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**Davide Fusi, Associate Professor**

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- CONTACT INFORMATION**      University of South Carolina Beaufort      Tel: +1-843-208-8172  
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One University Boulevard      E-mail: dfusi@uscb.edu  
Bluffton, SC 29909      <https://people.math.osu.edu/fusi.1/>
- EDUCATION**
- University of Utah, Salt Lake City, Utah, USA  
Ph.D. in Mathematics, May 2012  
Dissertation Title: *Rationality and related problems*  
Advisor: Professor Tommaso de Fernex
- Università degli Studi di Milano, Milan, Italy  
Ph.D. in Mathematics, 2009  
Dissertation Title: *Rationality in Algebraic Geometry*  
Advisor: Professor Tommaso de Fernex
- Università degli Studi di Milano, Milan, Italy  
Laurea in Matematica, February 2005  
Final Mark: 110/110 cum laude.
- ACADEMIC APPOINTMENTS**
- Associate Professor, University of South Carolina Beaufort (August 22-present)
- Assistant Professor, University of South Carolina Beaufort (August 16-August 22)
- Zassenhaus Assistant Professor, The Ohio State University (08/13- 08/16)
- PUBLICATIONS**
- D. Fusi: *On rational varieties of small degree*, Adv. Geom. 18 (2018), no. 4, 483–494
- T. de Fernex and D. Fusi: *Rationality in families of threefolds*, Rend. Circ. Mat. Palermo 62 (2013), 127-135
- D. Fusi and A. L. Tironi: *On rational elliptic surfaces with Mordell-Weil group of rank five*, Boll. Unione Mat. Ital. (9) 3 (2010), no. 2, 363-379
- D. Fusi: *Construction of linear pencils of cubic curves with Mordell-Weil rank at least six*, Comment. Math. Univ. St. Pauli 55 (2006), no. 2, 195-205
- D. Fusi and A. Lanteri: *Ample vector bundles with small  $g-q$* , Comm. Algebra 34 (2006), no. 8, 2989-3008
- D. Fusi. *Rationality and unirationality via arc spaces*, in preparation

LECTURE  
NOTES

D. Fusi. *Introduction to Proof MATH B300, notes for internal use at USCB*

GRANTS

Co-PI and coauthor; *Title:* USCB Mathematics Opportunities in the Summer for Jasper and Hampton County High School Students *Sponsoring Agency:* The Office of U.S. Congressman James E. Clyburn (Proposal number: 925110-22-61189), 2022. Requested Amount: \$143,354 (Current and Pending)

Co-PI and coauthor; *Title:* Mathematics Opportunities in the Summer (MOS): USCB Summer Math Camp for High School Students *Sponsoring Agency:* Community Foundation of the Lowcountry (Proposal number: 925110-22-61679), 2022. Funded Amount: \$8,000 (Award 10012131)

Co-PI and coauthor; *Title:* USCB Summer Math Camp 2022: Math Opportunities in the Summer (MOS) *Sponsoring Agency:* Power:Ed (Proposal number: 925110-22-61007), 2022. Funded Amount: \$13,552 (Award 10011954)

Co-PI and coauthor; *Title:* Math Opportunities in the Summer (MOS): USCB Summer Camp for High School Students. *Sponsoring Agency:* Community Foundation of the Lowcountry (Proposal number: 925110-21-57982), 2021. Funded Amount: \$33,075 (Award 10011071)

Co-PI and co-author; *Title:* USCB Summer Math Camp: Math Opportunities in the Summer (MOS). *Sponsoring Agency:* Power:Ed (Proposal Number: 925110-21-57709), 2021. Not Funded

PI; *Title:* Magellan-Cauley-Rubik's Cube to introduce High school students to Group Theory. *Sponsoring Agency:* USC Office of the Vice President for Research (Proposal Number: 17220-19-51132), 2019. Not Funded

Co-PI; *Title:* Enabling the Future: Scholarships in Computational Science. *Sponsoring Agency:* NSF (Proposal Number: 1833676), 2018. Not Funded

STUDENTS  
MENTORING

Student: Cauley Taylor (Mathematics Secondary Education)  
Project: "Rubik's Cube group"

CONFERENCE  
TALKS

Southern Regional Algebra Conference (SRAC 2021), 19-21 March 2021  
Title: *Using arc spaces to study rationality and unirationality*

AMS Central Section Meeting, Akron OHIO, 20-21 October 2012.  
Title: *Rationality in families of threefolds*

Conference "Giornate di Geometria Algebrica ed Argomenti Correlati",  
Gargnano (Italy), May 2010  
Title: *Razionalità e problemi correlati*

Conference "Seminario di Natale", Università di Milano, December 2007.  
Title: *On the Mordell-Weil lattice of a rational elliptic surface*

COLLOQUIA  
AND  
SEMINARS

Colloquium, Southern Georgia University, 6 October 2017.  
Title: *Degree of rationality of a projective variety*

Algebraic Geometry Seminar, The Ohio State University, 22 March 2016.  
Title: *On the problem of deformation of rational and nearly rational varieties*

Algebraic Geometry Seminar, Courant Institute, 17 November 2015.  
Title: *On rational varieties of small degree*

Algebraic Geometry Seminar, The Ohio State University, 15 September 2015.  
Title: *On rational varieties of small degree*

Algebraic Geometry Seminar, Purdue University, 12 November 2014.  
Title: *On degeneration of rational varieties*

Algebraic Geometry Seminar, The Ohio State University, 3 September 2013.  
Title: *Rationality in families of threefolds*

Algebraic Geometry Seminar, Princeton University, 20 November 2012.  
Title: *Rationality in families of threefolds*

Algebraic Geometry Seminar, University of Utah, September 2011.  
Title: *Geometry of varieties of small rational degree*

Algebraic Geometry Seminar, University of Utah, October 2009.  
Title: *Rationality and related problems*

Seminar "Seminario Giovani", Università di Genova, January 2006  
Title: *Fibrati vettoriali ampi e variazioni su un tema di Fukuma*

OTHER PRE-  
SENTATIONS  
AND TALKS

Chancellor's Retention Symposium , USCB, February 2017.  
Title: *Our College Algebra (MATH B111) Students....How long without algebra?*  
with B Brame, S. Debroy, A. Ferguson, H. Haskell, L. Rotella, V. Sevim.

WORKSHOPS  
ATTENDED  
SERVICE

PASCAL's Hard Sciences based Open Education Network (OEN) Faculty Workshop

Courses Developed for the Bachelor in Mathematics:

MATH B410 (Abstract Algebra I)  
MATH B411 (Abstract Algebra II)  
MATH B451 (Analysis II)  
MATH B452 (Complex Analysis)  
MATH B480 (Senior Seminar)  
MATH B497 (Reading for Senior Thesis)  
MATH B499 (Senior Thesis)

Organizer

2022 M.O.S. Math Opportunities in the Summer  
(with Volkan Sevim and Morgin Jones Williams)

Organizer

2021 M.O.S. Math Opportunities in the Summer  
(with Volkan Sevim and Morgin Jones Williams)

Founder  
M.O.S. Math Opportunities in the Summer (USCB Summer Mathematics Camp)  
(with Volkan Sevim and Morgin Jones Williams, Spring 2021)

Organizer  
"USCB Math Bootcamp Summer 2021"  
(with Volkan Sevim, Swati Debroy, Morgin Jones Willimas and Laura Bessent)

Organizer  
"USCB Math Bootcamp Summer 2019"  
(with Volkan Sevim, Swati Debroy and Laura Bessent)

Organizer  
"USCB Math Bootcamp Summer 2018"  
(with Volkan Sevim, Swati Debroy and Laura Bessent)

Organizer  
"USCB Math Bootcamp Winter 2018"  
(with Volkan Sevim and Swati Debroy)

Organizer  
"USCB Math Bootcamp Summer 2017"  
(with Volkan Sevim)

Founder  
USCB Math Bootcamp Program (with Volkan Sevim, Spring 2017)

Committee member  
Magellan Scholar Review Committee (October-December 2020)

Advisor for students majoring in Mathematics at USCB

Committee member  
USCB Library Committee (Summer 2020-present)

Committee member  
USCB Honors Steering Committee (Fall 2019-present)

Committee member  
USCB Satisfactory Academic Progress Committee (Spring 2019-present)

Chair  
Department of Mathematics and Computational Sciences Curriculum Sub-  
Committee  
(2017-2021)

Committee member  
Ziwen Zhu's Ph.D. Oral Exam Committee (September 2016)  
and Dissertation Defense (February 2020) at The University of Utah

Organizer  
"A Day of Algebraic Geometry in Savannah" March 2018, (with Jim Brawner,  
Sungkon Chan, Jimmy Dillies, and Enka Lakuriqi)

Organizer

"The Ohio State University Algebraic Geometry Seminar"

(2013-2014 with E. Macrì; 2014-2015 with A. Sheshmani; 2015-2016 with D. Anderson)

Grading and Creating Committee

Algebra Qualifying Exam, The Ohio State University, Summer 2015

Organizer

"The OSU/UM/UIC Algebraic Geometry Workshop 2014"

(with M. Caibăr, A.-M. Castravet, J. Cogdell, G. Kennedy, E. Macrì, and H.-H. Tseng)

Organizer

Reading Seminar in Algebraic Geometry, The Ohio State University, 2013-2014 with E. Macrì. Topics: *Geometric Invariant Theory*, *Intersection Theory*.

Developed and updated

USCB Department of Mathematics Website  
(2017-2021)

Organizer

Math Major Social (with Morgin Jones Williams, 2018, 2019, 2020)

Organizer

Math major Party for Mathematics Majors and Math Bootcamp participants  
(with Swati Debroy, Fall 2017)

Reviewer for the Magellan Scholar Grant applications (March 2020 and 2022)

Reviewer for the journal "Rendiconti di Matematica e delle sue Applicazioni"

Book Review

"Proofs and Concepts: The Fundamentals of Abstract Mathematics"

by Dave Witte Morris and Joy Morris. (Open Textbook Library (OTL) resource)

Reviewer for Zentralblatt MATH.

## TEACHING EXPERIENCE

University of South Carolina Beaufort

Department of Mathematics and Computational Science

Assistant/Associate Professor

August 2016 to Present

Organized courses, lectured, and oversaw all administrative responsibilities:

MATH B111: College Algebra (2 courses)

MATH B115: Precalculus (8 courses)

MATH B122: Calculus for Business Adm SSci

MATH B141: Calculus I (10 Courses)

MATH B142: Calculus II (7 Courses)

MATH B240: Calculus III (2 Courses)

MATH B300: Introduction to Proof (5 Courses)

MATH B331: Foundations of Geometry (4 Courses)  
MATH B399: Independent Study-Probability for the Actuary (2 courses)  
MATH B399: Independent Study-Financial Mathematics for the Actuary  
MATH B410: Abstract Algebra I (4 Courses)  
MATH B411: Abstract Algebra II (4 Courses)  
MATH B450: Analysis I (2 Courses)  
MATH B451: Analysis II  
MATH B452: Complex Analysis  
MATH B460: Topology  
MATH B480: Senior Seminar  
IDST B250: Interdisciplinary Internship

The Ohio State University  
Department of Mathematics

Visiting Assistant Professor

August 2013 to May 2016

Organized courses, lectured, and oversaw all administrative responsibilities:

MATH 1172: Engineering Mathematics A  
MATH 2173: Engineering Mathematics B  
MATH 2174: Linear Algebra and Differential Equations for Engineers (3 courses)  
MATH 3345: Foundations of Higher Mathematics  
MATH 4581: Abstract Algebra II

Taught recitation sessions, assisted students during office hours, and graded homework:

MATH 6111: Algebra I (graduate level) (2 courses)  
MATH 6112: Algebra II (graduate level) (2 courses)

The University of Utah  
Department of Mathematics

Teaching Assistant

August 2007 to December 2012

Organized courses, lectured, and oversaw all administrative responsibilities:

MATH 1030: Introduction to Quantitative Reasoning  
MATH 1050: College Algebra  
MATH 1100: Quantitative Analysis (2 courses)  
MATH 1210: Calculus I

Taught recitation sessions, assisted students during office hours, and graded homework:

MATH 2250: Differential Equations and Linear Algebra

ACTUARIAL SCIENCE EXAM PASSES  
LANGUAGES  
MEMBERSHIPS

SOA Exam P/CAS Exam 1: Probability. January, 2013  
English, Italian and a basic knowledge of Spanish.  
MAA Mathematical Association of America