

## H. Joseph Straight

### Contact Information

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### Professional Preparation

SUNY Fredonia	Mathematics/Secondary Education	BS, 1973
Western Michigan University	Mathematics/Statistics	MA, 1976
Western Michigan University	Mathematics (Graph Theory)	Ph.D., 1977

### Academic Positions

Professor, Department of Mathematical Sciences, SUNY Fredonia, 2004 – present  
Chair, Department of Mathematics and Computer Science, SUNY Fredonia, 1998 – 2004  
Professor, Department of Mathematics and Computer Science, 1985 – 2004  
Associate Professor, Department of Mathematics and Computer Science, SUNY Fredonia, 1981 – 1985  
Visiting Professor, Department of Mathematical Sciences, Clemson University, 1980 – 1981  
Assistant Professor, Department of Mathematics and Computer Science, SUNY Fredonia, 1977 – 1980

### Courses Taught

#### Mathematics:

MATH 100 – Freshman Seminar  
MATH 108 – Mathematics for the Social Sciences  
MATH 117 – Why Mathematics?  
MATH 121 – Survey of Calculus II  
MATH 122 – University Calculus I  
MATH 123 – University Calculus II  
MATH 124 – Survey of Calculus III  
MATH 125 – Software for Mathematics  
MATH 210 – Discrete Mathematics  
MATH 223 – University Calculus III  
MATH 224 – Differential Equations  
MATH 231 – Linear Algebra  
MATH 290 – Sophomore Honors Mathematics  
MATH 325 – Numerical Analysis  
MATH 331 – Abstract Algebra I  
MATH 332 – Abstract Algebra II  
MATH 335 – Number Theory  
MATH 337 – Combinatorics  
MATH 341 – Geometry  
MATH 375 – Deterministic Operations Research  
MATH 381 – History of Mathematics  
MATH 390 – Honors Special Topics

#### Computer Science and Other:

CSIT 100 – Freshman Seminar  
CSIT 105 – BASIC Programming  
CSIT 106 – Scientific Programming (FORTRAN)  
CSIT 121 – Computer Science I (Pascal, C++)  
CSIT 221 – Computer Science II (Pascal)  
CSIT 241 – Discrete Mathematics for CS I  
CSIT 242 – Discrete Mathematics for CS II  
  
CSIT 321 – Paradigms of Programming Languages  
CSIT 341 – Data Structures (Pascal, Ada, C++)  
CSIT 433 – Compiler Construction  
CSIT 441 – Analysis and Design of Algorithms  
  
GIS 201 – Geographic Information Systems I  
GIS 301 – Geographic Information Systems II

#### Mathematics Education:

MAED 310 – Reading and Writing Mathematics  
MAED 410 – Seminar: Mathematics for High School Teachers

MATH 405 – Senior Seminar  
MATH 440 – Graph Theory

**Graduate Courses:**

MAED 531 – Rings and Fields  
MAED 532 – Abstract Algebra with Applications  
MAED 535 – Number Theory  
MAED 540 – Graph Theory  
MAED 542 – Non-Euclidean Geometry  
MAED 599 – Special Topics: Conics  
MAED 599 – Special Topics: Symmetry

**Scholarship**

**Books:**

1. Combinatorics: An Invitation, Brooks/Cole, Pacific Grove, CA, 1993.
2. with A. Polimeni, Foundations of Discrete Mathematics, 2<sup>nd</sup> edition, Brooks/Cole, Pacific Grove, CA, 1990.
3. with A. Polimeni, Foundations of Discrete Mathematics, Brooks/Cole, Pacific Grove, CA, 1985.

**Online Resources:**

1. with J. Wilson, Mathematical Structures and Proof, 2009.
2. Linear Algebra: An Invitation, 2009.

**Articles:**

1. with Y.H. Harris Kwong, An extremal problem involving neighborhood numbers, *Graph Theory, Combinatorics and Applications: Proceedings of the Seventh Quadrennial International Conference on the Theory and Applications of Graphs* (1995), 1101 – 1109.
2. with S.R. Jayaram and Y.H. Harris Kwong, Neighborhood sets in graphs, *Indian Journal of Pure and Applied Mathematics*, 22 (1991), 259 – 268.
3. with P. Erdos and J. Gimbel, Chromatic number versus cochromatic number in graphs with bounded clique number, *European Journal of Combinatorics*, 11 (1990), 235 – 240.
4. with Y.H. Harris Kwong, O. Bodroza, and R. Tasic, On the number of Hamiltonian cycles of  $P_4 \times P_n$ , *Indian Journal of Pure and Applied Mathematics*, 21 (1990), 403 – 409.
5. with J. Gimbel, Some topics in cochromatic theory, *Graphs and Combinatorics*, 3 (1987), 255 – 265.
6. with R. Dowds, An alternate method for finding the partial fraction decomposition of a rational function, *American Mathematical Monthly*, 91 (1984), 365 – 367.
7. with J. Fink, A note on path-perfect graphs, *Discrete Mathematics*, 33 (1981), 95 – 98.
8. with A. Polimeni and J. Yellen, Some arrowing results for trees versus complete graphs, *Journal Of Graph Theory* 5 (1981), 363 – 369.
9. with A. Polimeni and J. Yellen, Arrowing results for trees versus complete graphs, *The Theory and Applications of Graphs: Proceedings of the Fourth International Graph Theory Conference*, (1981), 493 – 506.
10. An extremal problem concerning the cochromatic index of a graph, *Congressus Numerantium*, 33 (1981), 329 – 339.
11. Note on the cochromatic number of several surfaces, *Journal of Graph Theory*, 4 (1980), 115 – 117.
12. with L. Beineke and R. Ringelsen, The cochromatic index of a graph, *Discrete Mathematics*, 31 (1980), 153 – 159.

13. Extremal problems concerning the cochromatic number of a graph, *Journal of the Indian Mathematical Society*, 44 (1980), 137 – 142.
14. The existence of certain types of semiwalks in tournaments, *Congressus Numerantium*, 29 (1980), 901 – 908.
15. with P. Schillo, On the problem of partitioning  $\{1, 2, \dots, n\}$  into subsets having equal sums, *Proceedings of the American Mathematical Society*, 74 (1979), 229 – 231.
16. Cochromatic number and the genus of a graph, *Journal of Graph Theory*, 3 (1979), 43 – 51.
17. Packing trees of different size into the complete graph, *Annals of the New York Academy of Sciences*, 328 (1979), 190 – 192.
18. Graphs which have pancyclic complements, *International Journal of Mathematics and Mathematical Sciences*, 1 (1978), 177 – 185.
19. with L. Lesniak, The cochromatic number of a graph, *Ars Combinatoria* 3 (1977), 39 – 46.
20. Applications of finite differences to the summation of series, *Pi Mu Epsilon Journal*, 6 (1975), 93 – 98.

#### **Selected Presentations and Panels:**

1. Origami for Dummies, *Association of Mathematics Teachers of New York State*, Rochester, NY, October 2007; Rye, NY, November, 2008.
2. A Budget of Fractals, *New York State Mathematics Association of Two-Year Colleges*, Niagara Falls, NY, April, 2007.
3. Decimal Representation of Fractions: The Rest of the Story, *Association of Mathematics Teachers of New York State*, Buffalo, NY, November 2005.
4. Geometric Gems from Babylonian Mathematics, *Association of Mathematics Teachers of New York State*, Ellenville, NY, November 2004.
5. Building Mathematics Education in a Department of Mathematics (panel), *MathFest, Mathematical Association of America*, Boulder, CO, August 2003.
6. Articulation in Mathematics Education (with L. Malinowski), *New York State Mathematics Association of Two-Year Colleges*, Rochester, NY, April 2003.
7. The Preparation of Middle School Mathematics Teachers, *Association of Mathematics Teachers of New York State*, Ellenville, NY, October, 2002.
8. Review and Accreditation of Programs in Mathematics and Mathematics Education (panel), *Seaway Section, Mathematical Association of America*, Potsdam, NY, November 2002.
9. Every Connected, Bridgeless Graph Has a Fair, Strong Orientation, *American Mathematical Society*, Dayton, OH, November 1992.
10. Ada for Mathematicians (minicourse), *Joint Mathematics Meetings*, Phoenix, AZ, January 1989.

#### **Grants:**

1. Mathematics and Physical Sciences Scholarship Program, co-PI, National Science Foundation (S-STEM), \$600,000, proposed for 2009 – 2013.
2. Mathematics and Computer Science Scholarship Program, co-PI, National Science Foundation (CSEMS), \$400,000, 2004 – 2008.
3. Robert Noyce Scholarship Program, PI, National Science Foundation, \$500,000, 2005 – 2009.

#### **Student Research Projects:**

1. Javier, Hamlet, A new statistic to measure offensive production in baseball, *McNair Scholars Program*, summer 2003.

2. Ogborne, Ronald, Random number generation and the TI-83 calculator, *MathFest, Mathematical Association of America*, Madison, WI, August 2001.
3. Hedburg, Kristen, Round-robin scheduling with constraints, *Seaway Section, Mathematical Association of America*, Toronto, April 1998.
4. Chan, Wing, Independent sets in paths and cycles, *Pi Mu Epsilon Conference*, Columbus, OH, August 1990.

## Service

### Professional Associations:

Mathematical Association of America (MAA)

Meritorious Service Award, 2008

Board of Governors, 2000 – 2003

Committee on Minicourses, 2003 – 2009

Committee on Sections, 2001 – present

Membership Committee, 2001 – 2003

MAA Seaway Section (upstate NY, Ontario, and Quebec)

Editor, *The Seaway Current*, 1997 – 2004

Program Chair, 1990 – 1992

Chair-Elect, 1992 – 1993

Chair, 1993 – 1995

Immediate Past-Chair, 1995 – 1996

Executive Committee, 1990 – 1996, 2000 – 2003

Chair, Educational Policy Committee, 1995 – 1997, 2005 - present

Fellow, American Congress on Surveying and Mapping (ACSM)

Board of Directors, 1997 – 1998

Scholarship Committee, 1995 – 2007

Chair, Program Committee, 1993 – 1999

Coordinator, Employment Fair, 1995 – 1999

American Association for Geodetic Surveying (member organization of ACSM)

Executive Committee, 1996 – 1999

President-Elect, 1996 – 1997

President, 1997 – 1998

Immediate Past-President, 1998 – 1999

Reviewer for *Mathematical Reviews*

Referee for *Journal of Graph Theory*, *European Journal of Combinatorics*, *Indian Journal of Pure and Applied Mathematics*, *Discrete Mathematics*, *American Mathematical Monthly*, *College Mathematics Journal*, *Mathematics Teacher*, *Mathematics Teaching in the Middle School*, *New York State Mathematics Teachers' Journal*

### State University of New York:

Provost's Task Force on Mathematics Education, Working Group on Graduate Programs and Professional Development for In-Service Teachers, 2003 – 2005

Faculty Senate, 1989 – 1995

### SUNY Fredonia:

Academic Affairs Committee, 1978 – 1980, 1982 – 1985, 1995 – present

Chair, 2004 – present

Assessment Committee, 2004 – present

Dean's Advisory Council, 1998 – 2004

Faculty Student Association Board of Directors, 1995 – present

University Senate (formerly Faculty Council, College Senate)

Parliamentarian, 2008 – present

Executive Committee, 1986 – 1995

Vice Chair, 1986

Chair, 1987

Immediate Past Chair, 1988

Mathematics Coordinator, *Pathways of Math and Science*, an NSF-funded summer camp for middle school students, 1993 – 1996

Coordinator and Curriculum Consultant, *Pathways of Mathematics and Computer Science*, an after-school enrichment program for middle school students, 2003.

Professional Education Unit Assessment Committee, 2004 – present

Search Committee, Dean of the College of Education, 2004

Search Committee, Dean of the College of Natural and Social Sciences, 2005

Human Subjects Review Committee, 2005 – 2006

### **Department:**

Mathematics Curriculum Committee, 1977 – 1998

Computer Science Curriculum Committee, 1981 – 1998

Mathematics Faculty Search Committee, 1994 – 1995, 2004 – 2005 (chair)

Mathematics Education Faculty Search Committee, 1995 – 1996

Mathematics Education Partnership, 2004 – present

Computer Science Faculty Search Committees, 1994 – 1998

Advisor, Mathematics Club, 1978 – 1982, 1986 – 1987, 2004 – present

Advisor, Computer Science Club, 1982 – 1986

Pi Mu Epsilon Chapter Coordinator, 1978 – present

### **Professional Memberships**

American Association for Geodetic Surveying  
American Congress on Surveying and Mapping

Association of Mathematics Teacher Educators  
Mathematical Association of America  
National Council of Teachers of Mathematics

Association of Mathematics Teachers of New York State  
New York Mathematics Association of Two-Year Colleges  
New York State Association of Professional Land Surveyors  
Science Teachers Association of New York State

### **Honors**

Pi Mu Epsilon (National Honor Society in Mathematics), 1972

SUNY Chancellor's Award for Excellence in Faculty Service, 2008

Golden Key International Honor Society, Honorary Member, 2008

SUNY Distinguished Service Professor, 2009