

CURRICULUM VITAE

Mohammed S. Tesemma

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Employment

April 2010 – present -- Associate Professor, Mathematics, Spelman College, Atlanta GA, USA
Fall 2007 -- Visiting assistant professor at University of Florida.
2004 – 2010 -- Assistant Professor, Mathematics, Spelman College, Atlanta GA, USA
2000 – 2004 -- Teaching Assistant, Temple University, Philadelphia PA, USA

Education

Ph.D. in Mathematics (2004) -- Temple University, Philadelphia PA
Thesis: “*Reflection groups and semigroup algebras in multiplicative invariant theory*”

Graduate Diploma in Mathematics (1999) -- The International Center for Theoretical Physics, Trieste, Italy.

B.S. & M.S. Mathematics (1992 / 97) -- Addis Ababa University, Ethiopia.

Teaching

I have taught a wide range of courses at Spelman from introductory level college algebra, precalculus & calculus sequences to upper level theory courses such as abstract algebra, real variables, complex variables and topology.

Research & Publications

My area of research is in algebra, more specifically invariant theory and computational commutative algebra. I am also interested in ordered algebraic structures such as lattice ordered groups and Riesz spaces.

Publications.

1. *A topological structure on certain initial algebras*, (with Anderson S, Smith A, Stewart P, and Usatine J.) Submitted for publication.
2. *Inversion of rational surfaces parameterizable by quadratics* (with H. Wang) International Electronic Journal of Algebra **13** (2013) 69-75.
3. *Archimedean orders on certain rings of invariants*” (with H. Wang), Algebra Colloquium **18** (2011), 289 - 300.
4. *On initial algebras of multiplicative invariants*, Journal of Algebra **320** (2008), 1851 – 1865.

5. *Bazzoni's conjecture*, (with Holland C., Martinez J., and McGovern W.), Journal of Algebra **320** (2008), 1764 – 1768.
6. *On implicitization of certain monomial parametric surfaces*, (with H. Wang), JP Journal of Algebra Number Theory and Applications **9** (2007), 277 – 291.
7. *Implicit equation of plane parametric curves*, (with H. Wang), Journal of Applied Algebra and Discrete Structures **5** (2007), 155 – 162.
8. *On multiplicative invariants of finite reflection groups*, Communications in Algebra **35** (2007), 2258 – 2274.

Work in Progress:

9. *Methods of computing the intersection of plane parametric curves*, (with H. Wang) preprint.
10. *On SAGBI bases for subalgebras with two generators*, (with Abebe Y.)
11. *The Grobner fan of twisted multiplicative invariants*.

Research Experience with Undergraduates.

I am actively engaged in mentoring students on several independent study and research projects. So far I have supervised more than 15 students.

In collaboration with math faculty from Clemson University we were awarded a two year NSF grant to conduct Summer REU for 2012 and 2013.

Served as a judge at several Math and Engineering fairs in Georgia including; The Intel International Science and Engineering Fair, and the Georgia Science and Engineering Fair.

Awards / Recognitions

- **Spelman College Presidential Awards** (Sept. 2008)
“Presidential Award for Scholarly Achievement” under junior faculty category.
- **Certificate of Outstanding Research by a Graduate Student** (May 2004)
A certificate and monetary award from Temple University, College of Science and Technology, for outstanding PhD thesis by a graduate student.
- **Academic Excellence Award** (Nov. 1997)
A certificate and small monetary award from the Ethiopian Scientific Society, Addis Ababa University in 1997. The Society gave these awards to students who excel in academic performance in science and engineering.