

## *Curriculum Vitae*

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### **Education**

- Ph.D. in Mathematics, University of Illinois at Urbana-Champaign, 1984. Area of specialization: Functional Analysis; specifically, the Geometry of Banach Spaces.
- A.M. in Statistics, University of Illinois at Urbana-Champaign, 1983.
- B.S. in Physics, University of Illinois at Urbana-Champaign, 1969.

### **Employment History**

- Arthur F. Thurnau Professor, University of Michigan at Ann Arbor, 2008–present.
- Associate Dean for Undergraduate and Graduate Education of the College of Literature, Science, and the Arts, University of Michigan at Ann Arbor, August 2004–July 2010.
- Interim Director, University of Michigan Center for Global and Intercultural Study (subsuming and expanding the U-M Office of International Programs), 2008–2009.
- Deputy Director, Mathematical Sciences Research Institute at Berkeley, July 2002–July 2004. Position held while on leave from University of Michigan.
- Professor of Mathematics, University of Michigan at Ann Arbor, 2000–present. Associate Professor, 1992–2000. Tenured, 1994.
- Associate Professor of Mathematics, Eastern Illinois University, 1986–1992. Assistant Professor, 1983–1986. Tenured, 1987; early tenure was awarded.
- Teaching Assistant, Department of Mathematics, University of Illinois at Urbana-Champaign, most semesters, 1978–1983; four semesters of fellowship and research assistantships during this period.

- Computer Systems Software Specialist, Roper Corporation, Kankakee, Illinois, 1969–1977.
- Computer consultant for various organizations, 1969–1977.

### Recent Honors and Awards

- Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Distinguished Mentor of the Year Award, 2019. From the award description: “The Distinguished Mentor is selected from among the top candidates submitted in all the [five] outstanding mentor categories.... The Distinguished Mentor will be recognized on stage at the 2019 National Diversity in STEM Conference.” SACNAS is the largest multicultural and multidisciplinary STEM diversity organization in the United States.
- Profiled in Winter 2017 Newsletter of the U.S. Presidential Awards for Excellence in Science, Mathematics, and Engineering Mentoring (PAESMEM), “Successful Practices: Lighting STEM Pathways for Native Americans”. See below for information on my 1997 PAESMEM award.
- Profiled in Spring 2016 Michigan Section MAA Newsletter, “Interview with Bob Megginson”, by David Austin, Grand Valley State University.
- Detroit Area Pre-College Engineering Program’s Real McCoy Award for furthering the education of underrepresented minorities, 2015.
- Fellow of the American Mathematical Society, named in 2012 to the inaugural list.
- University of Michigan nominee for State of Michigan Distinguished Professor of the Year Award, 2011. Each state university is allowed to nominate one faculty member each year for this award.
- Fellow of the American Association for the Advancement of Science, elected 2009.
- Mathematical Association of America’s Yueh-Gin Gung and Dr. Charles Y. Hu Award, 2009. Given to one person each year, this is the MAA’s highest award for service to the profession.
- Named Arthur F. Thurnau Professor, 2008.
- Profiled in *To Infinity and Beyond*, a feature article in *Winds of Change* magazine, Spring 2008.
- Profiled in *Can 2+2=5?*, a feature article in *LSAMagazine*, the alumni magazine of the University of Michigan’s College of Literature, Science, and the Arts, Fall 2007.
- Etta Zuber Falconer Excellence in Mathematics Teaching Award, Quality Education for Minorities Network, 2006.
- Fellow of the Academic Leadership Program of the Committee on Institutional Cooperation (CIC), 2004–05.
- Selected for inclusion in the book *100 Native Americans Who Shaped American History*, by Bonnie Juettner, Bluewood Books, 2002.
- Named to Native American Science and Engineering Wall of Fame, maintained at Southwestern Indian Polytechnic Institute in Albuquerque NM, 2001.
- University of Michigan Harold R. Johnson Diversity Service Award, 2000.

- American Indian Science and Engineering Society Ely S. Parker Award, 1999. This is a lifetime achievement award given each year to one person for professional achievement and service to the Native American community, and is AISES's highest honor.
- University of Michigan Regents' Award for Distinguished Public Service, 1999.
- Featured University of Illinois alumnus, November/December 1999 *Illinois Alumni Magazine*. (*A mathematician against the odds*, by Scott Spilky, vol. 12, no. 3, pp. 36–38.)
- U.S. Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring, awarded at a White House ceremony, 11 September 1997.
- University of Michigan College of Literature, Science, and the Arts Excellence in Education Awards, 1994, 1997, 2000. These are currently given to about 3% of the LSA faculty each year.

### Thesis and Recent Publications

- *Sustainability education at U.S. and Canadian Tribal Colleges: Its goals and implementations, and the role of mathematics*, in *The Roadmap Project: The Future of Sustainability Science and Education at North American Universities* (N. Krogman, G. Machlis, ed.), University of Alberta Press, to appear.
- *Un estudio del concepto de igualdad* (with L. Sosa, E. Padilla, A. Solares, C. Martinez, D. Lozano), in *Concept Study—Profound Understanding of Teachers' Mathematics, Memorias CMO-BIRS 2015* (M. Campos, I Cáceres, ed.), Memorias CMO-BIRS, 2016.
- *Involving underrepresented minority scientists in climate change research*, SACNAS News 17 (Summer/Fall 2014), no. 1, available online at <http://sacnas.org/about/stories/sacnas-news/summer-2014/climate-change-research>.
- *Equity and quality in a mathematics program for underrepresented students at an elite public university* (with Vilma Mesa), in *Mapping Equity and Quality in Mathematics Education* (Bill Atweh, Mellony Graven, Walter Secada, Paola Valero, ed.), Springer-Verlag, 2011.
- *Native Americans at forefront of all STEM areas*, Winds of Change 23 (Winter 2008), no. 1, 54.
- *National Research Experiences for Undergraduates Program (NREUP)* (with William A. Hawkins and Michael Pearson), in *Proceedings of the Conference on Promoting Undergraduate Research in Mathematics*, American Mathematical Society, Providence, 2007.
- *The mathematicization of science* (lead-off editorial to 20th anniversary issue), Winds of Change 22 (Winter 2007), no. 1, 4, 78.
- *Some political and practical issues in implementing reform*, in *A Fresh Start for Collegiate Mathematics: Rethinking the Courses below Calculus* (Nancy Baxter Hastings, ed.), MAA Notes, vol. 69, Mathematical Association of America, Washington, 2006.

- *Why Change?—What Works, a PKAL F2I Essay*, Project Kaleidoscope Publications, Volume IV—What Works, What Matters, What Lasts, Project Kaleidoscope, Washington, 2006. Available online at [http://www.pkal.org/documents/Megginson\\_WhyChange.cfm](http://www.pkal.org/documents/Megginson_WhyChange.cfm).
- *Modern Mathematics Workshops*, Emissary (Spring/Fall 2006), 1, 4–5.
- *A few reflections on equity programs and related issues*, in *Nodes of Growth in Equity in Education* (E. Linn, ed.), School of Education, University of Michigan, Ann Arbor, 2005.
- *Yueh-Gin Gung and Dr. Charles Y. Hu Award to Gerald L. Alexanderson for Distinguished Service to Mathematics*, Amer. Math. Monthly **112** (March 2005), no. 3, 197–199.
- *Research experiences for minority undergraduates: SUMMA's national REU program*, Focus **24** (November 2004), no. 8, 27–28.
- *Yueh-Gin Gung and Dr. Charles Y. Hu Award to T. Christine Stevens for Distinguished Service to Mathematics*, Amer. Math. Monthly **111** (March 2004), no. 3, 185–188.
- *Implementation and assessment of on-line gateway testing* (with P. Gavin LaRose), Primus **13** (December 2003), no. 4, 289–307.
- *Minority-oriented professional societies and increasing the diversity of students in math*, MER Newsletter **15** (Summer 2003), no. 3, 9–11.
- *Yueh-Gin Gung and Dr. Charles Y. Hu Award to Clarence F. Stephens for Distinguished Service to Mathematics*, Amer. Math. Monthly **110** (March 2003), no. 3, 177–180.
- *College-based precollege intervention projects: A model for outreach to groups underrepresented in science and mathematics*, Journal of Public Service and Outreach **4** (Fall 1999), no. 2, 7–13.
- *An Introduction to Banach Space Theory*, Graduate Texts in Mathematics 183, Springer-Verlag, 1998.
- *MISHI and Math Horizons*, Math Horizons **3** (Nov. 1995), no. 2, 26–28.
- *Mathematics reform and Native Americans*, MER Newsletter **8** (Fall 1995), no. 1, 4–5.
- *A gateway testing program at the University of Michigan*, in *Preparing for a New Calculus* (A.E. Solow, ed.), MAA Notes, vol. 36, Mathematical Association of America, Washington, 1994.
- Thesis: *The semi-Kadec-Klee condition and nearest-point properties of sets in normed linear spaces*, University of Illinois at Urbana-Champaign, 1984, directed by Mahlon M. Day.

### Editorial Duties

- Associate Editor, *Science Advances*, 2015–17.

### Positions with and Service to Professional and National Organizations and Institutions

- Nominee for President, Mathematical Association of America, 2005.

- Nominee for President, Mathematical Association of America, 1999.
- Nominee for First Vice President, Mathematical Association of America, 1997.
- MAA Board of Governors, Governor-at-Large for Minority Interests, 2014–17.
- Member, National Science Foundation Committee on Equal Opportunities in Science and Engineering (CEOSE), 2014–20. This is the congressionally-mandated committee charged to advise and oversee the NSF’s human resources efforts and to report to Congress on them.
- Member, National Science Foundation Directorate for Computer and Information Science and Engineering Strategic Planning Committee on Broadening Participation in Computing, 2008.
- Member, Board of Trustees, Mathematical Sciences Research Institute at Berkeley (MSRI), 1997–99 and 2000–04. Appointed an “Emeriti” Trustee, 2017.
- Chair, MSRI Human Resources Advisory Committee, 1997–99; member of the committee, 1993–99 and 2005–08 (and *ex officio* member 2002–04). Appointed a lifetime member in 2008, only the second person to be so honored; David Blackwell was the first.
- Member, MSRI Educational Advisory Committee, 2008–21.
- Member, MSRI Long-Range Planning Committee, 2005–08.
- Member, MSRI Building Committee, 2000–02.
- Member, External Advisory Board, Alliance of Indigenous Math Circles, 2017–present.
- Member, International Scientific Advisory Board, New Zealand Institute of Mathematics and its Applications, 2003–04.
- Member, Educational Advisory Committee, Pacific Institute for the Mathematical Sciences, 2006–2009.
- Chair, Committee on Opportunities in Science, American Association for the Advancement of Science, 2008–11. Member of committee, 2005–08. Now continue to serve as a Special Advisor to the committee.
- Member, Section A Electorate Nominating Committee, American Association for the Advancement of Science, 2010–13.
- Member, Mentor Award Review Committee, American Association for the Advancement of Science, 2011–present.
- Chair, Committee on External Awards, Mathematical Association of America, 2005–10.
- Chair, National Programs Subcommittee of the Carriage House Advisory Board (CHAB) and member of CHAB, Mathematical Association of America, 2005–12.
- Chair, Gung and Hu Award Committee, Mathematical Association of America, 2001–04. Member of committee, 2013–16.
- Co-Chair, Committee on Minority Participation in Mathematics, Mathematical Association of America, 1995–2002; member of the committee, 1990–2002 and 2005–12.

- Chair, Coordinating Council on Human Resources, Mathematical Association of America, 1997–2001; member of the committee, 1995–2001.
- Chair, Committee on Trevor Evans Awards, Mathematical Association of America, 1997; member of the committee, 1995–98.
- Member of the following additional Mathematical Association of America committees: Science Policy Committee (2012–18), *ad hoc* Search Committee for MAA Executive Director (2010–11), Advisory Board for the Study of the Characteristics of Successful Programs in Calculus (2008–present), *ad hoc* Search Committee for MAA Secretary (2008–09), Coordinating Council on Awards (2008–11), Professional Enhancement Program (PREP) Steering Committee (American Mathematical Society Representative) (2003–present), Committee on External Awards (2005–08), Coordinating Council on Awards (2005–08), *ad hoc* MAA-NAM Committee on the David Blackwell Lecture (2005–08), *Focus* and *MAA Online* Advisory Board (2002–05), *ad hoc* Committee on Calculus in High School (2003–04), *ad hoc* Committee on the Committee Chairs' Handbook (2002–04), Program Committee for the 2004 Providence Summer MathFest, Nominations Committee for the 2003 Elections, Program Committee for the 2003 Baltimore Winter Meeting, Program Committee for the 2002 Burlington Summer MathFest, President's Task Force on NCTM Standards (1996–2001), Program Committee for the 1999 Providence Summer MathFest, Task Force on Member Services (1995–99), *Math Horizons* Advisory Board (1992–99), Task Force on SUMMA Activities (1996–97), Program Committee for the 1996 Orlando Winter Meeting.
- Consultant for the Mathematical Association of America's Project for New Experiences in Teaching (Project NExT), 1995–present.
- Chair, Committee on Professional Ethics, American Mathematical Society, 2016–19; member, 2016–17.
- Member, Task Force on the First Year College Mathematics Experience, American Mathematical Society, 2007–09.
- Chair, Subcommittee on Identifying Successful Diversity Programs of the Committee on the Profession, American Mathematical Society, 2005–06.
- Member, Committee on Committees, American Mathematical Society, 2000–05.
- Member, Committee on Academic Freedom, Tenure, and Employment Security, American Mathematical Society, 1996–99 and 2002–05.
- Member, Diversity Subcommittee, Park City Mathematics Institute, 2010–present.
- Member, Minority Programs Review Committee (A), Minority Access To Research Careers Committee, National Institute of General Medical Sciences of the National Institutes of Health, 2008–13.
- Member, Advisory Board, Science and Technology Center on Real-Time Functional Imaging (STROBE), CU Boulder, in partnership with UCLA, UC Berkeley, UC Irvine, and others, 2017–present.

- Member, Advisory Board, AAAS Stimulating Research and Innovation in STEM Teacher Preservice Education initiative, funded by the NSF Robert Noyce Teacher Scholarships Program, 2016–present.
- Member, Advisory Board, Transition to College Mathematics and Statistics Project, Western Michigan University, 2010–present.
- Member, Advisory Board, Georgia Tech Project on Professional Networks as a Determinant of Advancement, Mobility, and Career Outcomes for Women and Minorities in STEM, 2009–present.
- Advisor, AGEP Evaluation Capacity Project, American Association for the Advancement of Science, 2006.
- Assistant Director, Project Kaleidoscope, 2002–2009. See <http://www.pkal.org> for information on this organization, which is a national project to foster leadership in science, technology, engineering, and mathematics in the 21st Century.
- Chair, Task Force on Increasing Minority Participation of Project Kaleidoscope’s Faculty for the 21st Century (F21), 1998; Member, F21 Steering Committee, 1997; F21 member, 1996–present.
- Member, Advisory Board, University of Arizona Making Connections Project, 2005–09.
- Member, Advisory Board, Haskell Indian Nations University project for *Mathematics: Keystone for Success*, 2004–2010.
- Member, Native American Advisory Board, Johns Hopkins University/American Indian Science and Engineering Society/American Indian Higher Education Consortium Program on Bridging the Holistic and Reductionist Approaches to the Scientific Method, 2004–present.
- Member, Diversity Promotion Panel, School of Public Health, Department of Biostatistics, University of Alabama at Birmingham, 2004–present.
- Member, Advisory Board, Cardinal Stritch University Geometry Project, 2003–present.
- Member, Advisory Board, Core-Plus Mathematics Project, 2003–present.
- Member, Duke University VIGRE External Review Team, 2005–06.
- Mathematics consultant, Carnegie Initiative on the Doctorate, Carnegie Foundation for the Advancement of Teaching, 2004.
- Member, Minority Program Office Mentoring and Advisory Panel of the National Council for Science and the Environment, 2003–04.
- Member, Bureau of Indian Affairs Criterion-Referenced Test Committee, 2003.
- Member, Advisory Board, Great Lakes Regional American Indian Network, 1996–2000.
- Member, Board of Directors, National PreFreshman Engineering Program, 1996–99.
- Member, Native American Oversight Committee, Oklahoma Native American Mathematics Educators and Students (ONAMES) Project, 1992–96.

- Member, U.S. Bureau of Indian Affairs/Mathematical Association of America Collaborative Program Oversight Committee, 1994–95.
- Teller, American Mathematical Society, 1989–92.

### **Conferences, Workshops, and Special Sessions Co-Organized**

- Ninth Conference in Honor of David Blackwell and Richard A. Tapia, National Institute for Mathematical and Biological Synthesis, Knoxville TN, 28–29 October 2016.
- MAA Special Session on Summer Research Programs, Joint Mathematics Meetings, Seattle WA, 7 January 2016.
- Lead organizer for MSRI Critical Issues in Mathematics Education conference, Berkeley CA, 18–20 March 2015.
- Eighth Conference in Honor of David Blackwell and Richard A. Tapia, Institute for Pure and Applied Mathematics, Los Angeles CA, 14–15 November 2014.
- MAA Special Session on Summer REUs, Joint Mathematics Meetings, Baltimore MD, 16 January 2014.
- SUMMA Session for Prospective REU Mentors, Joint Mathematics Meetings, San Diego CA, 12 January 2013.
- Seventh Conference in Honor of David Blackwell and Richard A. Tapia, Institute for Computational and Experimental Research in Mathematics, Providence RI, 9–10 November 2012.
- MSRI workshop on Spring Opportunities: Cultivating a Diverse Mathematical Community, Berkeley CA, 12–14 March 2012.
- Symposium on Indigenous Perspectives on Climate Change, American Association for the Advancement of Science Annual Meeting, Vancouver BC, 18 February 2012. (Sole organizer.)
- MAA Panel Discussion on Incorporation of the Mathematics of Climate Change and Sustainability into our Undergraduate Courses, Joint Mathematics Meetings, Boston MA, 6 January 2012. (Sole organizer.)
- MAA Panel Discussion on Summer Research Programs, Joint Mathematics Meetings, Boston MA, 5 January 2012.
- Sixth Conference in Honor of David Blackwell and Richard A. Tapia, Mathematical Biosciences Institute, Columbus OH, 5–6 November 2010.
- Teaching Undergraduates Mathematics, Mathematical Sciences Research Institute, Berkeley CA, 11–13 May 2009.
- Fifth Conference in Honor of David Blackwell and Richard A. Tapia, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park MD, 14–15 November 2008.



- SACNAS-MSRI Conference on Modern Mathematics, National Conference of the Society for the Advancement of Chicanos and Native Americans in Science, Salt Lake City UT, 8–9 October 2008.
- SUMMA Special Session on MAA Summer Research Programs, Joint Mathematics Meetings, San Diego CA, 8 January 2008.
- MAA Panel Discussion on Attracting Underrepresented Students to Graduate Study through Research, Joint Mathematics Meetings, New Orleans LA, 7 January 2007.
- Fourth Conference in Honor of David Blackwell and Richard A. Tapia, Institute for Mathematics and Its Applications, Minneapolis MN, 3–4 November 2006.
- Raising the Floor: Progress and Setbacks in the Struggle for Quality Mathematics Education for All, Mathematical Sciences Research Institute, Berkeley CA, 7–10 May 2006; co-organized with Deborah Ball, Robert P. Moses, Herb Clemens, Carlos Cabana, and Ruth Cossey.
- SUMMA Special Session on MAA Student Research Programs, Joint Mathematics Meetings, San Antonio TX, 15 January 2006.
- Richard Tapia Celebration of Diversity in Computing Conference (also chair of the workshop committee for the conference), Albuquerque NM, 19–22 October 2005.
- Using Mathematically Rich Activities to Develop K-12 Curricula, a two-part Special Session, co-organized with Robert P. Moses of the Algebra Project and Ed Dubinsky of Kent State University, Joint Mathematics Meetings, Atlanta GA, 7–8 January 2005.
- Mathematical Association of America Student Research Programs, Special Session, Joint Mathematics Meetings, Atlanta GA, 7 January 2005.
- Third Conference in Honor of David Blackwell and Richard A. Tapia, Institute for Pure and Applied Mathematics, Los Angeles CA, 5–6 November 2004.
- Tenth Conference for African American Researchers in the Mathematical Sciences, Mathematical Sciences Research Institute, Berkeley CA, 22–25 June 2004.
- Assessing Students' Mathematics Learning: Issues, Costs and Benefits, Mathematical Sciences Research Institute, Berkeley CA, 7–10 March 2004.
- Current Events in Mathematics, Special Session of the American Mathematical Society, Joint Mathematics Meetings, Phoenix AZ, 9 January 2004.
- Mathematical Education of Teachers Summit II, Arlington VA, 11–12 October 2003.
- TSU-MSRI Conference on Modern Mathematics, Texas Southern University, Houston TX, 27–28 September 2003.
- Second Conference in Honor of David Blackwell and Richard A. Tapia, Mathematical Sciences Research Institute, Berkeley CA, 1–2 November 2002.
- MSRI-Howard Conference on Modern Geometry, Howard University, Washington DC, 21–22 September 2002.

- Fifth Conference for African American Researchers in the Mathematical Sciences, University of Michigan, Ann Arbor MI, 22–25 June 1999.

### Recent Invited Talks (2000–present)

- *Addressing of the COVID-19 pandemic by tribal colleges*, invited virtual presentation to NSF staff and members of its CEOSE diversity advisory committee, 11 June 2020.
- *Mathematical sense and nonsense outside the classroom* (enhanced version of the following entry in this list), colloquium talk, University of Washington, Seattle WA, 14 February 2020.
- *Mathematical sense and nonsense outside the classroom: Telling the difference*, 2019 Donald Buckeye Lecture, Eastern Michigan University, Ypsilanti MI, 6 November 2019.
- *Native American mathematics*, colloquium talk, Montana Tech, Butte MT, 24 April 2018.
- *Got Math? We did, long before Europeans arrived!*, invited hour talk for Bay Area Mathematical Adventures, San Jose State University, San Jose CA, 5 April 2017.
- *Native American mathematics*, colloquium talk, Grand Valley State University, Allendale MI, 29 March 2017.
- *Alternative facts: Are we doing our part in arming our students to spot them, particularly when people are using mathematics to construct them?*, colloquium talk, Central Michigan University, Mt. Pleasant MI, 31 January 2017.
- *Mathematical sense and nonsense outside the classroom: How well are we preparing our students to tell the difference?*, opening keynote address for MAA Summer MathFest, Columbus OH, 4 August 2016.
- *Native American mathematics*, colloquium talk, University of Montana, 18 April 2016.
- *Native American mathematics*, colloquium talk at the University of Central Florida, Orlando FL, 27 February 2015.
- *My life as a ~~physicist astronomer statistician computer scientist administrator~~ mathematician now interested in climate science – or – My ongoing effort to figure out what I want to be when I grow up*, closing keynote talk at an NSF summer program for students underrepresented in STEM, held at Colorado State University, Fort Collins CO, 31 July 2014.
- *Drop-in mathematics help centers—the University of Michigan Math Lab*, keynote talk at a conference on mathematics student support services at the Hong Kong University for Science and Technology, 11 June 2015.
- *Gateway testing in mathematics—Past and present*, keynote talk at a conference on mathematics student support services at the Hong Kong University for Science and Technology, 10 June 2015.
- *A call to students: Careers and opportunities in climate science and your role in strengthening the nation and world through diversity, innovation, and leadership in these fields*, keynote talk, Society

for the Advancement of Chicanos and Native Americans in Science (SACNAS) Annual Meeting, 4 October 2013.

- *Mathematics, climate change, and Native people: Why we care, and why our help is needed*, presentation to a Navajo Nation mathematics summer program at Diné College, Tsaile AZ, 19 July 2013.
- *What the Future Holds for Diversity in STEM, and Some of the Challenges of the Present*, presentation to the Minority and Women Scientists and Engineers Networking Breakfast, AAAS Annual Meeting, Boston, 16 February 2013.
- *Reflections on the AAAS's 40 Years of Expanding Opportunities in Science for All by the Immediate Past Chair of the AAAS Committee on Opportunities in Science*, AAAS Annual Meeting, Boston, 13 February 2013.
- *Mathematical Sense and Nonsense in the Public Conversation about the Future of Planet Earth: How Do We Help our Students Tell the Difference?*, invited 20 minute talk, Joint Mathematics Meetings, San Diego, 12 January 2013.
- *Mathematics of Planet Earth 2013: Why We Care and How We Can Participate*, keynote at the Breakfast for Chairs of Minority Mathematics Departments, Joint Mathematics Meetings, San Diego, 12 January 2013.
- *American Indians Succeeding in STEM*, invited hour presentation, College of Menominee Nation, Keshena WI, 21 September 2012.
- *Climate Change: Why We Care, How We Can Help*, invited hour presentation (the leadoff scientific talk for the conference), American Indian Science and Engineering Society National Conference, Minneapolis MN, 10 November 2011.
- *The Mathematics of Climate Change*, invited hour presentation, Illinois Council of Teachers of Mathematics Annual Meeting, Springfield IL, 21 October 2011.
- *Lessons from a Life in Mathematics*, keynote address, NSF-AAAS Emerging Researchers National Conference, 25 February 2011.
- *Climate Change and Underrepresented Communities*, hour presentation to the American Association for the Advancement of Science meeting of the Committee on Opportunities in Science, AAAS Annual Meeting, Washington DC, 16 February 2011.
- *The Douglass Houghton Scholars Program: A Calculus Learning Community at the University of Michigan*, invited hour presentation, Illinois Council of Teachers of Mathematics Annual Meeting, Springfield IL, 16 October 2010.
- *Climate Change at the Top of the World*, closing banquet speaker, Mathematical Association of American Summer MathFest, Pittsburgh PA, 7 August 2010.
- *When Cultures Collide: The Melting Pot and the Salad Bowl*, evening speaker presentation to University of Michigan Faculty Women's Club, Ann Arbor MI, 25 March 2010.

- *A Minority's Trip through Mathematics and Science—A Personal Journey*, featured invited address at the Minority Mentoring in Math and Sciences meeting, Eastern Illinois University, Charleston IL, 3 February 2010.
- *Speed Bumps and Potholes in the Road to Strengthening Underrepresented Minority Mathematics Achievement, Past, Present, and Future*, invited presentation, special session on The MAA SUMMA Program Turns 20—A Retrospective, Joint Mathematics Meetings, San Francisco CA, 13 January 2010.
- *Mathematics as a Doorway, a Barrier, and a Civil Right*, keynote address for U.S. Bureau of Indian Education Summer Institute, Phoenix AZ, 24 June 2009.
- *Benefits and Operational Challenges of Study Abroad Programs at the University of Michigan*, invited talk at a planning workshop for CERN/LHC study abroad programs in Geneva, Center for Strategic and International Studies, Washington DC, 1 June 2009.
- *Enriching the Academic Experience of College Science and Mathematics Students from Diverse Backgrounds*, Diversity Lecture Series, Trinity Christian College, 2 February 2009.
- *American Indian Participation in Mathematics in the U.S.—Obstacles and Opportunities*, invited hour talk, 7th Australia-New Zealand Mathematics Convention, Christchurch NZ, 8 December 2008.
- *What Has Been Happening in Undergraduate Research Experiences in Mathematics in the United States in the Last Ten Years*, invited seminar talk, University of Auckland, Auckland NZ, 4 December 2008.
- *AISES and American Indian Scientists*, invited hour talk to Michigan State University student chapter of the American Indian Science and Engineering Society, East Lansing MI, 25 October 2008.
- *Critical Transition Points for Graduate Students from a Faculty Perspective*, invited panel presentation, Faculty Responses to Graduate Student Perspectives on Navigating Through Critical Transition Points, Workshop on Promoting Diversity at the Graduate Level in Mathematics: A National Forum, Mathematical Sciences Research Institute, Berkeley CA, 15 October 2008.
- *Excellence in Mathematics for Minority Students at Top Research Universities*, invited panel presentation, Promoting Excellence in Mathematics for Latina/o and Native American Students, National Conference of the Society for the Advancement of Chicanos and Native Americans in Science, Salt Lake City UT, 11 October 2008.
- *Teaching in a Global Context Using Technology: An Example*, invited address, Enriching Scholarship Conference, University of Michigan, Ann Arbor MI, 5 May 2008.
- *Native Americans in Mathematics: A Proud Past, and a Look to the Future*, mathematics colloquium talk, University of Minnesota—Duluth, Duluth MN, 6 March 2008.

- *Opportunities for American Indian Students in Mathematics*, invited hour talk to high school students at Fond du Lac Ojibwe School, Cloquet MN, 6 March 2008.
- *Native American Mathematics*, college colloquium talk, United Tribes Technical College, Bismarck ND, 17 January 2008.
- *Barriers to Native American Participation in Mathematics*, invited community address, Bismarck Public Schools, Bismarck ND, 17 January 2008.
- *Where Did Our Twenty-Five Years Go?*, Cox-Talbot Address, Joint Mathematics Meetings, San Diego CA, 8 January 2008.
- *The Role of Undergraduate Research Experiences in Enriching the Academic Experience of College Science Students from Diverse Backgrounds*, invited luncheon talk, Conference on Enriching the Academic Experience of College Science Students, University of Michigan, Ann Arbor MI, 23 May 2007.
- *The Advisor's Role in Learning of Students from Underrepresented Groups*, invited luncheon talk, Conference on the Advising Role in Student Learning, University of Michigan, Ann Arbor MI, 9 May 2007.
- *Native American Mathematics*, mathematics colloquium talk, Calvin College, Grand Rapids MI, 26 April 2007.
- *Undergraduate Research Programs for Students from Underrepresented Groups in a Post-Affirmative-Action World*, invited presentation for the session on Attracting Underrepresented Students to Graduate Study through Research, Joint Mathematics Meetings, New Orleans LA, 7 January 2007.
- *Undergraduate Research Experiences to Foster Minority Achievement in Mathematics and Science*, invited panel presentation at the Race and Pedagogy National Conference, University of Puget Sound, Tacoma WA, 15 September 2006.
- *The Underrepresentation of U.S. American Indians in Mathematics: Important Lessons from a Rough History*, invited hour presentation at the Conference on First Nations: Mathematics and Science Education, Banff International Research Station, Banff AB, 20 June 2006.
- *The National Importance of Recruiting Low Income Students into STEM Fields*, invited presentation at the Jack Kent Cooke Community College Initiative Conference, University of Michigan, Ann Arbor MI, 23 May 2006.
- *Barriers to U.S. Native American Participation in Mathematics*, invited presentation at the Pacific Institute for the Mathematical Sciences, Vancouver BC, 1 May 2006.
- *Diversity in College and University Mathematics Programs*, invited hour presentation at the Conversations Among Colleagues Conference, School of Education, University of Michigan, Ann Arbor MI, 24 March 2006.

- *Meeting the Challenge: Increasing American Indian Representation in the Sciences*, joint presentation with David Burgess, Alliance for Graduate Education in the Professoriate Conference on Evaluation Capacity, San Juan PR, 28 January 2006.
- *Attracting More Minority Students into the Mathematical Sciences through Undergraduate Research Experiences: Why and How?*, Special Session on Mathematics and Education Reform, Joint Mathematics Meetings, San Antonio TX, 13 January 2006.
- *Participation by American Indians in Mathematics: A Case Study in Underrepresentation*, invited MAA hour address, Joint Mathematics Meetings, San Antonio TX, 12 January 2006.
- *A Tradition of Excellence*, keynote speech at Pursuit of Excellence Symposium, Novi MI, 15 November 2005.
- *A Pathway for College and University Professionals*, Pathways for Professionals Symposium, American Indian Science and Engineering Society National Conference, Charlotte NC, 3 November 2005.
- *Native American Mathematics*, mathematics colloquium talk at Hope College, Holland MI, 15 September 2005.
- *Promoting Diversity in Mathematics*, invited presentation at the Project NExT (New Experiences in Teaching) Workshop preceding the Mathematical Association of America's MathFest 2005 in Albuquerque NM, 2 August 2005.
- *What I Wish Someone Had Told Me in Graduate School: Problems that Confront Minority Research Mathematicians*, Career Workshop on Minorities and Applied Mathematics, Institute for Mathematics and Its Applications, Minneapolis MN, 23 April 2005.
- *Minority Participation in Mathematics and Science: A Modern Overview and a Historical Example*, mathematics colloquium talk at Loyola University, Chicago IL, 25 February 2005.
- *Promoting Diversity in Mathematics through Math Circles and Olympiads*, Special Session on What Faculty Can Do to Promote Diversity in Mathematics, Joint Mathematics Meetings, Atlanta GA, 6 January 2005.
- *Pathways within a Mathematical Career*, invited presentation to the National Science Foundation's Division of Mathematical Sciences Dialog 2004 program, Washington DC, 1 May 2004.
- *Some Political and Practical Issues on Implementing Reform*, MAA Session on Courses Below Calculus, Joint Mathematics Meetings, Phoenix AZ, 8 January 2004.
- *Education Initiatives: The Role of the Mathematical Sciences Research Institute*, invited presentation to the Conference Board of the Mathematical Sciences, Washington DC, 5 December 2003.
- *Changes in the Profession of Teaching College Mathematics*, presentation to science, technology, engineering, and mathematics faculty at Southwestern Indian Polytechnic Institute, Albuquerque NM, 21 November 2003.

- *Native American Mathematics*, mathematics colloquium talk at the University of Kansas, Lawrence KS, 3 November 2003.
- *Native American Mathematics*, mathematics colloquium talk at Santa Clara University, Santa Clara CA, 28 October 2003.
- *The Use of Computerized Tests in Mathematics*, IX IASI Seminar in Applied Statistics, IMPA, Rio de Janeiro, 9 July 2003.
- *Native American Mathematics*, Albert Turner Bharucha-Reid Lecture, National Association of Mathematicians Regional Faculty Conference on Research and Teaching Excellence, Mathematical Sciences Research Institute, Berkeley CA, 28 March 2003.
- *The Role of Minority-Oriented Professional Societies for Increasing the Diversity of Students in Mathematics*, AMS-MAA-MER Special Session on Mathematics and Education Reform, Joint Mathematics Meetings, Baltimore MD, 16 January 2003.
- *Expanding Your Research Horizons*, Project NExT Special Session on Research, Joint Mathematics Meetings, Baltimore MD, 15 January 2003.
- *Why Change? Because We Must! The Changing Context for Leadership*, invited talk to the 2002 Project Kaleidoscope National Assembly of the Faculty for the 21st Century, Washington DC, 12 October 2002.
- *Co-Curricular and Curricular Opportunities with Student Departmental Clubs*, workshop presentation at the University of Michigan Provost's Seminar on Teaching, Ann Arbor MI, 1 May 2002.
- *Modern Native Americans in Mathematics and the Sciences*, invited talk at National Cathedral School, Washington DC, 27 February 2002.
- *Native American Mathematics*, university colloquium talk at Washington and Lee University, Richmond VA, 2 November 2001.
- *Graduate Study in Mathematics*, mathematics colloquium talk at Washington and Lee University, Richmond VA, 1 November 2001.
- *Aligning Goals, Methods, and Assessment in the UM Reformed Introductory Mathematics Program*, workshop presentation at the University of Michigan Provost's Seminar on Teaching, Ann Arbor MI, 31 October 2001.
- *Mathematics Reform at the University of Michigan*, hour address at the Society for Industrial and Applied Mathematics Great Lakes Section Fall Plenary Meeting held at Oakland University, Rochester MI, 13 October 2001.
- *Issues in the Implementation of a Reformed Precalculus Program*, workshop presentation at the NSF/Oswego University Rethinking Precalculus Workshop, Hilton Crystal City Hotel, Arlington VA, 5 October 2001.

- *An Old Nearest Point Problem in Hilbert Space*, keynote address at the Annual Mathematics Conference of the Syracuse University Department of Mathematics, sponsored by the Mathematics Graduate Organization, Syracuse NY, 30 March 2001.
- *Project ENACT: An MAA Program to Increase the Number of Native American Mathematics Teachers*, AMS-MAA-MER Special Session on Mathematics and Education Reform, Joint Mathematics Meetings, New Orleans LA, 11 January 2001.
- *The Michigan Reformed Calculus Program: How and Why We Do It*, mathematics colloquium talk at the University of Toledo, Toledo OH, 25 August 2000.
- *Teacher Development at the University of Michigan*, part of a panel presentation on “Developing Effective Teaching Assistants” at the Mathematical Association of America’s MathFest 2000, Los Angeles CA, 4 August 2000.
- *University of Michigan Calculus Reform: Why and How We Did It*, part of a panel presentation at the Project NExT (New Experiences in Teaching) Workshop preceding the Mathematical Association of America’s MathFest 2000, Los Angeles CA, 1 August 2000.
- *The Meaning of Leadership in Diverse Cultures*, presentation as Guest Leader for Michigan LeaderShape, Boyne City MI, 10 May 2000.

#### **Other Recent Invited Participation (2004–present)**

*Items are listed only if the invitation was accepted and serious enough to include defraying of expenses.*

- Invited participant, Workshop on Critical Issues in Mathematics Education 2019: Mathematical Modeling in K-16—Community and Cultural Contexts, Mathematical Sciences Research Institute, Berkeley CA, 6–8 March 2019.
- Invited participant, Workshop on Critical Issues in Mathematics Education 2018: Access to Mathematics by Opening Doors for Students Currently Excluded from Mathematics, Mathematical Sciences Research Institute, Berkeley CA, 21–23 February 2018.
- Invited participant, Workshop on Critical Issues in Mathematics Education 2017: Observing for Access, Power, and Participation in Mathematics Classrooms as a Strategy to Improve Mathematics Teaching and Learning, Mathematical Sciences Research Institute, Berkeley CA, 15–17 March 2017.
- Invited participant, “Roadmap” meeting at the Banff Centre in Alberta (though not BIRS) of a group of about 15 people, hosted by the governments of Canada and Alberta, the U.S. Department of the Interior, and AAAS, chaired by the Science Advisor to the U.S. National Park Service and including a Canadian MP and other regional officials as well as eminent scientists such as Thomas Lovejoy, to lay out a roadmap for sustainability education in North America, 21–23 September 2016.
- Lead Organizer, Workshop on Critical Issues in Mathematics Education 2015: Developmental Mathematics: For whom? Toward what ends?, Mathematical Sciences Research Institute, Berkeley CA, 18–20 March 2015.



- Invited participant, Workshop on Critical Issues in Mathematics Education 2014: The role of the mathematics department in the mathematical preparation of teachers, Mathematical Sciences Research Institute, Berkeley CA, 26–28 March 2014.
- Invited participant, Workshop on Critical Issues in Mathematics Education 2013: Assessment of mathematical proficiencies in the age of the common core, Mathematical Sciences Research Institute, Berkeley CA, 3-5 April 2013.
- Invited participant, Workshop on Critical Issues in Mathematics Education 2012: Teacher education in view of the Common Core, Mathematical Sciences Research Institute, Berkeley CA, 21–23 March 2012.
- Invited participant, Workshop on Critical Issues in Mathematics Education 2011: Mathematical education of teachers, Mathematical Sciences Research Institute, Berkeley CA, 11–13 March 2011.
- Invited participant, Workshop on Critical Issues in Mathematics Education 2010: Reasoning and Sense-Making in the Mathematics Curriculum, Mathematical Sciences Research Institute, Berkeley CA, 7–9 June 2010.
- Invited participant, NSF-sponsored Colloquy on Minority Males in STEM, Baltimore MD, 8–12 August 2010.
- Invited attendee, American Association for the Advancement of Science annual meeting, Chicago IL, 12–16 February 2009.
- Invited participant, Mathematical Association of America Workshop for Planning Minority Department Chair Professional Development, 8–9 January 2009.
- Invited attendee, American Association for the Advancement of Science annual meeting, Boston MA, 13–17 February 2008.
- Invited participant, Mathematical Sciences Research Institute 25<sup>th</sup> Anniversary Conference, Mathematical Sciences Research Institute, Berkeley CA, 26–30 January 2008.
- Invited participant, Canadian Aboriginal Mathematics Workshop, Banff International Research Station, Banff AB, 3–7 December 2007.
- Invited participant, American Indian Graduate Horizons Program, 13–17 July 2007.
- Invited participant, Critical Issues in Education: Teaching Teachers Mathematics, Mathematical Sciences Research Institute, Berkeley CA, 30 May–1 June 2007.
- Invited participant, Symposium on Climate Change: From Global Models to Local Action, Mathematical Sciences Research Institute, Berkeley CA, 12–13 April 2007.
- Invited attendee, American Association for the Advancement of Science annual meeting, San Francisco CA, 15–19 February 2007.
- Invited participant, American Mathematical Society Conference on Promoting Undergraduate Research in Mathematics, Rosemont IL, 28–30 September 2006.

- Invited attendee, National Conference of the Society for the Advancement of Chicanos and Native Americans in Science, Denver CO, 29 September–1 October 2005. (Expenses fully paid by American Association for the Advancement of Science.)
- Invited participant, Conference on the Mathematical Knowledge for Teaching, Pacific Grove CA, 25–28 May 2005.
- Invited attendee, American Association for the Advancement of Science annual meeting, Washington DC, 16–20 February 2005.
- Invited participant, Conference on Mathematical Circles and Olympiads, Mathematical Sciences Research Institute, Berkeley CA, 16–18 December 2004.
- Invited participant, Sloan Foundation American Indian College Horizons conference and planning meeting, Washington University in St. Louis, St. Louis MO, 17–18 July 2004.
- Invited participant, Diversity Day of the National Conference of the Society for Industrial and Applied Mathematics, Portland OR, 14 July 2004.
- Invited participant and poster presenter, *Invention and Impact: Building Excellence in Undergraduate Science, Technology, Engineering and Mathematics (STEM) Education*, a conference of the Course, Curriculum and Laboratory Improvement Program of the National Science Foundation, Crystal City VA, 16–18 April 2004.
- Invited Participant, AAAS/NACME *Conference on Next Steps, Next Decade: The Impact of U.S. Supreme Court Affirmative Action Rulings on Programs to Promote Underrepresented Minorities in Science and Engineering*, AAAS Headquarters, Washington DC, 15-16 January 2004.

#### **Partial Listing of Other Professional Activity**

- Co-Principal Investigator, American Indian Science and Engineering Society Project for Lighting the Pathway to Faculty Careers for Natives in STEM, a \$1.5 million NSF inter-directorate project to increase the number of American Indian students who pursue faculty positions in STEM at U.S. colleges and universities.
- Member, Editorial Board, *Journal of Mathematics and Culture*, 2007–2010.
- Member, Committee of Visitors for programs in the NSF Division of Education and Human Resources, and member of its Tribal Colleges and Universities (TCUP) subpanel, 1–2 September 2010.
- External reviewer, various National Institutes of Health NIGMS project sites, 2008–13.
- External reviewer, University of Kansas/Haskell Indian Nations University minority-serving programs in the sciences, 14–16 November 2007.
- Chair, Committee of Visitors for review of NSF Historically Black Colleges and Universities Undergraduate Program (HBCU-UP), 27–28 September 2007.

- External reviewer, First Year Seminars, the Research Opportunities Program, and the Independent Experiential Study Program of the Faculty of Arts and Sciences of the University of Toronto, 26 January 2007.
- External reviewer, Student Advising Services of the Faculty of Art of the University of British Columbia, 11–14 September 2005.
- Principal Investigator, \$200,000 NSF grant to implement an electronic mathematics testing and skill building center at the University of Michigan, 2000–03.
- Principal Investigator, Mathematical Association of America/American Indian Science and Engineering Society Project for Enhancing Mathematics/Science Faculty at Native American Tribal Colleges in the Use of Calculators and Technology (Project ENACT), a \$400,000 project funded by the National Science Foundation, Exxon Educational Foundation, and National Aeronautics and Space Administration,
- Co-Principal Investigator, \$380,859 NSF grant awarded to Mathematical Association of America for National Research Experiences for Undergraduate Program, designed to provide undergraduate research experiences in mathematics to underrepresented minority students, 2006–09.
- Frequent proposal and program reviewer for National Science Foundation programs, as well as programs of other organizations targeting the mathematics education of minorities and women (e.g., the L’Oreal USA For Women in Science Program).
- Frequent participant in planning and review sessions for the summer intervention programs of the American Indian Science and Engineering Society and the minority programs of the Mathematical Association of America.
- Frequent invited participant in meetings and programs relating to the mathematics education of minorities, including the joint National Academy of Sciences/Mathematical Sciences Education Board’s *Making Mathematics Work for Minorities* convocation, 3–4 May 1990.

### **Partial Listing of Teaching and Educational Activities**

- Director of the University of Michigan Mathematics Laboratory, a walk-in tutoring service, 1992–2002.
- Designer, director, and implementer of a reformed precalculus program at the University of Michigan emphasizing cooperative learning and other modern educational methods.
- Recipient of a \$6,000 Faculty Development Fund grant from the U-M Center for Research on Learning and Teaching for a course design project titled *A Flipped Course in Partial Differential Equations and Boundary Value Problems*, 2013.
- Faculty director, University of Michigan Mathematics Literacy Project (also known as the Young People’s Project—Michigan), 2011–present. The MAA Tensor-SUMMA Project has provided \$18,000 in grant funding for this project for 2011–14, matched by our Department of Mathematics and the Provost’s Office.

- Designer and conductor of the precalculus portion of workshops for mathematics faculty at Native American tribal colleges, organized by the Quality Education for Minorities Network, held 23–25 June 2005 in Denver and 11–13 August 2005 in Seattle.
- Designer of the mathematics portion of many mathematics programs for precollege students and their teachers on the Turtle Mountain Chippewa Reservation in North Dakota, summers of 1992 through 2001.
- Designer and conductor of a two-week workshop for mathematics faculty at Native American tribal colleges on teaching with technology, with the sponsorship of the Mathematical Association of America, held 7–20 June 1998 in Boulder.
- Co-designer and co-instructor for a course in *Native American Experiences in the United States*, taught through the University of Michigan Pilot Program during the winter term of 1994.

### **Partial Listing of University of Michigan Service Activities**

- Member, University of Michigan Arthur F. Thurnau Professor Selection Committee, 2009–11.
- Member, Provost's Special Committee on Institutional Innovation in Collaborative Technologies For Learning, 2008–09.
- Chair, University of Michigan Committee on University Undergraduate Teaching Awards, 2007–09.
- Faculty Advisor for the University of Michigan Student Chapter of the American Indian Science and Engineering Society, 1992–2002, 2004–present.
- Member, College of Literature, Science, and the Arts Curriculum Committee, 1994–97, 1998–2003.
- Member, Executive Committee of the Gayle Morris Sweetland Writing Center at the University of Michigan, 1999–2002.
- Member, Mathematics Department Executive Committee, 1999–2001.
- Member, University of Michigan Native American Search Committee charged with making a “cluster hire” of five or more Native American faculty, 1999–2001.
- Member, University of Michigan Search Committee for Vice President for Student Affairs, 1999–2000.
- Member, Faculty Senate's Committee for a Multicultural University, 1996–99.
- Member, University of Michigan Advisory Council for UM 21st Century Program, 1992–99.

### **Other Interests and Personal Information**

- I have had a lifelong interest in astronomy, and have even done a very small amount of professional work in the area in a project with Kenneth Yoss of the Astronomy Department of the University of Illinois at Urbana-Champaign. My part in the project was to verify the validity of a new statistical

method used to estimate the distance to the Hyades star cluster. I still maintain my membership in the Astronomical Society of the Pacific.

- I am an avid mountain climber. My current project is to climb all of the Rocky Mountain Fourteeners, the fifty-six mountains in the Rockies with summit elevations over 14,000 feet. I am well over halfway there.
- I have been an opera singer, and sang for a number of years with the Illinois Opera Theatre.

#### **Service on Thesis and Dissertation Committees**

- Michael Weiss, Department of Mathematics, University of Michigan, in progress.
- Elizabeth Wabindato, Department of Political Science, University of Michigan, awarded 2005.
- Georgios Dalakouras, Department of Mathematics, University of Michigan, awarded 2004.
- Joseph Palen, Department of Mathematics, University of Michigan, awarded 2000.

#### **Thesis Directed**

- Karen A. Schlauch, M.A. 1991, Eastern Illinois University, *A comparative study of ancient mathematical and calendrical systems*.

#### **Membership in Professional and Honorary Societies**

- American Mathematical Society.
- Mathematical Association of America, life member.
- National Association of Mathematicians, life member.
- Association for Women in Mathematics.
- American Association for the Advancement of Science.
- American Geophysical Union.
- American Indian Science and Engineering Society, life member and Sequoyah Fellow.
- Society for the Advancement of Chicanos and Native Americans in Science, life member.
- Astronomical Society of the Pacific.
- Phi Kappa Phi academic honor society.
- Pi Mu Epsilon mathematics honor society.