

CURRICULUM VITAE

Robert Tubbs

CURRENT POSITIONS AT THE UNIVERSITY OF COLORADO

Associate Professor, Department of Mathematics
Fellow, Center for STEM Learning

EDUCATION

Graduate: Columbia University and the Pennsylvania State University (M.A. Columbia University, January 1978; Ph.D. Pennsylvania State University, August 1981)

Thesis title: *An elliptic analogue to the Gelfond-Feldman measure of algebraic independence*

Thesis Advisor: W. D. Brownawell

Undergraduate: Oberlin College and the University of South Florida (B.A. University of South Florida, December 1975)

PROFESSIONAL EXPERIENCES

September 2017	Visiting Scholar, The School of Critical Studies, University of Glasgow, Glasgow, United Kingdom
December 2010	Visiting Professor-Special Year in Number Theory, The Institute for Mathematical Sciences, Chennai, India
January 2000	Distinguished Visitor in Residence, Williams College, Williamstown, Massachusetts
Winter & Spring 1993	Member, Mathematical Sciences Research Institute, Berkeley, California
January 1993	Research Visitor, University of Texas, Austin, Texas
1990-present	Associate Professor, University of Colorado, Boulder, Colorado
Summer 1989	Visiting Fellow, Macquarie University, Sydney, Australia
1986-1990	Assistant Professor, University of Colorado, Boulder, Colorado
1985-1986	Member, The Institute for Advanced Study, Princeton, New Jersey
1984-1985	Instructor, University of Texas, Austin, Texas
1983-1984	Visiting Assistant Professor, Northern Arizona University, Flagstaff, Arizona
1981-1984	Assistant Professor, Pitzer College, Claremont, California

MAJOR SERVICE EXPERIENCES

July 2018-June 2019	Director of Lower Division Curriculum, Department of Mathematics, University of Colorado, Boulder
September 2014-May 2017	Member, Colorado Department of Higher Education, Mathematics Pathways Task Force
June 2012-October 2015	Director, Miramontes Arts and Sciences Program, University of Colorado, Boulder
August 2011-June 2012 & August 2007-May 2009	Associate Chair for Undergraduate Studies, Department of Mathematics, University of Colorado, Boulder
September 2004-May 2007	Chair, Curriculum Committee, College of Arts and Sciences, University of Colorado, Boulder
April 2002-April 2006	Chair, Rocky Mountain Section of the Mathematical Association of America (one year <i>Chair-Elect</i> , two years <i>Chair</i> , one year <i>Past-Chair</i>)
July 1993-June 1996	Chair, Department of Mathematics, University of Colorado, Boulder
July 1990-June 1991	Associate Chair for Graduate Studies, Department of Mathematics, University of Colorado, Boulder

RESEARCH AND CREATIVE WORKS

BOOKS:

DISCIPLINE: *INTELLECTUAL HISTORY OF MATHEMATICAL IDEAS/MATHEMATICS AND THE HUMANITIES*

- 1) *What is a Number? Mathematical concepts and their origins.* (The Johns Hopkins University Press, January 2009, 305 pages)
<https://jhupbooks.press.jhu.edu/content/what-number>
- 2) *Mathematics in Twentieth-Century Literature and Art: Content, form, and meaning.* (The Johns Hopkins University Press, July 2014, 162 pages)
<https://jhupbooks.press.jhu.edu/content/mathematics-twentieth-century-literature-and-art>
- 3) *Handbook of Literature and Mathematics*, co-editor with Alice Jenkins. (Palgrave Macmillan/Springer Nature, to appear 2020)

DISCIPLINE: *NUMBER THEORY*

- 1) *Making Transcendence Transparent: An intuitive approach to classical transcendental number theory*, co-authored with Edward Burger. (Springer, 2004, 263 pages)
<https://www.springer.com/gp/book/9780387214443>
- 2) *Hilbert's Seventh Problem: Solutions and extensions.* Institute of Mathematical Sciences Lecture Notes-2 (Hindustan Book Agency/Springer, January 2016, 85 pages)
<http://www.hindbook.com/index.php/hilbert-s-seventh-problem-solutions-and-extensions>
<https://link.springer.com/book/10.1007/978-981-10-2645-4>

SELECTED RESEARCH ARTICLES

- 1) “Algebraic groups and small transcendence degree I”, *Journal of Number Theory*, vol 25 (3) March 1987, pages 279-307.
- 2) “Algebraic groups and small transcendence degree II”, *Journal of Number Theory*, vol 35 (2) June 1990, pages 109-127.
- 3) “Analytic subgroups of t-modules”, *Transactions of the American Mathematical Society*, vol 349, 1997, pages 2605-2617.
- 4) “Well-approximated points on linear extensions of elliptic curves” (with Deanna Caveny), *Proceedings of the American Mathematical Society*, vol 138, 2010, pages 2745-2754.
- 5) “A zeros estimate”, Appendix to “Algebraic Independence of Values of Weierstrass Elliptic and Zeta Functions” by K. Senthil Kumar. Revision submitted to *Monatshefte für Mathematik* (October 2019)

OTHER PUBLICATIONS

DISCIPLINE: *MATHEMATICS AND THE HUMANITIES*

- 1) “Squaring the circle: A literary History”. To appear in, *Palgrave Handbook of Literature and Mathematics* (2020).

DISCIPLINE: *MATHEMATICS EDUCATION*

- 1) Special volume of *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies* (co-editor with W. Smith, UNL, and C. Rasmussen, SDSU). Work in progress.
- 2) Co-author of four chapters of *Student Engagement through an Institutional Network for Active Learning (SEMINAL): A Handbook for Mathematics Departments Seeking to Improve Mathematics Teaching and Learning*. Book proposal under consideration: CBMS/AMS-Issues in Mathematical Education.

DISCIPLINE: *MATHEMATICS*

- 1) *Rocky Mountain Journal of Mathematics*. vol. 26, 1996, co-editor with David Grant. Special volume dedicated to Wolfgang Schmidt on the occasion of his sixtieth birthday.

CURRENT FUNDING

National Science Foundation *iUSE* grant, Student Engagement in Mathematics through an Institutional Network for Active Learning (collaborative grant between University of Colorado Boulder, University of Nebraska Lincoln, San Diego State University and the Association of Public Land-Grant Universities). I am the PI for UC Boulder, August 2016-August 2021

SELECTED LECTURES

UNDERGRADUATE LECTURES

An absurdist look at some peculiar decimals, University of Colorado, October 2019.
The Irrational Side of Mathematics, Baylor University, April 2012.

Zeroing in on Irrational Numbers, Yale University, October 2011.

What is a transcendental number (and how can we find one)? Keynote address. Eighth Annual Pikes Peak Region Undergraduate Mathematics Conference, United States Air Force Academy, February 2011.

Solvability, Brown Bag Seminar, Mesa State University, March 2007.

e , π , and $\sqrt{(\log 2)}$, Brown Bag Seminar, Mesa State University, October 2004.

Presidential doodles and geometric perfection, Keynote speaker, First Annual Pike's Peak Regional Undergraduate Research Conference, Colorado State University-Pueblo, February 2004.

Infinity: Can't live with it, can't live without it, Mesa State University, February 2000.

An introduction to transcendental numbers, Williams College, January 2000..

Pythagorean triples, the unit circle, and Fermat's Last Theorem, Mesa State University, November 1998.

An introduction to transcendental numbers, Vassar College, November 1985.

RECENT RESEARCH LECTURES

An Attractive Partial Solution to Hilbert's Seventh Problem. History of Mathematics Seminar, Colorado State University, Ft. Collins, February 2016.

Is Malevich's square an axiom?-Axioms and abstractions in modern mathematics and art. At conference Kalkül und Ästhetik: Verhältnisse zwischen Kunst und Mathematik, Akademie Schloss Solitude, Stuttgart, Germany, April 2015.

Hilbert's Seventh Problem: Solutions and extensions. Seven Lectures. The Institute for Mathematical Sciences, Chennai, India, December 2010.

What Euler did not know about the zeta function, Regional meeting of the M.A.A., Pueblo, CO, April 2007.

From e^π to $2^{\sqrt{2}}$, Motivating the Solution to Hilbert's 7th problem, MathFest, Knoxville, TN. August 2006.

π , e^π , and $\Gamma(1/4)$, Colloquium, Oregon State University, May 2005.

An illustrated history of α^β , Plenary speaker at the Brownawell Conference, Waterloo, Canada, June 2004.

On the number .123456789101112..., Regional meeting of the MAA, Colorado Springs, April 2004.