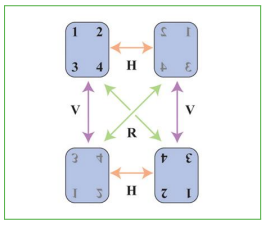

Thomas R. Hoffman

Curriculum Vita

The construction itself is an art, its application to the world an evil parasite. –LEJ Brouwer

Education

1998 – 2004 **Ph.D. in Mathematics**, *University of Arizona*, Tucson, AZ.
Specialized in Computational Algebra.

1996 – 1998 **M.S. in Mathematics**, *Oregon State University*, Corvallis, OR.
Specialized in Computational Mathematics.

1992 – 1996 **B.S. in Mathematics and Computer Science**, *Western Oregon State College*, Monmouth, OR.
Double major in pure mathematics and computer science.

Dissertation

Title *Constructing Basic Algebras for the Principal Block of Sporadic Simple Groups.*

Advisor Klaus Lux, Ph.D.

Abstract This dissertation describes an algorithm which constructs basic algebras Morita equivalent to group algebras for sporadic groups. Code and proof of correctness are included.

Master thesis

Title *Factoring Polynomials over* $\mathbf{Q}$ *with the LLL-algorithm.*

Advisor Mary Flahive, Ph.D.

Abstract This work describes an algorithm which uses the LLL-algorithm to factor polynomials with rational coeficients. The significance of this algorithm is that its complexity is polynomial time, whereas most algorithms in current use are average case polynomial time but worst case exponential time.

(843) 349 2249 • *(843) 349 2344* • *thoffman@coastal.edu*
ww2.coastal.edu/thoffman • *tom-hoffman*

Teaching

Mathematics — Have taught most math classes offered at CCU.

Computer Science — Qualified at CCU to teach computer science classes. Have taught Java programming, circuits and assembly programming, and algorithms.

Experience

2021 — **Interim Director of Mathematics Learning Center**, *Coastal Carolina University*, Conway, SC.

2017–2021 — **Chair of Mathematics and Statistics**, *Coastal Carolina University*, Conway, SC.

2016 — **Professor of Mathematics**, *Coastal Carolina University*, Conway, SC.

2014–2017 — **Associate Chair of Mathematics and Statistics**, *Coastal Carolina University*, Conway, SC.

2010–2016 — **Associate Professor of Mathematics**, *Coastal Carolina University*, Conway, SC.

2004–2010 — **Assistant Professor of Mathematics**, *Coastal Carolina University*, Conway, SC.

1998–2004 — **Graduate Teaching/Research Associate/Assistant**, *University of Arizona*, Tucson, AZ.

1996–1998 — **Graduate Research Assistant**, *Oregon State University*, Corvallis, OR.

Publications

Thomas R. Hoffman and James P. Solazzo. Complex two-graphs. *Houston J. Math.*, 44(1):283–300, 2018.

Thomas R. Hoffman and James P. Solazzo. Complex equiangular tight frames and erasures. *Linear Algebra Appl.*, 437(2):549–558, 2012.

Thomas R. Hoffman and Bart Snapp. Gaming the law of large numbers. *The Mathematics Teacher*, 106(5):378–383, 2012.

David M. Duncan, Thomas R. Hoffman, and James P. Solazzo. Numerical measures for two-graphs. *Rocky Mountain J. Math.*, 41(1):133–154, 2011.

David M. Duncan, Thomas R. Hoffman, and James P. Solazzo. Equiangular tight frames and fourth root Seidel matrices. *Linear Algebra Appl.*, 432(11):2816–2823, 2010.

Sierra Doherty and Thomas R. Hoffman. Hoberman brain twist and schreier-sims. *In preparation*.

(843) 349 2249 • (843) 349 2344 • thoffman@coastal.edu
ww2.coastal.edu/thoffman • tom-hoffman

Professional Activities

1996–2018 **Mathematics Association of America**, *Member*.

2012–2016 **Mathematics Association of America**, *Department Liaison*.

2015–2019 **XSEDE Campus Champion**.
Along with two computer science faculty, assist CCU faculty with accessing HPC resources.

Awards and Honors

2011 **MAASE Distinguished Teaching Award for Beginning Faculty**, MAASE Spring 2011 Meeting, University of Alabama.

Notable Student Posters

2015 **Solving Rubik's Revenge**, *Kyle Lewis*, National Joint American Mathematical Society and Mathematical Association of America Meeting, San Antonio.

2014 **Hoberman Brain Twist**, *Sierra Doherty*, MAASE Spring 2014 Meeting, Tennessee Tech University.
Poster won the Walt and Susan Patterson Prize for Outstanding Undergraduate Research

Presentations

2015 **The Wrong Way to Solve the Rubik's Cube**, *Coastal Carolina University*, Conway, SC.
Fall One-Talk-One-Time

2015 **Imaginary Two-Graphs**, *University of Mary Washington*, Fredricksburg, VA.
The Third Annual Conference for the Exchange of Mathematical Ideas

2014 **Imaginary Two-Graphs**, *Coastal Carolina University*, Conway, SC.
Faculty Excellence Summit

2013 **Finding Generating Sets of Condensation Algebras**, *University of St Andrews*, St Andrews, Scotland.
Invited talk at International Workshop "Parallel Programming in GAP"

2013 **The Wrong Way to Solve the Rubik's Cube**, *Coastal Carolina University*, Conway, SC.
One-Talk-One-Time during Spring Pilot

2012 **Determinant, Trace, and Fred?**, *Clayton State University*, Morrow, GA.
Invited Address at Southeastern Sectional Meeting of MAA

2011 **Seidel Matrices and Examples of Frames**, *University of Alabama*, Tuscaloosa, AL.
Southeastern Sectional Meeting of MAA

2007 **The Effect of Non-Euclidean Geometry on Philosophical Thought**, *Coastal Carolina University*, Conway, SC.
Celebration of Inquiry

(843) 349 2249 • *(843) 349 2344* • *thoffman@coastal.edu*
ww2.coastal.edu/thoffman • *tom-hoffman*

2006 **An Introduction to Computational Group Theory**, *Coastal Carolina University*, Conway, SC.
Mathematics Department Seminar

2005 **A Linear Algebra Refresher**, *Coastal Carolina University*, Conway, SC.
Mathematics Department Seminar

2005 **A Crash Course in Homological Algebra**, *Coastal Carolina University*, Conway, SC.
Mathematics Department Seminar

2005 **The Basic Algebra of HS in Characteristic 2**, *Joint AMS/MAA Mathematics Meeting*, Atlanta, GA.
AMS Session on Group Theory

2004 **Minimal Length Logarithmic Signatures of Finite Groups**, *University of Arizona*, Tucson, AZ.
Group Theory Seminar

2004 **Constructing Basic Algebras**, *University of Arizona*, Tucson, AZ.
Algebra and Number Theory seminar

2004 **Constructing Basic Algebras**, *Joint AMS/MAA Mathematics Meeting*, Phoenix, AZ.
AMS Session on Group Theory

2003 **Basic Algebras**, *University of Arizona*, Tucson, AZ.
Graduate Student Colloquium

2003 **An Introducation to Computational Group Theory**, *University of Arizona*, Tucson, AZ.
Prospective Student Weekend

2002 **Group Cohomology and Morita Equivalence**, *University of Arizona*, Tucson, AZ.
Graduate Student Colloquium

2001 **Using Conway Polynomials to Work in Finite Fields**, *University of Arizona*, Tucson, AZ.
Graduate Student Colloquium

2001 **Computing the Basic Algebra of a Group**, *University of Arizona*, Tucson, AZ.
Mathematics Graduate Day

2000 **Discrete Fourier Transform and Finite Groups**, *University of Arizona*, Tucson, AZ.
Graduate Student Colloquium

2000 **Testing the Irreducibility of Modules Using the MeatAxe**, *University of Arizona*, Tucson, AZ.
Algebra and Number Theory seminar

2000 **Factoring Polynomials over Finite Fields**, *University of Arizona*, Tucson, AZ.
Graduate Student Colloquium

1999 **Applications of the LLL-algorithm**, *University of Arizona*, Tucson, AZ.
Graduate Student Colloquium

(843) 349 2249 • *(843) 349 2344* • *thoffman@coastal.edu*
ww2.coastal.edu/thoffman • *tom-hoffman*

1999 **A Search for Rational Points on a Particular Surface**, *University of Arizona*, Tucson, AZ.
Research Tutorial Group

1998 **Factoring Polynomials over Q with the LLL-algorithm**, *Oregon State University*, Corvallis, OR.
Graduate Mathematics Colloquium

Service

University Service

2020 **Nontenure Track Committee**.
Reviewing University policies and Faculty Manual as they pertain to lecturers and adjunct faculty.

2016–2017 **Faculty Grievance Committee**.
Reviewed grievance cases from faculty as the come up.

2005–2013 **Faculty Welfare and Development Committee**.
Reviewed enhancement grant and scholarly reassignment applications, worked on family tuition waiver and childcare project.

2008–2013 **Chair, Faculty Welfare and Development Committee**.
Organized and ran meetings, worked with the Provost and faculty senate chair on many initiatives including salary decompression for faculty. Made several presentations to faculty senate and the AAUP and also developed and ran CeTeal sessions related to faculty development.

2008–2013 **Strategic Planning Committee**.

2009–2013 **Faculty Budget Advisory Committee**.

2011–2013 **University Wide Assessment Committee–Student Learning**.
Participated in review of department plans and reports from across the university.

2011–2012 **Chair, SACS Readiness Audit Team #2 Faculty**.
Organized and led the audit of CCU's policies relating to faculty.

2010–2011 **Chair, Adhoc Teaching Manual Committee**.
Organized the writing and editing of a manual for teaching faculty. Also wrote the policy on student evaluations of teachers.

2005–2006 **Secretary, Faculty Welfare and Development Committee**.
Kept minutes at meetings, then typed and submitted them to the chair.

College Service

2011–2013 **College of Science Assessment Coordinator**.
Organized the review and critical feedback of assessment plans and reports in the College of Science.

2012–2013 **College of Science Curriculum Committee**.
Reviewed curriculum changes in the college as Assessment Coordinator.

2007–2010 **College of Natural and Applied Sciences Curriculum Committee**.
Reviewed curriculum changes in the college.

(843) 349 2249 • *(843) 349 2344* • *thoffman@coastal.edu*
ww2.coastal.edu/thoffman • *tom-hoffman*

2006–2008 **College of Natural and Applied Sciences Technology Committee**.
Reviewed technology requests and participated in making recommendations to the dean.

Department Service

2013–2017 **Department Advising Committee**.
Alongside two other faculty, advised all math majors.

2013–2015 **Department Recruitment and Retention Committee**.
Recruited top students from math courses/placement exam to be math majors. Met with struggling students to advise and help them improve or find another major.

2006–2019 **Department Calculator Coordinator**.
Organized request for calculators and supplies from Texas Instruments.

2012–2016 **Department Liaison to the MAA**.

2005–2011 **Chair, Department Curriculum Committee**.
Organized curriculum changes, completed paperwork, reviewed catalog entries.

2007–2008 **Assistant Professor Search Committee**.
Reviewed applications, interacted with applicants, and participated in decision making process.

2008 **Mathematics Tutoring Lab Director Search Committee**.
Reviewed applications, interacted with applicants, and participated in decision making process.

2007 **Chair, Lecturer Search Committee**.
Organized review of applications, phone interviews and discussions for decision making process.

2006 **Chair, Visiting Assistant Professor Search Committee**.
Organized review of applications, phone interviews and discussions for decision making process.

2004–2006 **Department Computer Committee**.

2004–2005 **Assistant Professor Search Committee**.
Reviewed applications, interacted with applicants, and participated in decision making process.

Community Service

2016–2019 **Coached FTC team at Ocean Bay Middle School**, *Helped to found and coach Horry County's first FIRST Tech Challenge team. The rookie team built two robots and competed at state, not only finishing the competition, but also winning the Inspiration award.*.

2014 **Judged Robotics Design at FLL regional competition**.

2013–2016 **Coached the Ocean Bay Middle School Lego Robotics (FLL) Team**, *In 2015, this was the only team from Horry County to win a trophy at the South Carolina state competition. In 2016, this team won the East State Championship and a spot at the FIRST Lego League World Festival.*

2014 **Rubik's Cube Ambassador**, *Organized the first Rubik's Cube Challenge at the Horry County Schools Technology Fair in 2015. The Rubik's Cube Challenge continued through 2019 but had to take a break the past 2 years.*

(843) 349 2249 • (843) 349 2344 • thoffman@coastal.edu
ww2.coastal.edu/thoffman • tom-hoffman

Professional Service

Referee	IEEE Transactions on Information Theory, Linear Algebra and Its Applications
Poster Judge	Repeatedly judged undergraduate posters at Southeastern Section MAA meetings and Joint AMS/MAA national meeting.

Computer skills

Fluent	GAP, LaTeX
Proficient	C, Linux, Maple, NIOS II Assembly, JAVA
Familiar	C++, MPI, OpenMP, Windows, Office Suite, Singular

Interests

Weaving	Familiar with rigid heddle and floor loom weaving. Currently focusing on weaving table runners on floor loom to enter in State Fair.
Puzzles	Any puzzle which requires logical thought is intriguing. If an algorithmic solution can be found, then the intrigue increases exponentially.
DIY Home Repair	After spending my working hours in the world of thought and logic, it is nice to be able to make/fix something with my hands.

(843) 349 2249 • *(843) 349 2344* • *thoffman@coastal.edu*
ww2.coastal.edu/thoffman • *tom-hoffman*