

1. GENERAL INFORMATION

Derek Wayne Hein
office (435) 586-7902 (voice mail)
fax (435) 865-8666
email hein@suu.edu

2. EDUCATION

Central Michigan University, Mount Pleasant, Michigan

- Doctor of Philosophy degree in Mathematics with a Concentration in the Teaching of College Mathematics, 7 May 2000
- Dissertation director: Yury J. Ionin, Ph.D.
- Dissertation title: *On the λ -design conjecture for $v = 5p + 1$ points*

Utah State University, Logan, Utah

- Master of Science degree, Mathematics, 7 June 1996
- Bachelor of Science degree, Mathematics, 4 June 1994

Ricks College (now **Brigham Young University-Idaho**), Rexburg, Idaho

- Associate degrees, Mathematics and Electrical Engineering, 23 April 1992

3. TEACHING EXPERIENCE

Assistant Professor, Southern Utah University, May 2005 to present

Visiting Assistant Professor, Southern Utah University, August 2004 to May 2005

- Taught the courses Intermediate Algebra, Abstract Algebra, Introduction to Statistics, Trigonometry, Probability and Statistics, College Mathematics, Quantitative Reasoning, College Algebra, Calculus I, Calculus II, Business Calculus, Business Statistics, Discrete Mathematics, Foundations of Algebra and Analysis, Foundations of Geometry and Senior Seminar
- Used graphing calculators (TI-84+ Silver Edition, TI-89, TI-92+), *Microsoft Excel* or *Geometer's Sketchpad* in almost every course

Assistant Professor, Oklahoma Panhandle State University, August 2000 to July 2004

- Taught the courses Pre-algebra, Intermediate Algebra, College Algebra, Mathematics for Critical Thinking, Basic Geometry, Analytic Geometry, Foundations of Mathematics, Modern Algebra, Introduction to Real Analysis (I and II), Discrete Mathematics, Linear Algebra, Probability and Statistics, Calculus (I, II and III), Topology, Complex Variables, Statistics, General Physics I (with laboratory sections) and Student Success Seminar
- Used graphing calculators (TI-92+) in almost every course

Teaching Assistant, Central Michigan University, August 1996 to May 2000

Teaching Assistant, Utah State University, September 1994 to June 1996

- Taught the courses Intermediate Algebra, Plane Trigonometry, College Algebra, Mathematics for Business I, Linear Algebra and Applied Combinatorics (the latter under an innovative mathematics teaching internship program)
- Used graphing calculators (TI-83, TI-85, TI-92, HP 48SX) in almost every course

4. LEADERSHIP EXPERIENCE

Department Chair, Department of Mathematics and Physics, Oklahoma Panhandle State University, July 2001 to July 2004

- Experience with:
 - preparation and justification of departmental budgets
 - personnel interrelations, including mentoring and supervising faculty
 - curriculum development and assessment, including distance–delivery courses and departmental examinations
 - faculty professional development, including technology implementation
 - generation of course offering schedules
 - departmental and college committee coordination (hiring committee assignments)
 - student advising and recruitment
 - fostering intra–university communication
 - coordination of a new Developmental Computer Laboratory, including hiring laboratory assistants
- Served on the following committees:
 1. *Textbook Selection Committees*: Discrete Mathematics, Intermediate Algebra (committee chair), Topology, Complex Analysis, Introduction to Higher Mathematics, Modern Algebra, Calculus III, Teaching of Mathematics, Analytic Geometry, Mathematics for Critical Thinking, Plane Trigonometry and General Physics
 2. *Standardization Committee*: assessed and wrote standard departmental midterm and final examinations in developmental mathematics courses
 3. *University Curriculum Committee*: discuss and implement changes to curricula in courses and programs of study across the university
 4. *Faculty Transfer Curriculum Committee*: a statewide meeting of educators in Oklahoma to assure that curricula in mathematics courses are comparable and that courses from any institution will transfer to any other institution in the state
 5. *Faculty Development Committee (Chair)*: reviewed faculty requests for professional travel fund reimbursement before making recommendations and forwarding them to the Dean of the College
 6. *Academic Efficiencies Workshop*: a workshop for faculty in Mathematics and Ecology in the state of Oklahoma; designed to target the improvement of large–lecture sections and online course offerings
- Developed new courses: Discrete Mathematics, Topology (Spring 2001); Topics in Mathematical Physics (Fall 2001); Introduction to Real Analysis (II) (Spring 2002); Experimental Design, Statistical Software Packages (Spring 2004)

5. PROFESSIONAL SERVICE

Southern Utah University

University Convocations Committee, 2008–2010 academic years

- helped plan and decide upon speakers for the University Convocations Series

Provost’s Retention Committee, 2006–2007 academic years

- discuss results and new plans to improve university–wide retention efforts

College Convocations Committee, 2004–2005 academic year

- helped plan and decide upon speakers for the University Convocations Series

Mathematics Community

Referee, *Ars Combinatoria*, since February 2005

- refereed 3 combinatorics papers, all of which were recommended for publication

AP Calculus Reader, Educational Testing Service, each June 2004–2011

- a nationwide meeting of secondary and postsecondary educators to grade the annually administered Advanced Placement Calculus examinations

6. PROFESSIONAL CONFERENCES

30. MAA Intermountain Section Meeting; Salt Lake Community College, Salt Lake City, Utah; March 2012
29. MCCCC 25; University of Nevada Las Vegas; October 2011
28. MAA Intermountain Section Meeting; Southern Utah University, Cedar City, Utah; April 2011
27. MAA Intermountain Section Meeting; Utah State University, Logan, Utah; March 2010
26. MCCCC 23; Rochester Institute of Technology, Rochester, New York; October 2009
25. MAA Intermountain Section Meeting; Brigham Young University, Provo, Utah; March 2009
24. MCCCC 22; University of Nevada Las Vegas; October 2008
23. MAA Intermountain Section Meeting; Brigham Young University, Provo, Utah; March 2008
22. Joint Mathematics Meetings; San Diego, California; January 2008
21. 6th Annual Hawaii International Conference on Statistics, Mathematics and Related Fields; Honolulu, Hawai'i; January 2007
20. MAA Joint Intermountain / Rocky Mountain Sections Meeting; Mesa State College, Grand Junction, Colorado; April 2006
19. Red Rock Great Teaching Retreat; Springdale, Utah; February 2006
18. UCTM Annual Conference; Clearfield High School, Clearfield, Utah; October 2005
17. MAA Intermountain Section Meeting; Idaho State University, Pocatello, Idaho; March 2005
16. Academic Efficiencies Workshop; Oklahoma City, Oklahoma; February 2004
15. MCCCC 17; University of Nevada Las Vegas; November 2003
14. CAM 2002; University of Central Oklahoma, Edmond, Oklahoma; October 2002
13. MAA Shortcourse in Cryptography; University of Vermont, Burlington, Vermont; July – August, 2002
12. MCCCC 15; University of Nevada Las Vegas; October 2001
11. Second Lethbridge Workshop on Designs, Codes, Cryptography and Graph Theory; University of Lethbridge, Alberta, Canada; July 2001
10. MAA Oklahoma / Arkansas Section Meeting; Oklahoma Christian University, Edmond, Oklahoma; March 2001
9. MCCCC 14; Wichita State University, Wichita, Kansas; October 2000
8. MAA Shortcourse in Coding Theory; University of California Los Angeles; August 2000
7. Ohio State–Denison Conference / Dijen 65; Ohio State University; May 2000
6. AMATYC Summer Institute; Central Michigan University; August 1999
5. MIDwest Graph Theory 31; Oakland University, Oakland, Michigan; April 1999
4. AMS Central Sectional Meeting: Special Session on Combinatorial Designs; University of Illinois Urbana–Champaign; March 1999
3. Research in Undergraduate Teaching of Mathematics; Central Michigan University, Mt. Pleasant, Michigan; September 1996 and 1997
2. Ohio State Shortcourse; Central Michigan University; August 1997
1. Matrix and Graph Theory; Utah State University, Logan, Utah; May 1996

7. PUBLICATIONS

8. *On the Four Numbers Challenge Problem*, in preparation (with T. Rosson and J. Wilson)
7. *On Decompositions of λK_n* , submitted to *Ars Combinatoria* (with D. G. Sarvate)
6. *Existence results and large sets for Sarvate–Beam designs*, submitted to *Ars Combinatoria* (with H. Chan and D. G. Sarvate)
5. *Sarvate–Beam Triple Systems for $v = 5$ and $v = 6$* , *J. Combin. Math. Combin. Comput.* **78** (2011), 161–168 (with P. C. Li)
4. *Sarvate–Beam Quad Systems for $v = 6$* , *J. Combin. Math. Combin. Comput.* **74** (2010), 111–116 (with B. Bradford and J. Pace)

3. *The λ -Design Conjecture: A Survey*, proceedings of the 6th Annual Hawaii International Conference on Statistics, Mathematics and Related Fields, ISSN#: 1550-3747, 2007
2. *On the λ -design conjecture for $v = 5p + 1$ points*, in *Codes and Designs* (K. T. Arasu and Á. Seress, eds.), Ohio State Univ. Math. Res. Inst. Publ. **10**, Walter de Gruyter, Berlin–New York 2002, 145–156 (with Y. J. Ionin)
1. *Building and Using a Mobile Multimedia Computer Laboratory*, unpublished (with D. M. Mathews)

8. PRESENTATIONS

19. 25th Midwest Conference on Combinatorics, Cryptography and Computing; Las Vegas, Nevada; October 2011; *On Decompositions of λK_n* (updated)
18. Departmental Seminar Speaker; Southern Utah University, September 2011; *On Decompositions of λK_n*
17. Colloquium Speaker; College of Charleston, Charleston, South Carolina, March 2011; *A Survey of Sarvate-Beam Designs* (updated)
16. Departmental Seminar Speaker; Southern Utah University, November 2009; *A Survey of Sarvate-Beam Designs*
15. 23rd Midwest Conference on Combinatorics, Cryptography and Computing; Rochester, New York; October 2009; *Sarvate-Beam Triple Systems for $v = 5$ and $v = 6$*
14. Intermountain Section Meeting of the MAA; Brigham Young University, Provo, Utah; March 2009; *On Sarvate-Beam Systems*
13. 22nd Midwest Conference on Combinatorics, Cryptography and Computing; Las Vegas, Nevada; October 2008; *On Sarvate-Beam Designs*
12. Hawaii International Conference on Statistics, Mathematics and Related Fields; Honolulu, Hawaii; January 2007; *The λ -Design Conjecture: A Survey*
11. Joint Intermountain / Rocky Mountain Sections Meeting of the MAA; Mesa State College, Grand Junction, Colorado, April 2006; *The Root Test for Absolute Convergence*
10. Game presenter; Clearfield High School, October 2005; *The Towers of Hanoi*
9. Departmental Seminar Speaker; Southern Utah University, September 2005; *The Root Test for Absolute Convergence*
8. Departmental Seminar Speaker; Southern Utah University, March 2005; *The AP Calculus Reading: Reflections*
7. Departmental Seminar Speaker; Southern Utah University, October 2004; *On the λ -design conjecture*
6. Colloquium Speaker; Murray State University, Murray, Kentucky, March 2002; *On the λ -design conjecture*
5. Ohio State–Denison Conference / Dijen 65; Ohio State University, Columbus, Ohio, May 2000; *On the λ -design conjecture for $v = 5p + 1$ points*
4. Combinatorics Seminar; Central Michigan University, Mt. Pleasant, Michigan, September 1998 – May 2000; contributed combinatorics talks about once per semester
3. Michigan Section Meeting of the MAA; Wayne State University, Detroit, Michigan, April 1997; *Building and Using a Mobile Multimedia Computer Laboratory*
2. Joint Intermountain / Rocky Mountain Sections Meeting of the MAA; Mesa State College, Grand Junction, Colorado, April 1996; *The Gambler's Ruin*
1. Intermountain Section Meeting of the MAA; Idaho State University, Pocatello, Idaho, April 1995; *General Solutions to Nonhomogeneous Nonautonomous Linear Systems of Coupled Ordinary Differential Equations*

9. COMMUNITY SERVICE

Church

- active in callings and service in the Church of Jesus Christ of Latter-day Saints

Boy Scouts of America

- served as Scoutmaster of Troop 1869, Enoch, Utah (3 years)

Typist, 2004–2005 & 2006–2011 seasons, Southern Utah University

- recorded the play-by-play action for Men's and Women's basketball teams

Club Advisor, 2007–2008 school year, Southern Utah University

- served as Advisor for the Volleyball Club

10. COMPUTER EXPERIENCE

- Used the TI-83, TI-85, TI-89, TI-92+ and HP 48SX graphing calculators in lectures
- Familiar with DOS, UNIX, MacOS, VAX/VMS, BASIC, Pascal, ANSI C, C++, *Mathematica*, *Maple* and *MATLAB* as well as numerous Internet applications
- Familiar with $\text{T}_{\text{E}}\text{X}$, $\text{L}_{\text{A}}\text{T}_{\text{E}}\text{X}$, $\text{OzT}_{\text{E}}\text{X}$ and $\text{MikT}_{\text{E}}\text{X}$
- Under a National Science Foundation grant, assembled and provided technical support for a state-of-the-art mobile multimedia laptop computer laboratory networked through wireless infrared technology

11. SELECTED AWARDS AND RECOGNITIONS

- Outstanding Mathematics Faculty Member; College of Computing, Integrated Engineering and Technology, Southern Utah University (2010)
- *Who's Who Among America's Teachers*; 8th edition (2004) and 9th edition (2005)
- Graduate Teaching Assistant of the Year; Department of Mathematics and Statistics, Utah State University (1996)
- Math Student of the Year; Bethel Senior High School (1987)

12. PROFESSIONAL MEMBERSHIPS

The Institute of Combinatorics and its Applications

- Associate Fellow since October 2000

American Mathematical Society

- Member since January 1999

Mathematical Association of America

- Member since January 1994

13. PERSONAL

- Married to my wife Paula (Harris) for 19 years
- My children are Jonathan (18), Nathaniel ($15\frac{1}{2}$), Rebekah ($11\frac{1}{2}$), Joseph ($5\frac{1}{2}$) and Aaron (3)
- Eagle Scout, Boy Scouts of America, Class of 1987
- I enjoy cooking (and food tasting), tennis, racquetball, traveling and reading (especially mathematics textbooks)
- Professional and research interests include combinatorics (design theory, graph theory and coding theory), linear and modern algebra, and undergraduate mathematics education

14. PROFESSIONAL REFERENCES

Dr. Seth Armstrong, Department Chair & Associate Professor of Mathematics
ELC 402
Southern Utah University
Cedar City, Utah 84720
voice (435) 865-8059 (office)
fax (435) 865-8666
armstrong@suu.edu

Dr. Eric Freden, Acting Dean & Associate Professor of Mathematics
ELC 420
Southern Utah University
Cedar City, Utah 84720
voice (435) 865-8298 (office)
fax (435) 865-8666
freden@suu.edu

Dr. Dinesh Sarvate, Professor of Mathematics
RSS 342
College of Charleston
Charleston, South Carolina 29424
voice (843) 953-5736 (office)
fax (843) 953-1410
sarvated@cofc.edu