

Katherine F. Stevenson
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Education:

B.S., Mount Holyoke College, June 1989. Cum laude in mathematics, minor in economics. Phi Beta Kappa, Sigma Xi. Honors thesis: *Rational Points on Elliptic Curves* mathematics.

Ph.D., University of Pennsylvania, May 1994. Mathematics Dept. Dissertation: *Fundamental Groups of Projective Curves in Characteristic p* . Advisor: David Harbater

Employment:

August 2001 - Present Cal. St. Northridge. Current rank: Full Professor.

August 2009 - August 2018 Cal. St. Northridge. Director Developmental Mathematics.

Sept. 1998 - Aug. 2001 Caltech. Taussky-Todd Instructor (on leave, UMD).

Aug. 1994 - Aug. 2000 University of Maryland, Assistant Professor.

Mathematics papers since 2007:

Abhyankar's Conjectures in Galois Theory: Current Status and Future Direction With D. Harbater, A. Obus, R. Pries. Bulletin of the AMS, **55**, no. 2, (April 2018), 239-287.

Subgroups of profinite surface groups. With L. Bary-Soroker and P. Zalesskii. Math. Res. Lett. **18** (2011), no. 03, 459-471.

Embedding problems and open subgroups. With D. Harbater; Proceedings of the AMS, **139** (2011), no. 4, 1141-1154.

A survey of Galois theory of curves in characteristic p . With R. Pries; Fields Institute Communications **60**, (2011), 169-191.

Semi-direct Galois covers of the affine line. With L. Gruendken, L. Hall-Seelig, B.-H. Im, E. Ozman, R. Pries. Fields Institute Communications **60** (2011), 201-210.

Normal subgroups of the algebraic fundamental group of affine curves in positive characteristic. With A. Pacheco and P. Zalesskii. Math. Annalen, **343** (2009) Issue 2, 463-486.

On quasi-free profinite groups. With L. Ribes and P. Zalesskii. Proceedings of the American Mathematical Society. **135** (2007), no. 9, 2669-2676.

Extensions and errata of mathematics papers:

Erratum to: Normal subgroups of the algebraic fundamental group of affine curves in positive characteristic Math. Ann. **359** (2014), no. 3-4, 1115-1116. Filled a gap in one of the arguments.

Local Galois Theory in dimension two: Second Edition. Online at arXiv.org reference [arXiv:0907.3082v1](https://arxiv.org/abs/0907.3082v1). (2011) Generalized the results in *Local Galois Theory in dimension two* (above) to show that the groups are semi rather than quasi free.

Papers on mathematics pedagogy:

Quantitative Reasoning Task Force report. Co-chair and coordinating author. 42 pages. September 1, 2016. [QRTF Report](#)

Developmental Mathematics: For Whom? To What End? MSRI-CIME Workshop Report **11** 68 pages (2016) . [MSRI Report](#)

Creating a Place for Introductory Mathematics: Academic Needs Drive Adaptive Reuse Project with S. Clerkin & D. Stephens. Planning for Higher Education, **41** No. 1 pp 1-13 (2012)

Creating the Flow: How hybrid labs can help turn around high failure rate classes. with L. Zweier “EDUCAUSE Quarterly” December 15, 2011. [Educause Article](#)

Relevant Grants, fellowships, and awards:

Grant: College Futures, with CSU Chancellor’s Office. October 2018 to May 2019. **\$60,000**.

Grant: LAUSD contract scaling up “Transition to College Math and Statistics Course Implementation.” Collaboration with Prof. Cathy Gaspard (CSUN) and Project Grad., Los Angeles. June 2017 - June 2018, **\$70,000**; Renewed for Stevenson only **\$25,000**.

Grant: Bill and Melinda Gates Foundation, NGLC Wave I Follow-on grant “Hybrid Math Labs for High Failure Rate Classes.” January 2013-August 2016, **\$2,300,000**. Collaboration with California State University System and California Community College System. Follow-on funding from 2011-2012 grant **\$150,000** in collaboration with CSULB, HSU, LAPC.

Award: College Service Award 2015.

Award: Distinguished Teaching Award, CSUN academic year 2007-2008.

Award: College of Science and Mathematics Teaching Award, CSUN academic year 2007-2008.

Service since 2011:

Department and College Service:

Department Personnel Committee 2018-2019, chair, elected.

Department Adhoc Committee to address CSU Executive Order 1110, 2017-2018, appointed.

Department Adhoc Committee to revise Ideas in Math (Math 131), 2016-2017, appointed.

Department Hiring Committee 2016-2017. 1 successful search, elected.

Department Hiring Committee 2015-2016. 4 successful searches, elected.

Department Program Review Committee 2015-2016, responsible for undergraduate program report, appointed.

Adhoc Committee to revise Pre-Calculus sequence (Math 102, 104, 105), chair, 2015-2016.

Department Curriculum Committee, 2014-2015, appointed.

Department Personnel Committee, 2014-2015, elected.

Math Chair Elections Committee, Spring 2014, elected.

College Personnel Committee Academic years 2011/2012 and 2012/2013, elected.

Hiring Committee, 2012-2013, elected. 3 successful searches.

University Service:

Director of the Developmental Mathematics Program (DMP), August 1, 2009 - August 1, 2018, appointed

General Education Task Force Member, Spring 2018, appointed

Academic Oversight Advisory Group for Athletics, August 1, 2015-present, appointed

AAC&U Equity Group. 2015-present, appointed.

TEWS Board, Fall 2014-present, appointed.

“Learning Habits Project,” Academic Affairs, CSUN, 2008-2016, appointed.

CSU Service:

Advisory Committee and Liaison Committee for the CSU Center for the Advancement of Quantitative Reasoning, Academic Year 2018-2019.

Quantitative Reasoning Task Force Co-Chair. February-September 2016.

Work with CSU Math Council on Early Start Math (ESM) Implementation. Participation had a significant impact on how the Early Start initiative was accepted by the mathematics community and implemented across the CSU.

Participant in the “Proven Redesign” Initiative. Allowed expansion of the network of CSU working on the Gates Funded project on Entry Level Math courses.

Mathematical Community Service:

AMS Committee on Education. February 1, 2017-January 30, 2020, appointed. Chair, December 1, 2018 - January 30, 2020.

Organizer AMS Committee on Education conference. Washington, DC, October 12, 2018

Mathematical Sciences Research Institute (MSRI, UC Berkley campus) Education Advisory Committee. April 1, 2017 (3 year term), appointed.

Member of the Math Advisory Group for the *Transforming Post Secondary Education – Math (TPSEmath)*. October 2017-Present

Refereed papers for Journal of Algebra, Transactions, and Annalen, invited.

Organizer CIME Conference, MSRI, March 2018, *Access to mathematics by opening doors for students currently excluded from mathematics*, appointed. [Link to CIME 2018](#)

AMS Award Committee for “Impact on the Teaching and Learning of Mathematics” 2018, appointed.

External Reviewer for CSUSM Math Department October 1-2, 2015, appointed.

Young Scholars Awards Committee, AMS July 1, 2015 - June 31, 2018, appointed.

Organizer CIME Conference, MSRI, March 2015, *Developmental Mathematics: For whom? Toward what ends?*, appointed. [Link to CIME 2015](#)

Implementing a 4th year math course for LAUSD using new curricular material well coordinated with Common Core – Transitions to College Level Math and Statistics (TCMS) January 2014-present, requested.

Travel Grant Selection Committee, Assoc. of Women in Mathematics, Spring 2013-2016, appointed.

General Education Advisory Board, Western Governors University, January 2013-August 2016, appointed.

Advisory committee for Title III Grant to Valley College: Accelerated Pathways to STEM (Science, Technology, Engineering and Mathematics) and Articulation Grant from the U.S. Department of Education, invited.

Invited talks and conferences since 2011::

Panelist, Instructional Design Conference ASCCC. San Jose, CA, March 17, 2017

Participant, Transforming Post Secondary Education in Math (TPSE) Chairs plus one meeting. March 9-11, 2017

Presentation to ASCSU on QRTEF, Long Beach, CA, September 15-16, 2016.

Presenter, Graduation Initiative 2025 Symposium, Long Beach, CA, September 21-22, 2016

Presenter, Mathematics Readiness Challenge Meeting, California State Department of Finance, Sacramento, CA, April 22, 2016

Presenter with CSUN Team, AASCU 2016 Academic Affairs Winter Meeting, Austin, TX, February 4, 2016

Panelist, Aligning Math Together, UC Articulation Conference, UC Irvine, CA, February 26, 2016

Panelist, RP Group at 2015 Strengthening Student Success Conference, October 7-9, 2015

Address Spring meeting of the Mathematical Institutes Directors, April 30, 2015. Educational Outreach

USC Algebra Seminar, April 20, 2015

Speaker and Organizer, MSRI CIME March, 2015

Women in Science Meeting, CSU Dominguez Hills, April 4, 2014

Educause Meeting, New Orleans, February 3-5, 2014

Gates Foundation Convening, Seattle June 14, 2012

Oberwolfach, Germany, The Arithmetic of Fields. June, 2013

CAPS Conference, Monterey Bay, June 10, 2012

Teaching experience since 2009: Mathematical Methods for Business (Math 103), Foundations of Mathematics (Math 320), Abstract Algebra I (Math 360), Abstract Algebra II (Math 460). Multiple sections all with with high evaluations.

Mathematics Thesis Advising

Undergraduate research project in arithmetic geometry: Stanislav Turnov and Vincent Newberry (now in Ph.D program at Kansas State University).

Masters Student Austin Nickel. Started Fall 2014 in Ph.D. Program at University of Arizona.

Masters Student Spencer Gerhardt. Ph.D. Program in Math, University of Southern California
May 2017.

Masters Student David Wood; Thesis “Secure ballot transmission: Paillier’s method” defended on November 13, 2009.

Masters Student Evelyn Ngo: Thesis “The $3n + 1$ Problem” defended on July 27, 2010.

Undergraduate Advisees: “Learning Taxonomies of the Visual World” (IIS-0534984): N. Sutter, Y. Semerdjian, A. Torosian, E. Leyton.