WILLIAM H. JACO

Regents Professor
Grayce B. Kerr Chair
Department of Mathematics
Oklahoma State University
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EDUCATION:
- Ph.D., University of Wisconsin (Advisors: R. H. Bing and D. R. McMillan), 1968
- M.A., Pennsylvania State University, 1964
- B.A., Fairmont State College, 1962
- Postdoctoral, University of Michigan, 1968–70
- Postdoctoral, Institute for Advanced Study (Princeton, NJ), 1971–72

RESEARCH INTEREST:
Geometric/Combinatorial Topology, Algorithms, Decision/Complexity Problems

PROFESSIONAL EMPLOYMENT:
- Consulting Executive Director, Initiative for Mathematics Learning by Inquiry, Austin, TX, 2016–current
- Head, Department of Mathematics, Oklahoma State University, 2011–2018
- Regents Professor, Oklahoma State University, 2008–Present
- Grayce B. Kerr Endowed Chair, Oklahoma State University, 1993–Present (on leave 1993–95)
- Executive Director, American Mathematical Society (Providence, RI), 1988–1995
- Professor, Oklahoma State University, 1982–Present (on leave 1987–95)
- Head, Department of Mathematics, Oklahoma State University, 1982–87
- Professor (1978), Assoc. Professor (1973), Assist. Professor (1970), Rice University, 1970–82
- Hildebrandt Research Instructor (1968-70), Asst. Prof.(1970-73), Univ. of Michigan, 1968–73
- Project Mathematician, Ordinance Research Lab, University Park, PA, 1962–64

RESEARCH POSITIONS:
- Visiting Research Professor, University of Texas, Fall, 2017
- Member, Institute for Advanced Study (Princeton, NJ), Fall, 2006
- Fred and Lois Gehring Distinguished Visitor Chair, University of Michigan, 2005–06
- Senior Research Fellow, American Institute of Mathematics/Stanford Univ., 2000
- Visiting Professor, U of California-Davis, Cal Tech, U of Texas-Austin, 1998
- Professorial Research Fellow, University of Melbourne, Australia, 1987–88, 1996–97, summers 2006 and 2011
- Senior Research Fellow, Mathematical Sciences Research Institute, 1984–85
- Visiting Professor, University of Melbourne, Australia, 1983
- Visiting Professor, Michigan State University, 1982
- Visiting Associate Professor, Columbia University, 1976–77
- Member, Institute for Advanced Study, 1971–72, 1978–79, 1986 and 2006
- Hildebrandt Research Instructor, University of Michigan, 1968–70

ADMINISTRATIVE EXPERIENCE:
- Head, Department of Mathematics, Oklahoma State University, 1982-87
- Executive Director, American Mathematical Society, 1988-95
- Head, Department of Mathematics, Oklahoma State University, 2011-2018
- Executive Director, Initiative for Mathematics Learning by Inquiry, Austin, TX, 2016–current

SPONSORED RESEARCH/SCHOLARSHIP/EDUCATION:
- Grayce B. Kerr Endowed Chair - Research in Topology & Geometry, 1993-Present
- NSF/EHR/IUSE - "The Mathematical Inquiry Project," 2018-2023
- 100Kin10 Grant - "Mentoring in Inquiry Instruction through Math Teachers Circles," 2018-2020
- NSF/EHR Grant - "PHASE V OKLSAMP," 2016-2019
- NSF/EHR Grant - "Strategic Direction for Mathematics Learning by Inquiry," 2016-2018
- NSF/DUE Grant - "Mathematics Resource Centers Collaborative Workshops," 2017-2018
- NSF/DMS Grant - "Embedded and Immersed Surfaces in Three-Dimensional Topology," 2013-2017
- Carl Friedrich von Siemens Foundation - Math.Forschungsinstitut Oberwolfach, "Triangulations," 2012 and 2017

SPONSORED RESEARCH (con't):
- NSF/DMS Grant - Conference on Geometry and Topology , Melbourne, AU, 2011
- NSF/DMS Grant - "Efficient Triangulations, Decision Problems and Algorithms," 2005-09
- American Institute of Math. Grant - "Computational Topology," 2007-08
- Lois and Fred Gehring Distinguished Visitor Chair (U of Michigan), 2005-06
- Institute for Advanced Study supplemental award, 2006
- NSF/DMS Grant - "Efficient triangulations and three-manifolds," 1997–2006
- NSF/DMS Grant - "Surfaces in knot exteriors: The Lopez Conjecture," 1999-2000
- Amer.Inst of Math.Grant - "Surfaces in knot exteriors: The Lopez Conjecture," 1999-2001
- Amer.Inst of Math.Grant - "Theory of Immersed Normal Surfaces," 1999
- NSF/DMS Grant - "Efficient Triangulations and Normal Surface Theory," 1998
- NSF Conference on Geometric Topology: University of Wisconsin (Co-PI), 1997
- Australian Research Grants Scheme, Professorial Research Fellowship - University of Melbourne (Australia), 1987–88, 1996–97, 2006
- NSF/EHR Grant for "Mathematics Instruction through Technology and Applications," (Co-PI), 1996–99
- NSF/DMS Grant - "Low-dimensional Topology," 1968–89
- Senior Fellow, Mathematical Sciences Research Institute, 1984–85
- National Science Foundation Scientific Research Computing Equipment, PI, 1984
- CBMS-NSF Conference on Minimal Surface Theory, Principal Investigator, 1984
- National Science Foundation Conference on Analytic Number Theory, Co-PI, 1984
- National Science Foundation Grant, PI, Japanese-American Conference 1982
- NSF Conference in Low-dimensional Topology, PI, Rice University, 1979
- CBMS-NSF Award, Principal Lecturer – Regional Research Conference, 1977
- University of Melbourne, Australia, Travel and Research Grant, 1976
- National Science Foundation International Travel Grant, 1972
- National Science Foundation Postdoctoral Fellowship, 1971-1972
- Institute for Advanced Study Research Grant, 1971 and 1978

HONORS AND AWARDS:
- Selected 2017 Eminent Faculty member at Oklahoma State University, 2017
- Elected Fellow of the American Mathematical Society, 2013
- Elected Trustee of the American Mathematical Society, 2011-2016
- Elected Regents Professor, Oklahoma State University, 2008
- Elected Fellow of American Association for Advancement of Science, 1998
- Australian Research Fellow, 1987–88, 1996–97

HONORS AND AWARDS:(con't)
- Recognition for Service to St. Petersburg and Russian Mathematics and Mathematicians, 1996
- Honorary Associate Member of Moscow Mathematical Society, 1996
- Lifetime Honorary Member, American Mathematical Society, 1995
- Outstanding Alumni Award, Fairmont State College, 1989
- National Science Foundation Postdoctoral Fellowship, 1971–72
- University of Wisconsin Alumni Research Fellowship, 1967–68
- National Science Foundation Graduate Fellowship, 1964–67
- National Science Foundation Summer Fellowship, 1964
- Magna Cum Laude, Fairmont State, 1962

THESES SUPERVISION:
- Herbert Lyon, Ph.D., 1970.
- Benny Evans, Ph.D., 1971.
- William Talley, Ph.D., 1973.
- Krystyna Kuperberg, Ph.D., 1974.
- Zhenya Vorochilova, M.S., 2005.
- Robert Myers, Ph.D., 1977
- John Rice, M.A., 1980
- David Farmer, M.S., 1989.
- Thomas Faulkenberry, M.S., 2002
- Zhenyi Liu, Ph.D., 2010

PROFESSIONAL ACTIVITIES:

Professional Organizations: Membership and Professional Service

Member of: American Mathematical Society (AMS), Mathematical Association of America (MAA), American Association for the Advancement of Science (AAAS).

2016-current	Consulting Executive Director, Initiative for Mathematics Learning by Inquiry
2016-2018	AMS Committee to Select Hour Speakers (Midwest Section)
2015-2018	(Member of Steering Committee), OK Math Task Force
2015-2017	(Member of Steering Committee), OSHRE Corequisite to Scale Project
2015-2017	(co-Chair and Member of Steering Committee), OSRHE Math Pathways to Completion Project.

PROFESSIONAL ACTIVITIES (con't):
Professional Organizations (con't):

2015-current	AMS Member Oklahoma Math Alliance
2011-2016	(Elected)Member, AMS Board of Trustees
2014-2016	Member AMS Investment Committee
2014-2015	Chair, AMS Board of Trustees
2015-2016	Member, AMS Committee on Science Policy
2014-2016	Chair, AMS Development Committee
2014-2015	Member, AMS Agenda and Budget Committee
2014-2016	Member, AMS Long Range Planning Committee
2014-2016	Member, AMS Strategic Planning Group on Publications
2014-2015	Member, AMS Policy Committee on Publications
2014-2016	Member, MAA Advisory Committee on Prof. Development of GTAs
2012-2015	co-Chair, OSRHE Math Success Group
2012-2013	Member, AMS Policy Committee on Education
2013-2014	Member, Report Writing Team, The INGenIOuS Project: Mathematical Preparation of 21st Century Workforce
2011-2013	Member, AMS Policy Committee on Meetings and Conferences
2012-2013	Member, AMS Committee on Activity Groups
2013-2014	Member, AMS Liaison Committee
2013-2016	Member, AMS Strategic Planning Oversight Committee
2007-2010	AAAS, (Elected) Chair, Section A. Mathematics
2009-2010	Member, Council AAAS
2007-2010	AAAS, Steering Committee (Chair, 2008-09), Section A. Mathematics
2008-2010	Chair, AAAS Committee on the Electorate, Section A, Mathematics
2009-2010	Chair, AMS Task Force on Prizes
2003-2010	AMS Liaison Committee to AAAS (Chair 2009-2010)
2003-2004	AMS Committee on Fellows
2002-2005	MAA Committee on Graduate Students
1998-1999	AAAS Task Force on Fellows of the Society
1997-2000	AAAS, Elected Member-at-Large, Committee on Mathematics
1997-1999	AAAS, Elected Member of Nominating Committee: Section A. Mathematic
1995-1997	AMS Federal Policy Committee, Chair
1988-1998	AMS Committee on Science Policy
1996-1999	AMS Committee on Graduate/Postdoctoral Education

PROFESSIONAL ACTIVITIES (con't):
Professional Organizations (con't):

1996-1999	AMS Subcommittee on Professional Development of Graduate Students
1996-1999	MAA Task Force on Graduate Students
1996-1997	MAA Organizing Committee for MathFest 97
1996-1997	MAA Program Committee for MathFest 97
1996-1999	MAA Committee on the Undergraduate Program in Mathematics: Task Force on Upperlevel Undergraduate Curriculum
1993-1995	AMS Policy Committee on Publication (Ex-officio)
1993-1995	AMS Policy Committee on the Profession (Ex-officio)
1993-1995	AMS Policy Committee on Meetings and Conferences (Ex-officio)
1990-1995	AMS Committee on Education Policy (Ex-officio)
1988-1993	AMS Committee to Monitor Problems in Communication (Ex-officio)
1988-1995	AMS Long Range Planning Committee (Ex-officio)
1988-1995	AMS Joint Meetings Committee (Ex-officio)
1985-1989	AMS Committee on Committees, Chair, 1987-89
1978-1980	AMS Committee to Select Hour Speakers (Midwest Section), Chair (1979-1980)

Boards and Panels:

2011-2016	Member, Board of Trustee (Chair 2014-15), Amer. Math. Soc.
2014-2016	Member, Advisory Board MAA Project on Prof. Development of GTAs
2010-2011	Member, NSF/CBMS Regional Research Conference Selection Panel
2009-2015	(President) Board of University Club at Oklahoma State University
2009-2011	Member, Board of Advisors, OSU Ranchers Club
1994-current	Member, American Institute of Mathematics Advisory Board
1993-1994	Member, Rhode Island State Systemic Initiative in Education Advisory Board
1991-1995	Member, Board of Education Development Fund (Providence, RI)
1990-1995	Member, Roger Williams College Advisory Board
1990-1995	Member (Vice-Chair), Rhode Island Mathematics and Science Education Board
1990-1995	Member, Greater Providence Chamber of Commerce Education Council
1989-1995	NSF/Science and Engineering Education Panel

Boards and Panels (con't):

1989-1996	Member, Advisory Board, Mathematics and Education Reform
1988-1993	Member, Board of Directors, TIMES2
1988-1995	Member, Joint Policy Board for Mathematics (Ex-officio)
1987-1990	Member, NSF/CBMS Regional Research Conference Selection Panel
1987-1990	Member, Board on Mathematical Sciences, National Research Council, National Academy of Sciences
1985	NSF/SCREMS Panel
1983-1986	National Academy of Science Task Force on Collegiate Mathematics in the Year 2000

Editing, Refereeing, Reviewing:
Editing:

1986-89	Editor, Contemporary Mathematics
2011	Editor, Proceeding on Geometry and Topology

Journal Refereeing: Referee 4-6 papers per year from numerous journals, including: Amer.J.Math.; Ann.of Math.; Bull.London Math.Soc.; Internat.Math.Res.Not.; Invent. Math.; J.Amer.Math.Soc.; J.London Math.Soc.; J.of Topology Math.Res.Let.; Michigan Math.J.; Pacific J.Math.; Proc.Amer.Math.Soc.; Proc.London Math.Soc.; Topology; Topology Appl.; Trans. Amer. Math. Soc.; Bull.Australian Math.Soc.; Mem.Amer.Math.Soc.; J.Differential Geom.; Algebr.Geom.Topol.; Geom.Topol.; New York J.Math.; Comm.Cont.Math.; Acta.Math.Sinica; J.Algebra; Proc. Indian Acad.Sci.

Grant Refereeing:

1968-current	NSF-Division of Mathematical Sciences (3-6 proposals per year)
2010-11	NSF/CBMS Regional Research Conference Panel
1985	NSF-SCREMS Panel
1987-90	NSF/CBMS Regional Research Conference Panel
2002-current	Reviewer for the Australian Research Council
2004-current	Reviewer for U.S.-Israel Binational Science Foundation

Research Reviews:
Math Reviews (1965-96); Math.Z. (1965-1988)

External Review Teams/External Advisor:

2015	External Review Team, Dept of Mathematics, University of Arkansas-Fayetteville
2014	External Review Team, Dept of Mathematics, University of Maine
2012	External Member, Tenure&Promotions Committee, Tufts University
2006	External Review Team (Chair, Pure Mathematics): Department of Math, Stat, and Com Sci, University of Illinois-Chicago
2004-05	Advisor to the Foundation for Inquiry-Based Learning, Austin, TX
2001	Advisor to Selectors for Trinity College Fellows, Cambridge University, England
1999	External Review Committee: Department of Mathematics at University of California-Riverside
1998	Chair, External Review Committee: Department of Mathematics at SUNY, Stony Brook
1997	Chair, NSF/DMS Committee Review: Mathematical Sciences Research Institute, Berkeley, CA
1996	External Review Committee: Department of Mathematics at Rutgers University
1995	External Review Committee: Department of Mathematics at Brigham Young University
1995-current	External Reviewer/Advisor for doctoral students: U of Melbourne, U of Sydney, Cambridge University, U of Texas, Cal Tech, UIC, Tufts U

PLENARY LECTURES/COLLOQUIA/SEMINARS:

Over 300 national and international plenary addresses, invited colloquia, and seminars. Following is a sample of approximately 50 Plenary Lectures given.

2013	Plenary Speaker Conference on Heegaard splittings, the curve complex, and hyperbolic geometry, Houston TX

PLENARY LECTURES/COLLOQUIA/SEMINARS (con't):

2014 Plenary Speaker AMS Workshop for Dept Chairs, Baltimore, MD
2015 Plenary Speaker AMS Workshop for Dept Chairs, San Antonio, TX
2012 Canadian Math Society Summer Meeting,
      Regina, SA

2012 Triangulations, Mathematisches Forschungsinstitut Oberwolfach
2011 HyamFest: A Conference in Honor of J. Hyam Rubinstein,
      University of Melbourne (Australia)
2009 Geometry and Topology Down Under,
      University of Melbourne (Australia)
2009 (invited) Conference on Hyperbolic Geometry, Quantum Topology,
      and Number Theory, Columbia University, New York City
2008 (invited)(co-Lecturer) NSF-CBMS Regional Research Conference:
      "Knots and Topological Quantum Computing,"
      Zhenghan Wang, Principal Lecturer (University of Central Oklahoma)
2008 Special Session: Knots and 3–manifold topology, AMS Regional Meeting,
      Claremont Colleges, Claremont, CA
2007 Workshop on Triangulations, Heegaard splittings and hyperbolic geometry,
      Amer. Inst. of Math., Palo Alto, CA
2007 International Conference on Topology and Physics, Chern Inst.of Math.,
      Nankai University in Tianjin, China
2007 Conference on Geometry/Topology, Academia Sinica, Beijing, China
2005 Workshop on Low-dimensional Topology, Mathematisches Institut,
      Oberwolfach,Germany
2005 Oklahoma-Arkansas Workshop on Geometry and Topology, Fayetteville, AR
2004 Special Session: Low-dimensional Topology, AMS Regional Meeting,
      Northwestern Univ., Evanston IL
2004 Conference on Low-Dimensional Topology, Fayetteville, AR
2004 Conference on Geometric Topology: In Honor of Robert Daverman,
      Grand Rapids, MI
2004 MAA Court Lecture, Mathematical Association of America, Tulsa, OK
2004 Invited One-Hour Address, American Mathematical Society, Tallahassee, FL
2004 Special Session: Topology of 3–manifolds, AMS Regional Meeting, Tallahassee, FL
2004 Pacific Inst of Mathematical Sciences (PIMS), Knots and 3–manifolds,
      Vancouver, B.C.
2004 Summer School, University of Peking, Beijing, CHINA

PLENARY LECTURES/COLLOQUIA/SEMINARS (con't):

2003   Special Session: Low-dimensional Topology, AMS Regional Meeting, Baton Rouge, LA

2002   Special Session: Computation in Topology, AMS Annual Meeting, San Diego, CA

2001   Topology and Dynamics Conference, Morelia, Mexico

1999   AMS-SMM Joint International Meeting, Denton, TX

1999   Joint International Meeting, AMS-AustMS, Melbourne, Australia

1999   Special Session: Geometry and Topology, AMS Regional Meeting, University of Texas

1998   Bay Area Topology Conference, Stanford University

1997   Frontiers in Mathematics Lectures Series, Texas A&M University, College Station, TX

1997   Wisconsin PhD Centennial Celebration, Plenary Speaker, Madison, WI

1996   (Co-lecturer) NSF-CBMS Regional Research Conference on Normal Surfaces and Decision Problems; Hyam Rubinstein, Principal Lecturer (University of California-Davis)

1996   Conference on Geometric Topology: In Honor of Steve Armentrout (Pennsylvania State University)

1985   Distinguished Lecturer, University of Iowa (Iowa City, Iowa)

1983   Canadian Mathematical Society Summer Meeting - Invited one-hour address (Vancouver, British Columbia)

1982   Karcher Lectures, University of Oklahoma (Norman, Oklahoma)

1981   Union Lectures - Lectures for International Mathematical Union; University of Geneva (Switzerland)

1979   Geometric Topology - in Honor of R. H. Bing's 65th Birthday, Austin,Texas)

1978   Behrend's Memorial Lecture, University of Melbourne (Melbourne, Australia)

1977   CBMS Regional Research Conference on Three-Manifold Topology, Principle Lecturer (Blacksburg, Virginia)

1975   AMS Regional Meeting (one-hour invited lecture), Southeastern Region (Blacksburg, Virginia)

REFEREED PUBLICATIONS:

- "Constructing three-manifolds from group homomorphism," Bull. Amer. Math. Soc. 74 1968 936–940

- "Three-manifolds with fundamental group a free product," Bull. Amer. Math. Soc. 75 1969 972–977

- "Heegaard splitting and splitting homomorphisms," Trans. Amer. Math. Soc. 144 1969 365–379

- "Stable equivalence classes of splitting homomorphisms," 1970 Topology of Manifolds (Proc. Inst., Univ. of Georgia, Athens, Ga., 1969) pp. 153–156 Markham, Chicago IL

- "On certain subgroups of the fundamental group of closed surface," Proc. Cambridge Philos. Soc. 67 1970 17–18

- "Surfaces embedded in $M^2 \times S^1$," Canad. J. Math. 22 1970 553–568

- "Retracting three-manifolds onto finite graphs," (with D. R.McMillan), Illinois J. Math. 14 1970 150–158

- "Nonretractable cubes-with-holes," Michigan Math. J. 18 1971 193–201.

- "Finitely presented subgroups of three-manifold groups," Invent. Math. 13 (1971), 335–346.

- "Indecomposable coverings of finitely generated groups," Proceedings, Third Annual Mathematics Conference, University of Southwestern Louisiana, Lafayette, LA, (1972)

- "Finiteness properties in three-manifold groups," (with C. F.Miller, III) Manuscript, Institute for Advanced Study, Princeton, New Jersey (1972)

- "The structure of three-manifold groups," mimeo lecture notes, Institute for Advanced Study, Princeton, New Jersey (1972), 80 pp.

- "Fundamental groups of three-manifolds which are extensions," (with John Hempel), Ann. of Math. (2) 95 (1972), 86-98

- "Three-manifolds which fiber over a surface," (with J. Hempel), Amer. J. Math. 94 (1972), 189–205

- "Geometric realizations for free-quotients," J. Austral. Math. Soc. 14 (1972), 411–418

- "Varieties of groups and three-manifolds," (with B. Evans), Topology 12 (1973), 83–97

- "Roots, relations and centralizers in three-manifold groups," Geometric topology (Proc. Conf., Park City, Utah, 1974), pp. 283–309. Lecture Notes in Math., Vol. 438, Springer, Berlin, 1975

- "Seifert fibered spaces in irreducible, sufficiently-large three-manifolds," (with P. Shalen), Bull. Amer. Math. Soc. 82 (1976), no. 5, 765–767

- "Peripheral structure of three-manifolds," (with P. Shalen), Invent. Math. 38 (1976), no. 1, 55–87

- "A new decomposition theorem for irreducible, sufficiently-large three-manifolds," (with P. Shalen), Algebraic and geometric topology (Proc. Sympos. Pure Math., Stanford Univ., Stanford, Calif., 1976), Part 2, pp. 71–84, Proc. Sympos. Pure Math., XXXII, Amer. Math. Soc., Providence, R.I., 1978

- "Surface homeomorphisms and periodicity," (with P. Shalen), Topology 16 (1977), no. 4, 347–367

- "Geometric subgroups and manifold compactifications," Proceedings, Eighth Annual Mathematics Conference, University of Southwestern Louisiana, Lafayette, LA (1978), 50-61

- "Seifert fibered spaces in three-manifolds," (with P. Shalen), Geometric topology (Proc. Georgia Topology Conf., Athens, Ga., 1977), pp. 91–99, Academic Press, New York-London, 1979

- "An algebraic determination of closed orientable three-manifolds," (with R. Myers) Trans. Amer. Math. Soc. 253 (1979), 149–170

- "Seifert fibered spaces in three-manifolds," (with P. Shalen), Mem. Amer. Math. Soc. 21 (1979), no. 220, viii+192 pp.

- *Lectures on Three-Manifold Topology*, CBMS Regional Conference Series in Mathematics, 43. American Mathematical Society, Providence, R.I., 1980. xii+251 pp. ISBN: 0-8218-1693-4

- "On ends of groups and Johannson's deformation theorem," Lectures in Mathematics (edited by U. Koschoake and W. Neumann), Topology Symposium, Siegen 1979 (Proc. Sympos., Univ. Siegen, Siegen, 1979), pp. 62–87, Lecture Notes in Math., 788, Springer, Berlin, 1980

- "Incompressible surfaces in punctured torus bundles," (with M. Culler and H. Rubinstein), Proc. London Math. Soc. (3) 45 (1982), no. 3, 385–419

- "An algorithm to decide if a three-manifold is a Haken manifold," (with U.Oertel), Topology 23 (1984), no. 2, 195–209

- "Adding a two-handle to a three-manifold: An application to Property R," Proc. Amer. Math. Soc. 92 (1984), no. 2, 288–292

- "A piecewise linear theory of minimal surfaces in three-manifolds," (with J. H. Rubinstein, Miniconference on geometry and partial differential equations (Canberra, 1985), 99–110, Proc. Centre Math. Anal. Austral. Nat. Univ., 10, Austral. Nat. Univ., Canberra, 1986

- "PL equivariant surgery and invariant decompositions of three-manifolds," (with J. H. Rubinstein), Adv. in Math. 73 (1989), no. 2, 149–191

- "PL minimal surfaces in 3-manifolds," (with J. H. Rubinstein), J. Differential Geom. 27 (1988), no. 3, 493–524

- "Algorithms for the complete decomposition of closed 3-manifolds," (with J. Tollefson), Illinois J. Math. 39 (1995), no. 3, 358–406.

- "Haken Manifolds," ENCYCLOPAEDIA OF MATHEMATICS, Kluwer Academic Publishers, Boston, (2000)

- "Algorithms for essential surfaces in 3–manifolds." Topology and geometry: commemorating SISTAG, 107–124, Contemp. Math., 314, Amer. Math. Soc., Providence, RI, 2002

- "Decision problems in the space of Dehn fillings," (with E. Sedgwick), Topology 42 (2003), no. 4, 845–906

- "0–efficient triangulations of 3-manifolds," (with J. H. Rubinstein), J. Differential Geom. 65 (2003), no. 1, 61–168

- "Finding planar surfaces in knot and link manifolds," (with J. H. Rubinstein and E. Sedgwick), J.Knot Theory and its Appl.,Volume 18, No.3 (2009), 397-446, arXiv:math/0608700

- "Minimal triangulations of an infinite family of lens spaces", (with J. H. Rubinstein and S. Tillmann), Journal of Topology (2009) 2: 157-180, arXiv:0805.2425

- "Coverings and minimal triangulations of 3–manifold" (with Hyam Rubinstein and Stephan Tillmann), J. of Algebraic and Geometric Topology 11 (2011), no.4, 1257-1265, arXiv:GT/0903.0112.

- "$\mathbf{Z}_2$–Thurston norm and complexity of 3–manifolds" (with J. H. Rubinstein and S. Tillmann), *Mathematische annalen*, 356 (2013), no.1, 1-22, arXiv:0906.4864.

- "Inflations of ideal triangulations", (with J. H. Rubinstein), Advances in Mathematics, Vol. 267, 20, (2014), 176-224, arXiv:1302.6921

- "Bounds for the genus of a normal surface" (with J. Johnson, J. Spreer, and S. Tillmann), Geometry & Topology 20-3 (2016), 1625–1671. DOI 10.2140/gt.2016.20.1625, arXiv:1411.6413.

BOOKS:

- Book: *Lectures on Three-Manifold Topology*, CBMS Regional Conference Series in Mathematics, 43. American Mathematical Society, Providence, R.I., 1980. xii+251 pp., ISBN: 0-8218-1693-4

- Book: *Geometry and Topology Down Under.* (co-editor with C. Hodgson, M.Scharlemann, and S. Tillmann), *Contemporary Mathematics* Vol 597, (2013) v-xxii, 369 pages, American Mathematical Society, ISBN: 978-0-8218-8480-5

- Book: *The INGenIOuS Project: Mathematics, Statistics, and Preparing the 21st Century Workforce.* (co-editor with Paul Zorn, John Bailer, Linda Braddy, Jenna Carpenter, and Peter Turner), MAA Publications (2014), i-v, 1-106,

SUBMITTED:

- "Annular-efficient triangulations of 3–manifolds" (with H. Rubinstein), arXiv:1108.2936, 21 pages, 6 figures.

- "Z2- Thurston Norm and Complexity of 3-Manifolds, II." (with H. Rubinstein, J. Spreer, S. Tillmann), Submitted, arXiv:1711.10737, 21 pages, 10 figures.

- "On minimal ideal triangulations of cusped hyperbolic 3-manifolds." (H. Rubinstein, J. Spreer, S. Tillmann), (submitted), arXiv:1808.02836, 30 pages, 16 figures.

IN PREPARATION:

- "Layer-triangulations of the solid torus and lens spaces." (in preparation).

- "Layer-triangulations of handlebodies and 3–manifolds." (in preparation).

- "Complexity of Dehn fillings of cusped 3-manifolds." (with H. Rubinstein, J. Spreer, S. Tillmann), (in preparation).

- "Canonical triangulations of two-bridge link complements." (with H. Rubinstein, J. Spreer, S. Tillmann), (in preparation).

UNIVERSITY SERVICE:

2011-2018	Head, Department of Mathematics, OSU
2018	Chair, OSU Eminent Faculty Search Committee
2014-2015	Member, A&S Strategic Planning Task Force
2013-2014	Chair, Provost and Senior Vice President Search and Screening Committee, OSU
2013-2014	Online TaskForce, OSU
2010-2011	Chair, Department of Mathematics Colloquium Committee, OSU
2009-2014	President, Board of the University Club (OSU)

UNIVERSITY SERVICE (continued):

2008-2010	(elected) Department of Mathematics Personnel Committee, OSU
2008-2009	Chair, Department of Mathematics Appointments Committee, OSU
2006-2008	Chair(2007-08), Reappointment, Promotions and Tenure Committee, College of Arts & Sciences, OSU
2006-2008	Chair, Department of Mathematics Committee on Post-tenure Review
2007-2009	Chair, Faculty Council *ad hoc* University Club Committee, OSU
2007-2008	Math Department Committee on Grants and Gifts, OSU
2004-2007	Goldwater Scholarship Selection Committee, OSU
2004-2005	Faculty Council Retirement and Fringe Benefit Committee, OSU
2004	RFB Subcommittee on Cancer and Dread Disease Insurance, OSU
2002-2003	Chair, OSU Selection Committee on Honorary Degrees, OSU
2003-2004	Member, Department of Mathematics Long-Range Planning Committee, OSU
2000-2004	Director of Graduate Studies (Mathematics), OSU
2000-2004	Chair, Graduate Committee (Mathematics), OSU
2002-2003	Elected, Vice Chair Graduate Faculty Council, OSU
2001-2002	At-Large Rep Fac Council, Scholarly Communications Task Force,OSU
1997-2000	Faculty Council, Long Range Planning Committee, OSU
1997-1999	Member, College of Arts & Sciences Faculty Council, OSU
1997-1998	Member, Graduate Committee (Mathematics), OSU
1997	Chair, Special Task Force on the Graduate Program in Mathematics, OSU
1995-1997	Chair, Appointments Committee, Department of Mathematics, OSU
1987	Committee to Select Amoco Teaching Awards, OSU
1983-1988	Committee to Select Regents Distinguished Research Professors, OSU
1982-1987	Head, Department of Mathematics, OSU
1980-1981	Personnel Committee, Rice University
1980-1981	University Committee on Examinations and Standings, Rice University
1978-1980	Colloquium Chairman, Rice University
1978-1981	M. G. Porter Lecture Committee, Rice University
1978	University Graduate Council, Spring, Rice University
1978-1982	Dept Rep to Office of Corporate and Foundation Relations, Rice University
1978	Chairman, Graduate Matters, Spring, Rice University
1977-1978	Rice University, Chief Marshall
1975-1976	Curriculum and Scheduling, Rice University
1974-1976	Personnel Chairman, Rice University
1974-1975	Undergraduate Matters, Rice University
1973-1982	Faculty Associate at Brown College, Rice University

1973-1978	Rice University Marshall
1973-1974	Student Advisor, Seniors, Rice University
1972-1973	Undergraduate Matters, Rice University
1970-1971	Undergraduate Matters, Underclass Advisor, Rice University