Branden Stone

Contact Information	Department of Mathematics and Computer Science Adelphi University 1 South Ave Garden City, NY 11530	http://math.adelphi.edu/~bstone mobile: 785-813-1674 e-mail: bstone@adelphi.edu

Research Interests Commutative Algebra, Maximal Cohen-Macaulay Modules, Resolutions, Homological Algebra, Hilbert Functions, Finite F-Representation Type, Macaulay2.

Education

Doctor of Philosophy, University of Kansas   August 2012
    Dissertation Title: Super-stretched and graded maximal Cohen-Macaulay type
    Advisor: Professor Craig Huneke

M.S. Mathematics, Missouri State University   May 2005
    Thesis: Constructive aspects of the inverse Galois problem
    Advisor: Professor Cameron Wickham

B.S. Mathematics, College of the Ozarks   May 2001

Employment

Assistant Professor, Adephi University	Fall 2014 - Present
IMMERSE Faculty, University of Nebraska – Lincoln	Summer 2014
Visiting Assistant Professor, Bard College	Fall 2012 - Spring 2014
Mathematics Postdoc, Bard Prison Initiative (BPI)	Fall 2012 - Spring 2014

Honours and Awards

2012-2013 Mathematical Association of America Project NExT Leitzel Fellowship
2011-2012 NSF Graduate STEM Fellow in K-12 Education (GK-12)
2010-2011 NSF Graduate STEM Fellow in K-12 Education (GK-12)

Publications

`Non-simplicial decompositions of Betti diagrams of complete intersections.`
Joint with Courtney Gibbons, Jack Jeffries, Sarah Mayes, Claudiu Raicu, and Brian White.
J. Commut. Algebra 7 (2015), no. 2, 189-206.

`Non-Gorenstein isolated singularities of graded countable Cohen-Macaulay type.`
Connections between algebra, combinatorics, and geometry, 299317, Springer Proc. Math. Stat., 76, Springer, New York, (2014).

`A sequence defined by M-sequences.`
Joint with Tom Enkosky. Discrete Math. 333 (2014), 3538.

`Super-stretched and graded countable Cohen-Macaulay type.`
Journal of Algebra 398 (2014).

`Computing free bases for projective modules.`
Joint with Brett Barwick. The Journal of Software for Algebra and Geometry, Vol 5 (2013).

`Ideals with Larger Projective Dimension and Regularity.` Joint with Jesse Beder, Jason McCullough, Luis Nunez, Alexandra Seceleanu and Bart Snapp. Journal of Symbolic Comp 46 (2011).

Macaulay2 Packages

`Visualize.m2` (in development): Joint with Brett Barwick and Jim Vallandingham. This package helps visualize algebraic objects in a modern browser using javascript.

`Decompositions.m2`: Joint with Courtney Gibbons. A supplement to the current Boij-Söderberg Macaulay2 package by computing the coefficients of a Betti table decomposition using the Herzog-Kohl equations.

`QuillenSuslin.m2` This is joint with Brett Barwick. Given a projective module over a polynomial ring, this package uses Logar-Sturmfels algorithm to calculate the free basis.

`BigIdeal.m2` This package generates the ideals defined in Ideals with Larger Projective Dimension and Regularity by Beder, McCullough, Nunez, Seceleanu, Snapp and Stone. These ideals have very large projective dimension and regularity relative to the degree and number of generators.

RECENT INVITED PRESENTATIONS	Special Session: *Aspects of Resolutions and Syzygies in Commutative Algebra* Fall Eastern Sectional Meeting of the AMS, Rutgers University, New Brunswick, NJ	November 2015
	Special Session: *Homological Methods in Commutative Algebra* Fall Western Sectional Meeting of the AMS, Cal State, Fullerton, Fullerton, CA	October 2015
	University of Minesota, Duluth Math Seminar	October 2015
	Fairfield University Student Math Seminar	February 2015
	University at Albany Algebra Seminar	October 2014
	United States Coast Guard Academy Math Seminar	October 2014
	Special Session: *Homological Methods in Algebra* Central Spring Sectional Meeting of the AMS, Texas Tech, Lubbock, TX	April 2014
	United States Military Academy Seminar USMA, West Point, NY	February 2014
	Special Session: *Homological and Char p Methods in Commutative Algebra* 2014 Joint Mathematics Meeting, Baltimore, MD	January 2014
	Presenting poster at Commutative Algebra–Algebraic Geometry in the Southeast University of South Carolina, Columbia, SC	November 2013
	Special Session: *Comm. Alg. and its interaction with Alg. Geo. and Comb.* AMS Fall Western Section Meeting, Riverside, CA	November 2013
	University of Arkansas Mathematics Seminar	October 2013
	Union College Mathematics Conference Union College, Schenectady, New York	October 2013
	Route 81 Conference on Commutative Algebra and Algebraic Geometry Syracuse University, Syracuse, NY	October 2013
	Paper Session: *Developments in Commutative Algebra* MAA MathFest, Hartford, CT	July 2013
	Commutative Algebra & Algebraic Geometry Seminar CUNY Graduate Center, New York, NY	April 2013
	Further Connections Between Algebra and Geometry North Dakota State University, Fargo, ND	February 2013
SERVICES AND OUTREACH	Reviewer for AMS Mathematical Reviews and Zentralblatt MATH	Current
	Referee for the Journal of Commutative Algebra	Recent
	Referee for the the Royal Society of Edinburgh: Proceedings A	Recent
	MAA Liaison for the Adelphi math and computer science department	Fall 2014 - Current
	Poster and Presentation Judge for Adelphi University's Research Day	April 2015
	Help Maintain `www.commalg.org`	Spring 2015 - Current
GATHERINGS ORGANIZED	Adelphi University Math and Computer Science Seminar Series	Fall 2014, Spring 2015
	William Lowell Putnam Mathematical Competition at Adelphi University	December 2014
	Project NExT Panel Session on Advising Required Undergraduate Research Projects MAA MathFest, Hartford, CT	July 2013
	Project NExT Panel Session on Mathematics for Social Justice Joint Mathematics Meeting, San Diego, CA	January 2013

TEACHING EXPERIENCES	*Adelphi University:*	
	Math 130, Calculus I A	Fall 2014
	Math 141, Calculus I	Fall 2014
	Math 142, Calculus II	Spring 2015, Fall 2015
	Math 253, Linear Algebra	Spring 2015, Fall 2015
	Math 391, Ind Study Diff Geometry	Spring 2015
	Math 391, Ind Study Math Research	Fall 2015
	Bard College:	
	Math 141, Calculus I	Fall 2012
	Math 142, Calculus II	Fall 2012
	Math 213, Linear Algebra with ODE	Spring 2013
	Math 241, Vector Calculus	Fall 2013
	Eastern Correctional Facility:	
	Math 231, Discrete Mathematics	Fall 2012
	Math 332, Abstract Algebra	Spring 2013
	Math 334, Explorations in Mathematics	Fall 2012
	Math 361, Real Analysis	Fall 2013
	Math IND, Readings: Lebesgue Integration	Spring 2013
	Math IND, Readings: Commutative Algebra	Fall 2013
	Woodbourne Correctional Facility:	
	Math 332, Abstract Algebra	Spring 2013
	NSF Graduate STEM Fellow in K-12 Education	June 2010 - May 2012

I implemented inquiry based learning in middle school mathematics classrooms in Kansas City and I was a teaching assistant in an inquiry based learning course for undergraduate mathematics education majors.

Full teaching responsibilities as a graduate student at the University of Kansas for the following:

	Math 002, Intermediate Algebra	Fall 2007
	Math 109, Math for Elementary School Teachers I	Fall 2008
	Math 115, Calculus I	Fall 2005, Spring 2006 and Spring 2007
	Math 116, Calculus II	Fall 2006
	Math 122, Calculus II	Spring and Fall 2009
	Math 290, Elementary Linear Algebra	Summer 2007 and Spring 2008

UNDERGRADUATE RESEARCH	From String Theory to Elliptic Curves over Finite Field, $\mathbb{F}_p$ Linh Pham, Bard College	May 2014
	Lets Walk and Explore Bard College (BPI)	May 2014
	A New Look at Hadwigers Conjecture Bard College (BPI)	May 2014
	Concrete Bridges to Abstract Algebras Bard College (BPI)	May 2014
	Sifting Squared Prime Intervals Efficient Prime Acquisition and Counting Bard College (BPI)	May 2014
	Algebraic Structures and Boij-Söderberg Theory Fanny Wyrick-Flax, Bard College	May 2013
	Applications of Graph Theory to Chaotic Systems Grant Anderson, Bard College (BPI)	January 2013
	Computing Various Dimensions of Chaotic Systems John Aufiero, Bard College (BPI)	January 2013

TECHNICAL SKILLS	Proficient in programing packages in *Macaulay2* and with LaTeX
	Experience with Sage, C++, Java, html and Linux Operating Systems
	Familiarity with Mathematica, MatLab, Maple, Excel, Word, Unix Operating System, and Ruby

PROFESSIONAL MEMBERSHIP	American Mathematical Society (AMS)
	Mathematical Association of America (MAA)

RECENT CONFERENCES AND WORKSHOPS ATTENDED

Special Session: *Aspects of Resolutions and Syzygies in Commutative Algebra*   November 2015
Fall Eastern Sectional Meeting of the AMS, Rutgers University, New Brunswick, NJ

Special Session: *Homological Methods in Commutative Algebra*   October 2015
Fall Western Sectional Meeting of the AMS, Cal State, Fullerton, Fullerton, CA

Macaulay2 Workshop   May 2015
Boise State University, Boise, Idaho

AMS Spring Eastern Sectional Meeting   March 2015
Georgetown University, Washington, DC

MAA-NY Fall 2014 Meeting   November 2014
Saint Peter's University, Jersey City, NJ

Route 81 Conference on Commutative Algebra and Algebraic Geometry   September 2014
Cornell University, Ithaca, NY

2014 Central Spring Sectional Meeting of the AMS   April 2014
Texas Tech University, Lubbock, TX

Positive Characteristic Algebraic Geometry Workshop   March 2014
University of Illinois at Chicago, Chicago, IL

2014 Joint Mathematics Meeting   January 2014
Baltimore, MD

Macaulay2 workshop   January 2014
MSRI, Berkeley, CA

Commutative Algebra – Algebraic Geometry in the Southeast   November 2013
University of South Carolina, Columbia, SC

Western Fall Sectional Meeting of the AMS   November 2013
University of California, Riverside, CA

Union College Mathematics Conference   October 2013
Union College, Schenectady, NY

Route 81 Conference on Commutative Algebra and Algebraic Geometry   October 2013
University of Syracuse, Syracuse, NY

MAA MathFest   August 2013
Hartford, CT

Workshop for Mentors of Undergraduate Math Research by Minority Students   July 2013
Park City Math Institute, Park City, UT

REFERENCES

Dr Craig Huneke (Academic Advisor)
Marvin Rosenblum Professor of Mathematics
University of Virginia
Charlottesville, VA
phone: *434-924-4946*
e-mail: *huneke@virginia.edu*

Dr Irena Swanson (Research Reference)
Professor of Mathematics
Reed College
Portland, Oregon
phone: *503-517-7399*
e-mail: *iswanson@reed.edu*

Dr Sarah Wright (Teaching Reference)
Assistant Professor of Mathematics
Adelphi University
Garden City, NY
phone: *516-877-4490*
e-mail: *swright@adelphi.edu*

Dr Ethan Bloch (Teaching Reference)
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Bard College
Annandale-on-Hudson, NY
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