

Dr. Vicky W. Klima
Appalachian State University
Mathematical Sciences Department
(828) 262-2610
Email: klimavw@appstate.edu

Educational Record

PhD, North Carolina State University, 2003
Major: Mathematics, Algebra
MS, North Carolina State University, 2000
Major: Mathematics
BA & BS, Erskine College, 1998
Majors: Mathematics and business Administration

Professional Record

Associate Professor, Appalachian State University. (July 2009 - Present)
Assistant Professor, Appalachian State University. (August 2003 - June 2009)
Graduate Teaching Assistant, North Carolina State University. (August 1998 - June 2003)

TEACHING

Teaching Experience

MAT 1020, College Algebra	MAT 2510, Sophomore Honors Seminar
MAT 1025, Pre-Calculus	MAT 3110, Introduction to Modern Algebra
MAT 1030, Calculus with Business Applications	MAT 3510, Communicating Mathematics
MAT 1110, Calculus with Analytical Geometry I	MAT 3220, Introduction to Real Analysis
MAT 1120, Calculus with Analytical Geometry II	MAT 4720/5210, Abstract Algebra
MAT 2130, Calculus with Analytical Geometry III	MAT 5220, Ring Theory
MAT 2240, Linear Algebra	MAT 5950, Mathematical Modeling
MAT 2110, Techniques of Proof	Analytical Models

Directed Student Learning

Undergraduate Research, "Symmetry in microtonal Pitch Systems." (Fall 2012 - Spring 2013).
Advised: Ashley Askew

Directed Undergraduate Study, Academy of Sciences Research Clusters.

“A Study of Elliptic Curves” (Spring 2013)
“Choosing Teams, Investigating Outcomes in Two-Player Games” (Fall 2012)
“Groebner Bases and Sudoku” (Spring 2012)
“Symmetry and Music” (Fall 2011)

Advised: Amanda Adams, Brett Boyles, Aneisy Cardo, Michael de Camera, Brandon Flinched, Stephen Graham, Austin Flynn, Taylor Jones, Richard Madison, Jonathan Suits

Product of Learning, "Student Reactions to an Authentic Pedagogy." (Fall 2010 - Summer 2011)
Advised: Kristen Johnson

Undergraduate Research, "Investigating root multiplicities in E_{10} ." (Fall 2010 – Spring 2011)
Advised: Timothy Shatley, Andrew Wilson, Kyle Thomas

Graduate Research, "Exploring patterns in the decimal expansion of purely periodic rational numbers."
(Fall 2008)
Advised: John Grubbs

Graduate Research, "G-Graphs of Groups." (Fall 2007)
Advised: Bryan Snare

RESEARCH

Publications

Klima, V. W., Wilson, A., Thomas, K., & Shatley, T. (in press). Investigating root multiplicities in the indefinite Kac-Moody Lie algebra E_{10} . *Involve*.

Klima, V. W. (2013). Improving communication skills through student-produced videos the *Proceedings of the 20th ICTCM (International Conference on the Teaching of Collegiate Mathematics) Conference*.

Klima, V. W. (2010). A different sort of calculus debate. In D. Jardine & A. Shell-Gellasch (Eds.), *Mathematical Time Capsules: Historical Modules for the Mathematics Classroom* (pp. 139-149).

Klima, V. W., & Misra, K. (2008). Root multiplicities in the indefinite Kac-Moody algebras of symplectic type. *Communications in Algebra*, (vol. 32, issue 2, pp. 764-782).

Klima, V. W. (2008). Discussion activities in an online abstract algebra course. (pp. 133-137). Proceedings of the 20th ICTCM (International Conference on the Teaching of Collegiate Mathematics) Conference.

Klima, R. E., & Klima, V. W. Abstract algebra, an online course. (2008) Learn NC. <http://www.learnnc.org>

Greenwald, S. J., Klima, V. W., & Mawhinney, K. J. (2006). Majorie Lee Browne: North Carolina educator. *The Centroid*, (vol. 32, issue 1).

Misra, K., & Klima, V. W. (2004). Combinatorics of quantum affine Lie algebra representations *Contemporary Mathematics*, (vol. 346).

Presentations

AsKew, A. & Klima V.W*. (2013, March and April). Symmetry in n-tone pitch systems. Annual meeting of the MAA Southeastern section, Winthrop University, Rock Hill, SC as well as the annual Celebration of research and creative endeavors, Office of undergraduate research, Appalachian State University.

Klima, V. W. (2013, January and March). Improving communication skills through student-produced videos. Annual joint meetings of the AMS and MAA, San Diego, CA as well as the annual meeting of the international conference on technology in collegiate mathematics, Pearson, Boston, MA.

Klima, V. W. (2013, March). Undergraduates, Sudoku, and Groebner bases. Annual meeting of the MAA-Southeastern section, Winthrop University; Rock Hill, SC.

Adams, A, de Camera, M, Graham, S, Flinchum, B, Jones, T Suits, J, & Klima, V. W* (2012, April). Exploring Sudoku With Groebner bases. Poster presented at the annual Celebration of student research and creative endeavors, Appalachian State University, Boone, NC.

- Klima, V. W. (2012, March). Investigating musical groups. Annual meeting of the MAA, Southeastern section, Clapton State University, Morrow GA.
- Klima, V. W. (2011, October). The three M's: math music and mattresses. Workshop session presented at Sonia Kovalevsky Day, North Carolina State University, Raleigh, NC.
- Shatley, T., Thomas, K., Wilson, A., & Klima, V. W*. (2011, March and April). Investigating root multiplicities in E10. Center for undergraduate research in mathematic spring conference, BYU, Provo, UT and poster session presented at the annual celebration of student research and creative endeavors, Appalachian State University, Boone, NC.
- Klima, V. W. (2009, January). Using music to demonstrate group theory. Annual joint meetings of the AMS and MAA, Washington D.C.
- Klima, V. W. (2008, October). Using crystal bases theory to study the representations of some affine Lie algebras. Department colloquium, Lamar University, Beaumont, TX.
- Klima, V. W. (2008, April). Root multiplicities of the indefinite Kac-Moody Algebras $HC_n^{(1)}$ Western section meeting: special session: Lie algebras and applications, American Mathematical Society, San Francisco State University.
- Klima, V. W. (2008, March). Using online discussion activities in an abstract algebra course. International conference on technology in collegiate mathematics, San Antonio, TX.
- Klima, V. W. (2008, January). Using discussion activities in the abstract algebra classroom. Annual joint meetings of the AMS and MAA, San Diego, CA.
- Klima, V. W. (2008, January). Investigating root multiplicities in the Kac-Moody algebras $HC_n^{(1)}$. Mid Atlantic algebra conference, North Carolina Central University, Greensboro, NC.
- Klima, V. W. (2007, January). Seeing least squares in action. Annual joint meetings of the AMS and MAA, New Orleans, LA.
- Klima, V. W. (2006, January). A different sort of calculus debate. Annual joint meetings of the AMS and MAA, San Antonio, TX.
- Klima, V. W. (2005, September). Root multiplicity bounds for indefinite Kac-Moody algebras of symplectic type. Algebra Colloquium, North Carolina State University, Raleigh, NC.
- Klima, V. W. (2005, January). End of course projects in Calculus II. Annual joint meetings of the AMS and MAA, Atlanta, GA.
- Klima, V. W. (2004, January). A combinatorial approach to finding root multiplicities in some indefinite type Kac-Moody algebras. Annual Joint Meetings of the MAA and AMS, AWM sponsored research talks by recent women PhDs, Phoenix, AZ.
- Klima, V. W. (2003, October). Root multiplicities of the indefinite Kac-Moody algebras of symplectic type. AMS Southeastern section meeting. Special session: Algebras and their representations, University of North Carolina at Chapel Hill.
- Klima, V. W. (2002, November). Root multiplicities in the indefinite Kac-Moody algebras $HC_n^{(1)}$. Mid-Atlantic algebra conference, North Carolina State University, Raleigh, NC.

* Undergraduate students under Dr. Klima's supervision gave these presentations. Dr. Klima helped to author the presentations, but did not participate in the delivery of the presentations.

Grants

Tashakkori, R., Norris, C. A. (Co-Principal), Wilkes, J. T. (Co-Principal), Ginn, M. C. (Co-Principal), Klima, V. W. (Co-Principal), "High-Achievers Scholarship Program in Computer Science and Mathematics," Sponsored by NSF S-STEM, Federal, \$620,750.00. Recommended for funding. (July 1, 2013 - June 30, 2017).

Klima, V. W. (Principal), "CURM Mini Grant," Sponsored by Center for Undergraduate Research in Mathematics at Brigham Young University. \$13,000.00. (June 24, 2010 - May 31, 2011).

Williams, S. D. (Co-Principal), Babyak, C. M. (Co-Principal), Gu, C. (Co-Principal), Greenwald, S. J. (Principal), Klima, V. W. (Co-Principal), "PRISM: Appalachian Ambassadors for Research in Mathematics and Science (AARMS)," Sponsored by NSF, Federal, \$835,072.00. Not Funded.

Klima, V. W. (Principal), Cook, W. J. (Co-Principal), "REU Site: Pure and Applied Computational Experiments (PACE)," Sponsored by NSF, Federal, \$238,195.00. Not Funded.

Greenwald, SJ, Hirst (Co-Principal), HP, Mawhinney KJ(Co-Principal), Palmer, KM (Co-Principal), Thomley, JE (Co-Principal), and Williams, VL (married name Klima, VW - Co-Principal). Appalachian State Vertically Integrated Workshop for Women. MAA Tensor Foundation Grant: \$3,000. (Fall 2005 – Spring 2006); Renewed for \$3,100 (Fall 2006-Spring 2007).

SERVICE

Department Service

Student Engagement

Organizer, Undergraduate commencement reception. (Spring 2013, 2012, 2011)

Organizer, Homecoming reception. (Fall 2012, 2010, 2008, 2007, 2006, 2005)

Faculty advisor. ASU math club. (Fall 2005 – Spring 2010)

Organizer, Evening GRE math subject study sessions (Fall 2008)

Graduate Student Teaching Supervision

Thomas Cook (Spring 2013)

Jonah Winkler (Spring 2012)

Misty Silver (Spring 2009)

Jessica Miller and Kayla Corkery (Fall 2009)

Jay Gant and Jenny Tabbot. (Fall 2008)

Bradley Wondler and John Sevier (Fall 2007)

Committee Membership

Undergraduate program assessment. (Fall 2012-Present)

Graduate program assessment. (Fall 2008-Summer 2012)

Departmental personnel committee. (2007-2008, 2012-2013)

Directed research & product of learning guidelines committee. (Spring 2007-Summer 2008)

Curriculum revision subcommittee on logic and proof. (Fall 2005-Spring 2006)

Curriculum revision subcommittee on the employment of mathematics majors. (Fall 2004)

Additional Service

Mathematical sciences degree works faculty mentor (Summer 2012-Present)

Guest speaker, departmental colloquium. "Lie theory: A guide to reading your favorite press release". (March 2008).

College and University Service

Student Engagement

Session moderator, Celebration of student research and creative endeavors (April, 2013).

Facilitator faculty/student exchange sessions - Orientation (Summer 2004, 2005, 2007)

Committee and Board Membership

Office of Student Research Advisory Board (Fall 2013-Fall 2016)

Honors council. (Fall 2004 - Present)

Science and technology masters thesis award committee. (Spring 2013)

College of arts and sciences dean's advisory council. (Fall 2005 – Spring 2008)

Professional Service

Student Engagement

Undergraduate poster judge. MAA-SE section meeting, Winthrop University. (March 2013)

Undergraduate presentation judge. MAA-SE section meeting, Clayton State University. (March 2012)

Instructor, Applied mathematics demonstration course, Summer ventures in science and mathematics (July, 2005, 2007, 2008, 2009, 2010)

Vertically integrated workshop for women in mathematics. Co-organizer. (September 2005, 2006, 2007)

Triage grader for COMAP mathematics contest. (March 2004, 2005, 2006)

Undergraduate poster judge. Joint meetings of the AMS and MAA, Atlanta GA, (January 2005)

Reviewing Activities

SIAM Undergraduate Research Online. Journal article. (March 2012)

Wiley publishing, College algebra textbook. (November 2010)

Wiley publishing, College algebra textbook. (March 2010)

Taylor and Francis publishing. Linear algebra textbook. (April 2006)

Additional Service

Organizer, Project NeXT Panel Discussion, "Appropriate uses of technology in the collegiate mathematics classroom." Joint Meetings of the AMS and MAA, Atlanta, GA. (January 2005)

Awards and Honors

Awards

Invited, fully funded workshop participant. Research experiences for undergraduate faculty.
Sponsored by the American Institute of Mathematics. Held at the Institute for Computational and Experimental Research in Mathematics, Providence, RI. (July 22 – 26, 2013)

Faculty sponsor, undergraduate research assistantship with senior mathematics major, Ashley AsKew.
As faculty sponsor I wrote and submitted our funded proposal, "Investigating symmetry in microtonal pitch systems." Office of Undergraduate Research. Appalachian State University.
(Spring 2013)

Invited, fully funded workshop participant. Workshop for women graduate students and recent PhDs.
Sponsored by the Association for Women in Mathematics. Held at the Joint meetings of the MAA and AMS, Phoenix, AZ. (January 7 – 10, 2004)

Project Next Fellow, MAA (Fall 2004 – Spring 2005)

Outstanding teaching assistant. Department of Mathematics, North Carolina State University. (2003)

Preparing the professorate fellow. North Carolina State University. (Fall 2002 - Spring 2003)

Additional Nominations

Harvey R. Durham freshman advocate award (Spring 2013)

College of arts and sciences academic advisor of the year (2011, 2008, 2007)

Academy of outstanding teachers in the college of arts and sciences (Fall 2008)

Strickland award for young faculty in the College of Arts and Sciences (Fall 2008)

ASU club advisor of the year (Spring 2008, 2007)

William H. Plemmons Leadership Medallion at ASU (Fall 2006)