (N.Y.)* **214**, 102–141 (1992).
42. S. A. Fulling, R. C. King, B. G. Wybourne, and C. J. Cummins, Normal forms for tensor polynomials. I, *Class. Quantum Grav.* **9**, 1151–1198 (1992).
43. G. Chen, S. A. Fulling, and J. Zhou, Asymptotic equipartition of energy by nodal points of an eigenfunction, *J. Math. Phys.* **38**, 5350–5360 (1997).
44. S. A. Fulling, I. Borosh, and A. da Conturbia, Cataloguing general graphs by point and line spectra, *Computer Phys. Commun.* **115**, 93–112 (1998); supplementary data at URL <http://www.math.tamu.edu/~fulling/graphs/>.
45. S. A. Fulling (with appendix by R. A. Gustafson), Some properties of Riesz means and spectral expansions, *Electronic J. Diff. Eqs.* **1999**, No. 6, 1–39 (1999).
46. R. Estrada and S. A. Fulling, Distributional asymptotic expansions of spectral functions and of the associated Green kernels, *Electronic J. Diff. Eqs.* **1999**, No. 7, 1–37 (1999).
47. S. A. Fulling, Related rates collide with vectors, *College Math. J.* **31**, 116–119 (2000).
48. R. Estrada and S. A. Fulling, How singular functions define distributions, *J. Phys. A* **35**, 3079–3089 (2002).
49. S. A. Fulling, Spectral oscillations, periodic orbits, and scaling, *J. Phys. A* **35**, 4049–4066 (2002).

50. B. G. Englert, S. A. Fulling, and M. D. Pilloff, Statistics of dressed modes in a thermal state, *Optics Commun.* **208**, 139–144 (2002).
51. S. A. Fulling and K. S. Güntürk, Exploring the propagator of a particle in a box, *Amer. J. Phys.* **71**, 55–63 (2003).
52. S. A. Fulling, Systematics of the relationship between vacuum energy calculations and heat-kernel coefficients, *J. Phys. A* **36**, 6857–6873 (2003).
53. S. A. Fulling and W. G. Unruh, Comment on “Boundary conditions in the Unruh problem”, *Phys. Rev. D* **78**, 048701 (2004).
54. J. D. Bondurant and S. A. Fulling, The Dirichlet-to-Robin transform, *J. Phys. A* **38**, 1505–1532 (2005).
55. S. A. Fulling and P. Kuchment, Coincidence of length spectra does not imply isospectrality, *Inverse Problems* **21**, 1391–1395 (2005).
56. S. A. Fulling, Mass dependence of vacuum energy, *Phys. Lett. B* **624** 281–286 (2005).
57. S. A. Fulling, How to avoid the inverse secant (and even the secant itself), *College Math. J.* **36**, 381–387 (2005).
58. Z. H. Liu and S. A. Fulling, Casimir energy with a Robin boundary: The multiple-reflection cylinder-kernel expansion, *New. J. Phys.* **8**, 234 (2006).
59. S. A. Fulling, K. A. Milton, P. Parashar, A. Romeo, K. V. Shajesh, and J. Wagner, How does Casimir energy fall?, *Phys. Rev. D* **76**, 025004 (2007).
60. S. A. Fulling, L. Kaplan, and J. H. Wilson, Vacuum energy and repulsive Casimir forces in quantum star graphs, *Phys. Rev. A* **76**, 012118 (2007).
61. S. A. Fulling, P. Kuchment, and J. H. Wilson, Index theorems for quantum graphs, *J. Phys. A* **40**, 14165–14180 (2007).
62. S. A. Fulling and K. Kirsten, Comment on: “The Casimir force on a piston in the spacetime with extra compactified dimensions” [*Phys. Lett. B* 668 (2008) 72], *Phys. Lett. B* **671**, 179–180 (2009).
63. K. Kirsten and S. A. Fulling, Kaluza-Klein models as pistons, *Phys. Rev. D* **79**, 065019 (2009).
64. S. A. Fulling, L. Kaplan, K. Kirsten, Z. H. Liu, and K. A. Milton, Vacuum stress and closed paths in rectangles, pistons, and pistols, *J. Phys. A* **42**, 155402 (2009).
65. C. S. Trendafilova and S. A. Fulling, Static solutions of Einstein’s equations with cylindrical symmetry, *Eur. J. Phys.* **32**, 1663–1677 (2011).

### Invited papers in conference proceedings and other collections

1. S. A. Fulling, Two-point functions and renormalized observables, in *Gauge Theory and Gravitation*, ed. by K. Kikkawa, N. Nakanishi, and H. Nariai (Lec. Notes Phys. 176), Springer, 1983, pp. 101–106.
2. S. A. Fulling, What have we learned from quantum field theory in curved space-time?, in *Quantum Theory of Gravity*, ed. by S. M. Christensen, Hilger, 1984, pp. 42–52.

3. S. A. Fulling, Asymptotic approximations to fundamental solutions of differential equations on manifolds, in *Geometric Analysis and Nonlinear Partial Differential Equations*, ed. by I. J. Bakelman (Lec. Notes Pure Appl. Math. 144), Marcel Dekker, 1993, pp. 69–78.
4. S. A. Fulling, Kernel asymptotics of exotic second-order operators, in *Proceedings of the Third International Colloquium on Differential Equations*, ed. by D. Bainov and V. Covachev, VSP, Utrecht, 1993, pp. 63–76.
5. S. A. Fulling, Pseudodifferential operators, covariant quantization, the inescapable VanVleck–Morette determinant, and the  $\frac{R}{6}$  controversy, *Internat. J. Mod. Phys. D* **5**, 597–608 (1996) (Proceedings of the Sixth Quantum Gravity Seminar); revised and extended version in *Relativity, Particle Physics and Cosmology* (proceedings of the Richard Arnowitt Fest, College Station, 1998), ed. by R. E. Allen (World Scientific, Singapore, 1999), pp. 329–342.
6. S. A. Fulling, Reflections on the role of asymptotic analysis in physics, in *Quantization, Gauge Theory, and Strings* (Proceedings of the International Conference dedicated to the memory of Professor Efim Fradkin, Moscow, 2000), ed. by A. Semikhatov, M. Vasiliev, and V. Zaikin (Scientific World, Moscow, 2001), Vol. II, pp. 307–315.
7. S. A. Fulling, Transgressing the boundaries of quantum computation: a contribution to the hermeneutics of the NMR paradigm, in *Mathematics of Quantum Computation*, ed. by G. Chen and R. Brylinski (CRC Press, Boca Raton, 2002), pp. 367–381.
8. S. A. Fulling, B. G. Englert, and M. D. Pilloff, Interacting bosons at finite temperature: How Bogolubov visited a black hole and came home again, *Foundat. Phys.* **33**, 87–110 (2003) (volume in honor of J. D. Bekenstein).
9. S. A. Fulling, Minakshisundaram and the birth of geometric spectral asymptotics, *Indian J. Adv. Math. Ed. & Res.* **32**, 95–99 (2004) (volume of the Association of Mathematics Teachers of Andhra Pradesh in memory of S. Minakshisundaram).
10. S. A. Fulling, Review of some recent work on acceleration radiation, *J. Mod. Optics* **52**, 2207–2213 (2005) (Proceedings of 35th Winter Colloquium on the Physics of Quantum Electronics).
11. S. A. Fulling, Enumeration of tensor polynomials: A conversation with Bryan Wybourne, in *Symmetry, Spectroscopy and SCHUR*, ed. by R. C. King, M. Bylicki, and J. Karwowski (Nicolaus Copernicus University Press, Torun, 2006), pp. 107–114 (proceedings of Professor Brian G Wybourne Commemorative Meeting).
12. S. A. Fulling, Local spectral density and vacuum energy near a quantum graph vertex, in *Quantum Graphs and Their Applications*, ed. by G. Berkolaiko, R. Carlson, S. A. Fulling, and P. Kuchment, *Contemp. Math.* **415**, 161–172 (2006) (proceedings of AMS-IMS-SIAM Joint Summer Research Conference on Quantum Graphs and Their Applications).
13. R. Estrada and S. A. Fulling, Functions and distributions in spaces with thick points, *Internat. J. Appl. Math. Stat.* **10** (S07), 25–37 (2007) (L. P. Euler Tricentennial Birthday Anniversary Collection, ed. by J. M. Rassias).
14. S. A. Fulling and J. H. Wilson, Vacuum energy and closed orbits in quantum graphs,

in *Analysis on Graphs and Its Applications*, ed. by P. Exner, J. Keating, P. Kuchment, T. Sunada, and A. Teplyaev, *Proc. Symp. Pure Math.* **77**, 673–689 (2008) (volume associated with the program Analysis on Graphs and its Applications, Newton Institute, 2007).

15. S. A. Fulling, Vacuum energy density and pressure near boundaries, proceedings of 9th Workshop on Quantum Field Theory under the Influence of External Conditions. Norman, Oklahoma, 2009, *Internat. J. Mod. Phys.* **25**, 2364–2372 (2010).
16. S. A. Fulling, K. A. Milton, and J. Wagner, Energy density and pressure in power-wall models, proceedings of 10th Workshop on Quantum Field Theory under the Influence of External Conditions. Benasque, Spain, 2011, *Internat. J. Mod. Phys. Conf. Ser.*, in press.

### Contributed papers in conference proceedings and other collections

1. S. A. Fulling, Physical states and renormalized observables in quantum field theories with external gravity, in *Quantum Theory and Gravitation*, ed. by A. R. Marlow, Academic Press, 1980, pp. 187–197.
2. S. A. Fulling, The local asymptotics of continuum eigenfunction expansions, in *Spectral Theory of Differential Operators*, ed. by I. W. Knowles and R. T. Lewis (N.-H. Math. Stud. 55), North-Holland, 1981, pp. 181–187.
3. S. A. Fulling, How can the Wigner-Weyl formulation of quantum mechanics be extended to manifolds and external gauge fields?, in *XIIIth International Colloquium on Group Theoretical Methods in Physics*, ed. by W. W. Zachary, World Scientific, 1984, pp. 258–260.
4. S. A. Fulling and G. Kennedy, A closed form for the symbol of the resolvent parametrix of an elliptic operator, in *Differential Equations and Mathematical Physics*, ed. by I. W. Knowles and Y. Saito (Lec. Notes in Math. 1285), Springer, 1987, pp. 126–133.
5. S. A. Fulling and G. Kennedy, A closed form for the intrinsic symbol of the resolvent parametrix of an elliptic operator, in *The Physics of Phase Space*, ed. by Y. S. Kim and W. W. Zachary (Lec. Notes in Phys. 278), Springer, 1987, pp. 407–409.
6. P. A. Carinhas and S. A. Fulling, Computational asymptotics of fourth-order operators, in *Asymptotic and Computational Analysis*, ed. by R. Wong, Marcel Dekker, 1990, pp. 601–617.
7. S. A. Fulling, Where’s the Greek shift key?, *TUGboat* **11**, 371–372 (1990).
8. S. A. Fulling, C. J. Cummins, R. C. King, and B. G. Wybourne, Group-theoretical classification of polynomial functions of the Riemann tensor, in *Classical and Quantum Systems — Foundations and Symmetries*, ed. by H. D. Doebner, W. Scherer, and F. Schroeck, World Scientific, 1993, pp. 362–365.
9. G. Kennedy and S. A. Fulling, Structural aspects of the exponential expansion of the heat kernel, in *Heat Kernel Techniques and Quantum Gravity*, ed. by S. A. Fulling, Texas A&M Mathematics Dept., 1995, pp. 101–114.

10. S. A. Fulling, Graph expansions and graphical enumeration applied to semiclassical propagator expansions, *J. Nonlinear Math. Phys.* **3**, 102–110 (1996) (Proceedings of the International Conference on Symmetry in Nonlinear Mathematical Physics).
11. D. L. Barrow and S. A. Fulling, Using an integrated engineering curriculum to improve freshman calculus, in proceedings of the American Society for Engineering Education meeting (Seattle, 1998).
12. S. A. Fulling, What we should have learned from G. H. Hardy about quantum field theory under external conditions, in *The Casimir Effect Fifty Years Later*, ed. by M. Bordag (World Scientific, Singapore, 1999), pp. 145-154.
13. S. A. Fulling, E. V. Gorbar, and C. T. Romero, Spectral Riesz–Cesaro means: How the square root function helps us to see around the world, *Electron. J. Diff. Eqs.*, **Conf. 04**, 87-101 (2000) (proceedings of the Eyvind H. Wichmann Symposium, Berkeley, 1999).
14. S. A. Fulling, T<sub>E</sub>X and the Web in the higher education of the future: Dreams and difficulties, *TUGboat* **20**, 162–166 (1999) (proceedings of the 1999 TUG Annual Meeting).
15. S. A. Fulling, Graph and group classifications of terms in adiabatic and semiclassical expansions, *Ann. Combin.* **4**, 307–316 (2000) (proceedings of the Conference on Combinatorics and Physics, Los Alamos, 1998).
16. G. Chen, S. A. Fulling, H. Lee, and M. O. Scully, Grover’s algorithm for multiobject search in quantum computing, in *Directions in Quantum Optics* (memorial volume for Daniel Walls, including proceedings of the Workshop on Quantum Optics, Jackson, Wyoming, 1999), ed. by H. Carmichael, R. Glauber, and M. Scully (Springer, Berlin, 2000), pp. 165-176.
17. S. A. Fulling, Periodic orbits, spectral oscillations, scaling, and vacuum energy: beyond HaMiDeW, *Nucl. Phys. B (Proc. Suppl)* **104**, 161–164 (2002) (proceedings of the International Meeting on Quantum Gravity and Spectral Geometry, Naples, 2001).
18. G. Chen, S. A. Fulling, and J. Chen, Generalization of Grover’s algorithm to multi-object search in quantum computing, Part I: Continuous time and discrete time, in *Mathematics of Quantum Computation*, ed. by G. Chen and R. Brylinski (CRC Press, Boca Raton, 2002), pp. 135–160.
19. S. A. Fulling, Global and local vacuum energy and closed orbit theory, in *Quantum Field Theory under the Influence of External Conditions*, ed. by K. A. Milton (Rinton Press, Princeton, 2004), pp. 166–174.
20. S. A. Fulling, Vacuum energy and spectral analysis for Robin boundaries and quantum graphs, *J. Phys. A* **39**, 6377–6383 (2006) (proceedings of 7th Workshop on Quantum Field Theory under the Influence of External Conditions).
21. S. A. Fulling, Vacuum energy as spectral geometry, *Sym. Integ. Geom.: Meth. Appl.* **3**, 094 (2007); [arXiv:0706.2831](https://arxiv.org/abs/0706.2831) (volume associated with Midwest Geometry Conference in memory of T. Branson, 2007)
22. K. A. Milton, S. A. Fulling, K. V. Shajesh, P. Parashar, A. Romeo, and J. A. Wagner,

- Gravitational and inertial mass of Casimir energy, *J. Phys. A* **41**, 164052 (2008) (proceedings of 8th Workshop on Quantum Field Theory under the Influence of External Conditions).
23. R. Estrada, S. A. Fulling, L. Kaplan, K. Kirsten, Z. H. Liu, and K. A. Milton, Vacuum stress-energy density and its gravitational implications, *J. Phys. A* **41**, 164055 (2008) (proceedings of 8th Workshop on Quantum Field Theory under the Influence of External Conditions).
  24. J. D. Bouas, S. A. Fulling, F. D. Mera, K. Thapa, C. S. Trenafileva, and J. Wagner, Investigating the spectral geometry of a soft wall, Proceedings of the Dartmouth Conference on Spectral Geometry (2010), ed. by A. Barnett et al., *Proc. Symp. Pure Math.*, in press,

### Books

1. S. A. Fulling, *Aspects of Quantum Field Theory in Curved Space-Time*, Cambridge University Press, Cambridge, 1989.
2. S. A. Fulling (with assistance of M. N. Sinyakov and S. V. Tishchenko), *Linearity and the Mathematics of Several Variables* (text for Math. 311), World Scientific Publishing Co., Singapore, 2000.

### Books edited

1. Translation from Russian of *Introduction to Axiomatic Quantum Field Theory*, by N. N. Bogolubov, A. A. Logunov, and I. T. Todorov; W. A. Benjamin, Inc., 1975 (co-translator L.G. Popova).
2. *Forty More Years of Ramifications: Spectral Asymptotics and Its Applications*, ed. by S. A. Fulling and F. J. Narcowich, **Discourses in Mathematics and Its Applications**, No. 1, Texas A&M University, 1991.
3. *A Tribute to Ilya Bakelman*, ed. by I. R. Bakelman, S. A. Fulling, and S. D. Taliaferro, **Discourses in Mathematics and Its Applications**, No. 3, Texas A&M University, 1994.
4. *Heat Kernel Techniques and Quantum Gravity*, ed. by S. A. Fulling, **Discourses in Mathematics and Its Applications**, No. 4, Texas A&M University, 1995.
5. *Quantum Graphs and Their Applications*, ed. by G. Berkolaiko, R. Carlson, S. A. Fulling, and P. Kuchment, *Contemp. Math.* **415** (2006).

### Book reviews

1. Review of *Semi-Classical Approximation in Quantum Mechanics*, by V. P. Maslov and M. V. Fedoriuk, *Phys. in Canada* **38**, 109–110 (1982).
2. Review of *Quantum Fields in Curved Space*, by N. D. Birrell and P. C. W. Davies, *Science* **218**, 369–370 (1982).
3. Review of *Quantum Structure of Space and Time*, ed. by M. J. Duff and C. J. Isham, *Gen. Rel. Grav.* **15**, 1199 (1983).

4. Review of *Speakable and Unspeakable in Quantum Mechanics*, by J. S. Bell, *Transport Theory Stat. Phys.* **18**, 249–252 (1989).
5. Review of *Introduction to Partial Differential Equations*, by G. B. Folland, 2nd ed., *Found. Phys.* **26**, 1109–1111 (1996).
6. Review of *Mathematical Quantization*, by N. Weaver, *SIAM Rev.* **44**, 489–490 (2002).
7. Review of *Asymptotology: Ideas, Methods, and Applications*, by I. V. Andrianov and L. I. Manevitch, *Am. Math. Monthly* **111**, 271–275 (2004).
8. Review of *Spectral Functions in Mathematics and Physics*, by K. Kirsten, and *Asymptotic Formulae in Spectral Geometry*, by P. B. Gilkey, *Bull. Amer. Math. Soc.* **43**, 423–427 (2006).
9. Review of *The Global Approach to Quantum Field Theory*, by B. DeWitt, *Class. Quantum Grav.* **23**, 3259–3261 (2006).
10. Review of *Linearity, Symmetry, and Prediction in the Hydrogen Atom*, by S. F. Singer, *Am. Math. Monthly* **114**, 650–653 (2007).

### Other writings

1. S. A. Fulling, *Scalar Quantum Field Theory in a Closed University of Constant Curvature*, Ph.D. Thesis, Princeton University, Department of Physics, 1972.
2. S. A. Fulling, Superperiod gradient perturbations in the AGS studied to second order, Brookhaven National Laboratory Accelerator Department Internal Report AGSCD-20 (1967).
3. S. A. Fulling and M. Month, Theoretical analysis of gradient perturbations in the AGS, BNL AD Internal Report AGSCD-23 (1967).
4. S. A. Fulling and L. Parker, The interaction of gravity with quantized Fields, Gravity Research Foundation Essay, 1974 (received Fifth Award).
5. S. A. Fulling, Varieties of instability of a boson field in an external potential and black hole Klein paradoxes, report, King’s College London, Department of Mathematics, 1975.
6. S. A. Fulling, On the significance of runaway solutions and preacceleration, Gravity Research Foundation Essay, 1980.
7. F. J. Narcowich and S. A. Fulling, *Wigner Distribution Functions*, Lecture notes, Texas A&M University, 1986; reprinted 1994 as **Discourses in Mathematics and Its Applications**, No. 2.
8. S. A. Fulling, Why optical diffraction is “semiclassical”, Letter to the Editor, *Amer. J. Phys.* **62**, 1 (1994).
9. S. A. Fulling, *ProTEX for C* (software manual), 1995 (preliminary version).
10. S. A. Fulling, A vision of improved learning and how the Net and the Web might fit into it (text of talk at Internet Awareness Week, Texas A&M University), 1995.
11. Final report on the freshman calculus curriculum of the Texas A&M Foundation Coalition (including a large but fragmentary collection of curricular materials), 1998;

on-line version at URL <http://www.math.tamu.edu/~fulling/fc/>.

12. S. A. Fulling, summary of the panel discussion on “TeX and Math on the Web”, *TUGboat* **20**, 324 (1999) (proceedings of the 1999 TUG Annual Meeting).
  13. Stephen Fulling, On “Teleportation”, Letter to the Editor, *Harvard Mag.* **102**, No. 4, 104 (March–April 2000).
  14. S. A. Fulling, Large numbers, the Chinese remainder theorem, and the circle of fifths, 2001.
  15. S. A. Fulling, Letter to the Editor [concerning the pronunciation of “Cramer’s Rule”], *Math. Mag.* **75**, 11 (2002).
  16. S. A. Fulling, The boundary-integral formulation and multiple-reflection expansion for the vacuum energy of quantum graphs, technical report, 2009, <http://xxx.lanl.gov/abs/0907.3439>.
- \*. Lecture notes for Math 302 (discrete mathematics) (incomplete), 308 (differential equations), 312 (Fourier series and boundary value problems), 401 (perturbation theory and boundary value problems), 467 (modern geometry) (incomplete), 624/460/489 (tensors and general relativity), 629 (history of mathematics) (a few supplementary items), 640 (advanced linear algebra for applied analysis).