John W. Jones

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PROFESSIONAL EXPERIENCE

Arizona State University, Tempe, Arizona
2008–present	Professor
1999–2001	Associate Chair for Undergraduate Studies
1996–2008	Associate Professor
1990–1996	Assistant Professor

University of Texas, Austin, Texas
1987–1990	Malcolm and Minda Brachman Instructor of Mathematics in Honor of R. H. Bing

Harvard University, Cambridge, Massachusetts
1984–1987	Graduate Teaching Fellow

EDUCATION

Harvard University, Cambridge, Massachusetts
1983–1987	Ph.D. in mathematics
	Advisor: Barry Mazur

University of California, Berkeley, California
1979–1983	A.B. in mathematics
	Percy Lionel Davis Award
	Highest honors
	Phi Beta Kappa

RESEARCH INTERESTS

Algebraic number theory, computational number theory, Galois theory, number fields, local fields, cryptography, Iwasawa theory, and arithmetic of elliptic curves.

AWARDS

Nominated for *Zebulon Pearce Distinguished Teaching Award*, ASU College of Liberal Arts and Sciences (2012)

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Nominated for *Centennial Professorship*, a university-wide award for teaching and community service (2007)

Wakonse Fellow, a group devoted to better teaching practices (2002)

Faculty Achievement Award from ASU's College of Engineering and Applied Sciences, for help with several programs for engineering students and calculus courses: student learning clusters, a minority mentoring program, and calculus placement (2002)

Nominated for *Founder's Day Faculty Achievement Teaching Award*, a university-wide teaching award (2001)

Faculty Fellow, selected as a member of this group which works for better interaction between faculty and undergraduate students (1999)

Nominated for *Zebulon Pearce Distinguished Teaching Award*, ASU College of Liberal Arts and Sciences (1999)

Charles Wexler Teaching Award, ASU Department of Mathematics and Statistics (1998)

Harvard-Danforth Center for Teaching and Learning Award, as a graduate student at Harvard University (1986)

GRANTS

Connections between curves, automorphic forms, and L-functions, National Science Foundation, (PI), $45,000, 1/14–12/14.

Collaborative Research: Updating the WeBWorK National Problem Library, National Science Foundation, (PI), $162,303, 9/12–8/16. The other component of the collaborative project is at University of Virginia (PI: Holt). Two institution total, $323,579.

Collaborative Project: A Comprehensive WeBWorK Problem Library, National Science Foundation, (PI), $46,315, 2/04–1/07. Other components of the collaborative project at University of Virginia (PI: Holt) and California State University Long Beach (PI: Ziemer). Three institution total, $179,889.

Web-Based Math Homework, National Science Foundation, (PI, Matthew Isom is co-PI), $149,984, 5/02–3/05.

On-line homework component/Business Math I and II, Arizona State University, College of Liberal Arts and Sciences, (Co-PI, with PI Lance Ward, other co-PI's Sharon Walker, Jay Abramson, and Scott Martin), 2001–2002, $7500.

Number Theory and the Scientific Method, Teaching Innovation Award administered by ACEPT for the National Science Foundation, (PI, Andrew Bremner is co-PI), 1998–1999, $5000.

A Discovery Approach to Abstract Algebra, Arizona State University, College of Liberal Arts and Sciences, (PI), 1998–1999, $3051.

Revitalizing Undergraduate Number Theory, National Science Foundation through Michigan Technological University and Randolph-Macon College, (local PI), $41,075 ASU share, total grant $79,542, 6/96–5/99.

Implementation and Dissemination of the Harvard Consortium Materials in Arizona, Oklahoma, and Utah, National Science Foundation through University of Arizona, (local co-PI with M. Kawski), $64,186 ASU share, total grant $799,770, 10/92–10/95.

Conference in Arithmetic Geometry with an Emphasis in Iwasawa Theory, National Science Foundation, (co-PI with N. Childress), $8,000, 4/93.

Topics in Iwasawa Theory, National Science Foundation, (PI), $41,725, 6/91-5/93.

RESEARCH PUBLICATIONS

Artin L-functions of small conductor, with D. Roberts, submitted.

Mixed degree number field computations, with D. Roberts, submitted.

A database of number fields, with D. Roberts, LMS J. Comput. Math., **17**, 595–618 (2014).

The tame-wild principle for discriminant relations for number fields, with D. Roberts, Algebra & Number Theory, **8** no. 3, 609–645 (2014).

Minimal solvable nonic fields, LMS J. Comput. Math., **16**, 130–138 (2013).

Number fields with solvable Galois groups and small Galois root discriminants, with R. Wallington, Math Comp., **81**, 555–567 (2012).

Wild ramification bounds and simple sroup Galois extensions ramified only at 2, Proc. Amer. Math. Soc., **139**, 807–821 (2011).

Minimum discriminants of imprimitive decic fields, with E. Driver, Experiment. Math., **19**, 475–479 (2010).

Number fields unramified away from 2, J. Number Theory, **130**, 1282–1291 (2010).

Inertia subgroups for octic 2-*adic fields*, Int. J. Pure Appl. Math. **61**, 301–314 (2010).

A targeted Martinet search, with E. Driver, Math Comp., **78**, 1109–1117 (2009).

Z-*cyclic whist tournaments for q^2 players*, with P. Leonard, J. Combin. Math. Combin. Comput., **66**, 215–223 (2008).

Octic 2-adic fields, with D. Roberts, J. Number Theory, **128**, 1410–1429 (2008).

Number fields ramified at one prime, with D. Roberts, in Algorithmic Number Theory: 8th International Symposium, ANTS-VIII, Banff, Canada, May 2008, Springer Lecture Notes in Computer Science **5011**, Springer, 226–239 (2008).

Galois number fields with small root discriminant, with D. Roberts, J. Number Theory, **122**, 379–407, (2007).

A database of local fields, with D. Roberts, J. Symbolic Comput. **41**, 80–97 (2006).

Nonic 3-adic fields, with D. Roberts, in Algorithmic Number Theory: 6th International Symposium, ANTS-VI, Burlington, VT, USA, June 13-18, 2004. Proceedings, Lecture Notes in Computer Science **3076**, Springer, 293–308 (2004).

Septic number fields with discriminant $\pm 2^a 3^b$, with D. Roberts, Math Comp. **72**, 1975–1985, (2003).

Sextic number fields with discriminant $(-1)^j 2^a 3^b$, with D. Roberts, in Number Theory: Fifth Conference of the Canadian Number Theory Association, (ed. R. Gupta and K. Williams), CRM Proceedings and Lecture Notes **19**, AMS, 141–172, (1999).

Timing analysis of targeted Hunter searches, with D. Roberts, in Algorithmic Number Theory, Third International Symposium, ANTS-III, Lecture Notes in Computer Science **1423**, Springer, 412–423, (1998).

Zero-free regions for a rational function with applications, with B. Welfert, Advances in Computational Mathematics, **3**, 265–289 (1995).

Plater's p-adic orthogonality relation for abelian varieties, Houston J. Math., **21**, 261–282 (1995).

Iwasawa L-functions of elliptic curves with additive reduction, J. Number Theory, **51**, 103–117 (1995).

On the equation $x^4 + mx^2y^2 + y^4 = z^2$, with A. Bremner, J. Number Theory, **50**, 286–298 (1995).

Iwasawa L-functions and the mysterious $\mathcal{L}$-invariant, in p-adic Monodromy and the Birch and Swinnerton-Dyer Conjecture, AMS Contemporary Math Series **165**, 63–70 (1994).

On the local norm map for abelian varieties with good ordinary reduction, J. Algebra **138**, 420–423 (1991).

A comparison of Selmer groups, Manuscripta Math. **68**, 391–398 (1990).

p-adic heights for semi-stable abelian varieties, Compositio Math. **73**, 31–56 (1990).

Iwasawa L-functions for multiplicative abelian varieties, Duke Math. J. **59**, 399–420 (1989).

Iwasawa Theory at Multiplicative Primes, Ph.D. thesis (1987).

PEDAGOGY ARTICLES

Looking at groups, Research J. of Math. and Technol. **1**, reprinted from Electron. J. Math. Technol. (2012).

Looking at groups, Electron. J. Math. Technol. **6**, 246–255 (2012).

Teaching number theory with CAS or Java, with J. Holt, Proceedings for the 11th Annual International Conference on Technology in Teaching Collegiate Mathematics, 178–182, (1999).

Discovering number theory, with J. Holt, Proceedings of the 10th annual International Conference on Technology in Teaching Collegiate Mathematics, 211–215 (1998).

BOOKS

Discovering Number Theory with J. Holt, a text for an upper division number theory course, published by W.H. Freeman, 2000, 516 pages. The text includes a student resource CD containing 16 electronic notebooks in multiple versions for Mathematica and three versions of Maple, plus versions as active web pages which compute with custom Java applets.

Discovering Number Theory Instructor's CD with J. Holt, published by W.H. Freeman, September 2000. The CD contains the instructor's manual, solutions for odd numbered homework problems, and 133 pages of chapter summaries to accompany *Discovering Number Theory*.

Arithmetic Geometry: Conference on Arithmetic Geometry with an Emphasis on Iwasawa Theory, March 15-18, 1993 at Arizona State University, coeditor with N. Childress, AMS Contemporary Math. Series, **174**, (1994).

CLASSROOM TEACHING

Lower division: college algebra, finite mathematics, brief calculus, elementary linear algebra, calculus with analytic geometry I and II, calculus for engineers II

Upper division: mathematical structures, linear algebra, advanced linear algebra, intermediate calculus, advanced calculus I, introduction to abstract algebra, group theory, intermediate abstract algebra, theory of numbers, cryptography, elliptic curve cryptography

Graduate courses: abstract algebra I, II, and III, elliptic curves, p-adic analysis, algebraic number theory, modular forms, topics in Galois theory

Courses at other institutions: calculus I and II, brief calculus, undergraduate abstract algebra, geometry for preservice teachers, elliptic curves

GRADUATE STUDENTS

Benjamin Carrillo, Ph.D. expected May 2019.

Donald Adams, Ph.D. co-chair with Wayne Raskind, expected May 2017.

Chad Awtrey, *Dodecic local fields*, Ph.D. May 2010.

Rachel Wallington, *Solvable Galois fields with small root discriminant*, Ph.D. May 2009.

LeAnna Misterek, *AIMS test review*, applied project for MNS degree, May 2008.

Eric Driver, *A targeted Martinet search*, Ph.D. December 2006.

John Kerl, *Curves and codes*, M.A. May 2005.

Sean Larsen, *Supporting the guided reinvention of the concepts of group and isomorphism: a developmental research project*, Ph.D., co-chair with Marilyn Carlson, May, 2004.

Andres Garcia, *Elliptic curve primality proving algorithm*, M.A., December, 2003.

Nathan Wilson, *Attacks on the discrete logarithm problem*, M.A., May, 2001.

Brandon Baldock, *A survey of techniques in cryptanalysis*, M.A., May, 1998.

John Dollarhide, *Computation of the Mordell-Weil group on rank 1 elliptic curves using Heegner points*, M.A., August 1996.

Nancy Seguin, *Galois groups of irreducible tredecic polynomials*, M.A., May 1996.

Six non-thesis masters students.

Many MA and Ph.D. committees

UNDERGRADUATE STUDENT MENTORING

In the case of a student doing an internship, the student regularly reports to a faculty mentor. At the end of the internship, the student submits a final report on the work they did, and which reflects on their personal growth from the experience.

Josh Shumante, undergraduate research project Fall 2013.

Annette Spyker, undergraduate research, thesis: *Success rates of the Rabin-Miller test for known composite numbers*, B.S., May 2006.

Joshua Kantor, undergraduate research, thesis: *Hecke operators and the Hecke algebra*, B.S., May 2003. Named a thesis of distinction by the ASU Honors College.

Kristin Russel, special project done in lieu of the internship requirement for the B.S. in Computational Mathematical Sciences Degree. In this case, I acted as both the faculty mentor for the internship, and the employer.

For this project, the student programmed a web application to assist in studying Spanish vocabulary words. B.S, May 2003.

Heather Getz, actuarial internship with Scottsdale Insurance, summer 2003.

Calvin Nguyen, actuarial internship with Cedar Hill Insurance, summer 2001.

Danelia DeKock, actuarial internship with Cedar Hill Insurance, summer 2001.

Jennifer Feria, programming internship with Ticketmaster, summer 1997.

Many honors contracts

POST-DOCS SUPERVISED

Saikat Biswas

OTHER TEACHING

Reading courses: a variety of courses, some duplicating courses mentioned above, others in commutative algebra for algebraic geometry, computational number theory, complex analysis, and topology.

WeBWorK workshops
> Series of four workshops for community college and high school teachers on the use of WeBWorK. Also taught in workshops for faculty at ASU on using WeBWorK at the start of each semester, 2003–2006.

CLAS Discovery Tour
> Series of seven presentations on "What is mathematics" for new freshmen in the College of Liberal Arts and Sciences of varying majors, 2000.

Lead session on Intellectual Property Law with John Crawford for the second annual ASU student/faculty retreat, 1999.

Young Scholars Program
> Taught number theory to 7th and 8th grade students from the Navajo reservation in Arizona, summers 1993, 1994, 1996.

> Taught other instructors of students in the Young Scholars Program, summer 1993 and 1994.

Calculus Reform Workshops
> Introduced teachers from high schools, community colleges, and ASU to the calculus reform in general, and to the materials developed by the Harvard Calculus Consortium, 1993–1995.

LaTeX Workshops
> Series of workshops to introduce faculty to the use of LaTeX for mathematical word processing on a variety of different computer platforms, 1995.

INVITED RESEARCH TALKS

Helen Barton Colloquium, Greensboro, NC 10/16

British Mathematical Colloquium, Bristol, UK 3/16

AMS special session, Athens, GA, 3/16

Five College Number Theory Seminar, Amherst, MA, 10/15

ICERM, Providence, RI, 9/15

Conference: "Computational Representation Theory in Number Theory", Corvallis, OR, 7/15

AMS special session, Greensboro, NC, 11/14

L-function and Modular Form Database workshop, Warwick, UK, 6/14

Canadian Mathematical Society special session, Halifax, CA, 6/13

Computational number theory "summer school", Greensboro, NC, 5/13

Colloquium and seminar and University of Wisconsin, Madison, WI 4/13

AMS special session, San Diego, CA 1/13

AMS special session, Boston, MA 1/12

Seminar at the University of Texas, Austin, 11/09

Algorithmic Number Theory Symposium VIII, 5/08

AMS special session, Tucson, AZ 4/07

Colloquium at University of North Carolina, Greensboro 2/07

Colloquium at University of Texas, Tyler 2/07

Algorithmic Number Theory Symposium VI, 6/04

Colloquium at Oklahoma State University, 4/04

AMS special session, Las Vegas, NV 4/99

Seminar at University of Arizona, 2/97

Seminar at California Institute of Technology, 3/96

AMS special session, Chicago, IL 3/95

AMS annual meeting in San Francisco, 1/95

Seminar at University of Texas, 12/94

Seminar at University of Arizona, 4/94

Colloquium at Michigan Technological University, 9/93

Seminar at University of Texas, 4/93

Seminar at University of Southern California, 3/92

Workshop on p-adic Monodromy and the Birch and Swinnerton-Dyer Conjecture, Boston University, 8/91

Seminar at University of Arizona, 11/90

Seminar at University of California, Santa Barbara, 8/90

OTHER TALKS, PRESENTATIONS, WORKSHOPS

Many talks at the local number theory seminar

Crytorally, Tempe, AZ, 11/16

Mathfest, Columbus, OH, 8/16

SuNMaRC, Tempe, AZ, 2/16

AMS-MAA joint meetings, Seattle, WA, 1/16

Mathfest, Washington, DC, 8/15

AMS-MAA joint meetings, San Antonio, TX, 1/15

WeBWorK workshop, Portland, OR, 8/14

AMS-MAA joint meetings, Baltimore, MD, 1/14

WeBWorK workshop, Rochester, NY, 10/13

LMFDB workshop, Bristol, UK, 9/13

WeBWorK workshop, Vancouver, Canada, 6/13

WeBWorK workshop, Raleigh, NC, 3/13

WeBWorK workshop, Winona, MN, 8/12

AIM workshop on online databases, Edinburgh, UK, 1/13

LMFDB workshop, Bristol, UK, 3/12

LMFDB workshop, Bristol, UK, 9/11

MAA PREP workshop, Washington, DC, 6/11

AMS annual meeting, San Diego, CA 1/08

AIM workshop on WeBWorK, 8/07

Mathfest, San Jose, CA 8/07

Computer Grading Workshop, U. of AZ, Tucson, AZ, 4/07

AMS annual meeting, New Orleans, LA, 1/07

Mathfest, Knoxville, TN, 8/06

Meeting of Canadian Number Theory Association, IX, 7/06

AMS annual meeting, San Antonio, TX, 1/06

AMS annual meeting, Atlanta, GA, 1/05

MSRI workshop on WeBWorK, Berkeley, CA, 5/04

AMS annual meeting, Phoenix, AZ, 1/04

Mathfest, Boulder, CO, 8/03

AMS annual meeting, Baltimore, MD, 1/03

AMATYC, Phoenix, AZ, 11/02

Mathfest, Burlington VT, 8/02

14th annual International Conference on Technology in Collegiate Mathematics, Baltimore MD, 11/01

AMS annual meeting, Washington, D.C. 1/00

12th annual International Conference on Technology in Collegiate Mathematics, Burlingame CA, 11/99

AMS annual meeting, San Antonio, TX 1/99

11th annual International Conference on Technology in Collegiate Mathematics, New Orleans LA, 11/98

AMS annual meeting, Baltimore, MD 1/98

10th annual International Conference on Technology in Collegiate Mathematics, Chicago IL, 11/97

Arizona K-16 Science/Math Teaching Reforms Conference, ASU West, 10/97

Sixth Conference on the Teaching of Mathematics, Milwaukee, WI, 6/97

AMS annual meeting, Louisville, KY 1/90

EDITORIAL

Management board for L-functions and Modular Forms Database, a web site devoted to providing number theoretic data to mathematicians. Also area editor for number fields, local fields, and Galois groups.

Managing Editor, the WeBWorK Open Problem Library, a collection of over 30,000 homework problems for the web-based homework system WeBWorK.

REVIEWING AND REFEREEING

American Mathematical Monthly, Arabian Journal of Science and Engineering, Bulletin of the Iranian Mathematical Society, Bulletin of the London Mathematical Society, Communications in Algebra, International Journal of Number Theory, Involve, Journal de

Théorie des Nombres de Bordeaux, Journal of Combinatorial Theory-Series A., Journal of Group Theory, Journal of Number Theory, Matematychni Studii, Mathematical Research Letters, Proceedings of the AMS, Publicationes Mathematicae Debrecen, Rocky Mountain Journal, NSF grant proposals, NSA grant proposals, Math Reviews, Zentralblat

CONFERENCE AND WORKSHOP ORGANIZATION

LaTeX workshops
Series of five workshops for graduate students and all levels of faculty on the use of LaTeX for the preparation of mathematical documents. *(1992)*

Conference in Arithmetic Geometry with an Emphasis on Iwasawa Theory
Co-organizer, with N. Childress, for an international research conference in algebraic number theory. *(1993)*

Calculus reform workshops
Co-organizer, with M. Kawski, for four workshops on teaching calculus with the CCH (Hughes-Hallett, Gleason) text. Workshops were attended by teachers from ASU, and a variety of high schools and community colleges in Arizona. *(1993–1995)*

WeBWorK workshops
Organizer for four workshops on using WeBWorK in mathematics courses. Workshops were attended by teachers from a variety of high schools and community colleges in Arizona. *(2003–2005)*

SUnMaRC 2012, 2015
organizer for students from ASU for the Southwestern Undergraduate Mathematics Research Conference.

WeBWorK Open Problem Library workshops
Co-organizer, with J. Holt, of a series of workshops to improve the organization of the Open Problem Library for WeBWorK. Six have taken place thus far, 6/13, 5/14, 8/15, 6/16 at UVA; 12/13, 12/14, 12/15 at ASU.

Curves and Automorphic Forms
Research conference held at ASU; organizing committee included David Farmer, Paul Gunnells, and Holly Swisher. *(3/10/14–3/14/14)*

Computational Representation Theory in Number Theory
Research conference held at Oregon State; co-organizer with John Cremona, David Farmer, Paul Gunnells, and Holly Swisher. *(7/27/15–7/31/15)*

Computational Aspects of the Langlands Program
> Special semester at ICERM; co-organizer with Alina Bucur, Brian Conrey, David Farmer, Kiran Kedlaya, Michael Rubinstein, Holly Swisher, and John Voight. *(Fall 2015)*

Genus 2 Curves
> Mini-workshop on including data for genus 2 curves in the LMFDB held at University College, Dublin, IE; co-organizer with David Farmer. *(March 2015)*

GL_2 Modular Forms
> Mini-workshop on improving data on classical holomorphic GL_2 modular forms in the LMFDB held at University of Warwick, Coventry UK; co-organizer with John Cremona and David Farmer. *(December 2015)*

SUnMaRC 2016
> Co-organizer for SUnMaRC held at ASU with Carla van de Sande. *(2/19/16–2/21/16)*

WEB SITES

Database of Number Fields

> This site contains results of some of my research computations with D. Roberts. It contains data from all of the other number field collections below. It provides a flexible interface for searching for number fields, and will report to the user if it knows that the results being reported are proven complete. I program and maintain the site, and have carried out almost all of the underlying computations.
> `http://hobbes.la.asu.edu/NFDB`

Number Fields with Small Galois Root Discriminant

> This site contains results of some of my research computations with D. Roberts. Specifically, it contains data on number fields which are exceptional in that the root discriminant of their Galois closures are below Serre's asymptotic lower bound. Many of the tables are proven to be complete by our computations.
> `http://math.asu.edu/~jj/lowgrd`

Tables of Number Fields with Prescribed Ramification

> This site contains many tables of number fields which are useful for research in number theory. I maintain this site and am responsible for producing all of the data.
> `http://math.asu.edu/~jj/numberfields`

Database of Local Fields

> This site produces complete lists of finite degree extensions of $\mathbf{Q}_p$ for relatively small degree and prime p. It also does local decompositions of global fields, and can compute

root discriminants of Galois fields.
`http://math.asu.edu/~jj/localfields`

Discovering Number Theory Homepage

This site is the home page for the number theory course *Discovering Number Theory.* I am responsible for maintaining the site, and share the responsibility for generating its content with my co-author, J. Holt.
`http://math.la.asu.edu/~jj/dnt`

SOFTWARE

Group Tables and Subgroup Diagrams, instructional software written in javascript. It allows the user to investigate finite groups through group tables and subgroup diagrams.

WeBWorK, many contributions to WeBWorK, the online homework delivery system. The most significant improvements were a faster method of rendering mathematics in web pages, and the "library browser" to facilitate problem selection by teachers.

Placement testing, wrote infrastructure for placement testing and score reporting for ASU math department. The software was used from 2000-2004.

asthesis.sty, this is a LaTeX style file to format graduate student theses according to the rules of the Graduate College at Arizona State University. Latest version is 1.09, April 1998.

borda, this is a C program to ease data entry and do computations from Borda count elections. Latest version is 1.0, September 1996.

Web page generation, a small collection of perl programs for taking the Math department weekly seminar schedule and office hour information and generating corresponding web pages. The initial version for the seminar pages (done before we had a web server as a stand alone Unix program) was in 1991, with the most recent rewrites being done in December 2005.

SERVICE AT ASU

Items are at the department level except as otherwise noted, and are roughly listed in order of significance/time commitment.

Associate chair for undergraduate studies: oversaw all aspects of our undergraduate program which encompassed 300 majors and taught over 10,000 students each semester. The duties included in scheduling/assignment of courses, handling student complaints, revising curricula (new courses, changes in requirements, the addition of a major and several minors), and promoting mathematics to students, 1999-2001.

The project which I think will have the greatest impact is a change in the requirements for future elementary teachers whereby they now take two semesters of "Math for elementary teachers" instead of one. This involved extensive discussions with people from Arizona community colleges, other Arizona universities, the College of Education at ASU, many of whom were not initially supportive of this idea.

Personnel (and budget) committee: 2008–2009, 2011–2013, 2016–present. Chair 2012–2013, 2016–present.

Dean's faculty advisory committee: 2013–2015.

Standards committee: college level committee which reviews student appeals with regard to academic rules, chair, 2001–2002.

Director search committee: 2011–2012.

Hiring search committee: 1990–1991, 2001–2002, 2009-2010.

Undergraduate committee: chair, 1999–2001.

Bylaws: oversaw getting our bylaws passed after the math department became a School when there seemed to be a problem in getting this done, and brought various amendments to the faculty for consideration. Then member of an ad-hoc bylaws committee. 2010–2015.

Web page committee: oversaw the design and implementation of the department's web pages, chair, 2005-2007.

Advisor for math majors: 1993-2001. Head advisor for 1999-2001, during which time I advised roughly 100 students per year.

WeBWorK: I set up and administered our WeBWorK system, which is a web-based homework grading system for mathematics. I obtained funding for the servers, set up the servers, modified WeBWorK in many ways to better accommodate the needs of ASU, wrote a substantial number of new problems for the system, set up our courses each semester, and gave workshops and presentations for faculty, 2002–2007. I still consult with the local WeBWorK administrators to troubleshoot problems.

SEE-ASU: K-12 science fair conducted by the university which runs for 2 days in the spring. I was in charge of our booth for the first year the Math Department participated in this event, 2001.

Placement testing software: we combined the placement test for many courses into a single test which could be taken over the web. I did some of the programming for administering the test, and all of the programming for the reporting system which allowed students and administrators to check scores, and for administrators to input scores for students who took the test on paper. This allowed students to take our math

placement exams before the first day of classes; many started taking the exam before signing up for classes during freshman orientation, 2001–2003.

Review committee: handles appeals for faculty annual evaluations, 1997–1999, 2001–2003.

Instructor observation: member of a small committee which did all observations and evaluations of classroom teaching by non-tenure track faculty, 1998–1999. Observations done as needed in other years.

Graduate committee: 1993–1995.

Calculus committee: looked at the direction the department should take for calculus at a time when we were first piloting calculus reform projects, and more recently looking at how to handle the change to large calculus lectures with recitation sections, 1994–1997, 2007–2008.

Qualifying and comprehensive exam committees for graduate students: almost every year since 1990.

General Studies Council: university level committee which reviews courses to determine which will satisfy the general education requirements for undergraduates. Member of the council and chair of the math/statistics/computer subcommittee, 1999-2001.

Campus Recreation Board of Governors: university commitee which meets monthly. It oversees the SRC and to a certain extent, other recreation on the Tempe campus, and the other three ASU campuses, 2007–2012.

ASU Representative to the Math Articulation Task Force: representatives from the math departments of each public university and community college in Arizona establish and maintain agreements on the articulation of courses for transfer students, 1999–2001.

Parking appeals board: university committee to handle appeals for parking citations on campus, 1993–1995.

Department pandemic planning committee: charged with developing plans for handing a pandemic or other emergency which may partially shut down operations of the Tempe campus, 2008.

Facilities committee: looked at classroom redesign in the main math building, 1999.

Information Technology curriculum committee: university level committee to draft a new program in information technology, 2001–2002.

Colloquium committee: 1990–1993, 1997–1998, 2013–2015.

Core math visitors committee: 2013–2015.

Panelist for two promotion workshops organized by CLAS, Spring 2015.

Panelist for a workshop on applying for jobs organized by ICERM, Fall 2015.

Math club advisor: 1999–2001.

NCA accreditation team: a university level committee responsible for producing ASU's self-study report for accreditation, 2001.

Ombudscommittee: chair 2014–Spring 2015.

College review committee: college level committee to handle faculty appeals to the college on annual evaluations, 2005–2011.

Computing committee: 1995–1998, 2005–2006, 2008–2010.

Education liaison and outreach committee: chair, 2001–2003.

Affirmative action committee: 1996–1997.

Library committee: 1991–1992.