Margaret B. Cozzens
Curriculum Vita
July 2014

PERSONAL INFORMATION

Name: Margaret Barry Cozzens (Midge)

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2005 Colorado Woman of Distinction Award

EDUCATION

Rutgers University	Ph.D. and M.S. in Mathematics
University of Rochester	B.A. in Mathematics and English

Areas of special research interest: Discrete Mathematical Modeling, Graph Theory, Game Theory, Mathematical Psychology, Network Vulnerability, Operations Research, Technology, Mathematics and Science Education.

RECENT GRANT and CONTRACT WORK

2012 – present: PI and Project Director of *Planning for a Sustainable Future*, at DIMACS, funded by the National Science Foundation

2010 - present: PI and Project Director for *Value of Computational Thinking Across Grade Levels*, DIMACS, funded by the National Science Foundation

2009 – present: coPI and Project Director for *Interdisciplinary Mathematics and Biology*, at DIMACS, funded by the National Science Foundation

2009 – present: Education and Outreach Director for CCICADA, the multimillion dollar funded Homeland Security Center of Excellence at Rutgers University.

2009 – 2013: Rutgers Mathematics Department MSP grant for Middle School Teachers.

2006 - 2010 Manager of the Bio-Math Connection Project work with DIMACS, Rutgers University, funded by the National Science Foundation

2009 – 2011: Mentoring of REU students during the summer and beyond, two in 2009, three in 2010, and one in 20122..

2007 – present: Teaching for the Mathematics Department:
Currently Math 436 – History of Mathematics

2007 – present: Online course development, and teaching for Rutgers Online – Calculus for Business Majors, previously Finite Math also.

PROFESSIONAL EMPLOYMENT:

DIMACS – Rutgers University
9/07 – present Research Professor II, PI and Grants Project Manager
Knowles Science Teaching Foundation
1/06 – 8/07 Associate Director
Colorado Institute of Technology
4/03 – 4/06 President and CEO
3/01 - 12/01 Vice President and Chief Academic Office (on leave from CU-Denver)
University of Colorado at Denver and Health Sciences
7/98 –3/03 Vice Chancellor for Academic and Student Affairs and Provost
7/98 – 5/06 Professor of Mathematics
(continued to teach at CU, two courses a year, while President of CIT and while Vice Chancellor at CU; graduate *Game Theory* and undergraduate *Math for Liberal Arts)*
National Science Foundation
12/92 –6/98 Director of the Division of Elementary, Secondary and Informal Science Education
Senior Executive Service Appointment (SES) - January 1993
SES Promotions - April 1994; April 1995; April 1996 - SES-4 (cap).
6/92 - 12/92 Section Head, Instructional Materials Development
8/91 - 6/92 Program Officer, Instructional Materials Development, IPA
Northeastern University, Boston MA
1988-92 Professor and Chairperson, Department of Mathematics
1984-88 Associate Professor of Mathematics
1980-84 Assistant Professor of Mathematics
Harvard University, Cambridge, MA
1986-87 Visiting Scholar, Department of Psychology and Social Relations,
Rutgers, the State University, NJ
1977-80 Teaching Assistant in Mathematics
1977-80 Founder and Director of a program to Combat Math Anxiety in Returning Women, Douglass College
1965-67 Teaching Assistant in Mathematics
Rider University, Lawrenceville NJ
1975-77 Assistant Professor of Decision Sciences
1967-74 Assistant Professor of Mathematics,
State University of NY at Geneseo
1963-65 Instructor of Mathematics
Greece Olympia High School, Greece, NY
1962-63 Teacher of Mathematics

ADMINISTRATIVE:

PI, Project Manager, and Research Professor II

Responsible for overall management of the *BioMath Connection* and *Interdisciplinary Mathematics and Biology* grants, including the research supplement from NSF to DIMACS; PI and Project Manager for the *Value of Computational Thinking* grant from NSF funded by EHR and CISE; PI and Project Manager for the *Planning for a Sustainable Future* grant from NSF funded by HER; Director of all Education activities and Outreach for CCICADA, the DHS Center of Excellence, including the development of the new website, REU students, Reconnect, NAM involvement, module development, etc.; author of annual reports for; writer of grant proposals; professor for online and on-campus mathematics courses; REU mentor in game theory and graph theory.

Associate Director, Knowles Science Teaching Foundation (KSTF)

Responsible for all public relations and communications for the Knowles family foundation dedicated to increasing the quantity and quality of mathematics and science secondary school teachers in the United States, and responsible for developing and managing the mathematics components of the foundation. This was a 50% time position.

President and Chief Executive Officer, Colorado Institute of Technology (CIT)

Responsible for management and leadership of CIT, a nonprofit 501(c)(3) organization, including financial and human resources, program initiatives, and fund raising. CIT was intiated in early 2000 by Governor Bill Owens, put into Statute that year, and is fully funded by private industry money. CIT manages a portfolio of approximately eight million dollars annually, funds educational and research activites in Colorado at higher education institutions, including community colleges, hosts conferences and workshops, and develops policy studies. CIT is a partnership between the State, higher education, and business and industry to address the technological and economic development needs of Colorado. CIT's mission includes both workforce development and research and innovation. See http://www.coloradoit.org for more information and press clippings. The CEO works closely with industries, higher education, and government in the state. Major areas of accomplishment include:

- secured additional external funding of 13 million dollars in my first eighteen months as President; added twenty new companies as sponsors in the last six months;
- expanded the set of CIT initiatives in workforce development, homeland security, and policy development by adding inititiatives to diversify the workforce, manage a state-wide internship and cooperative education program, and develop a K-12 technology interface to the targeted grant program; expanded the work of the Homeland Security Institute to include leadership development, standards development, and expand research capabilities;

- instituted organizational competency and efficiency; developed a Business Plan and an Operating Plan for 2005; developed a financial officer position; established Board working committees including a finance audit committee;
- work effectively with the CIT Board of Directors consisting of Presidents of the Colorado State University, University of Colorado, Mesa State College, the University of Denver and Regis University, CEOs of Sun, Qwest, Level 3, eCollege, and Oracle, and the Executive Director of the Colorado Commission on Higher Education;
- developed and implemented the CIT Homeland Security Institute and assumed responsibility for managing all education and research and development activities in homeland security for Colorado, partnering industry, higher education, the State, and federal laboratories;
- developed white papers on such topics as International Outsourcing (Dr. Serapio) and the Workforce of the 21st Century (which I wrote myself);
- promoted cooperation between and among institutions of higher education, federal laboratories, business and industry, and the government;
- worked with various state agencies, the Governor, and legislators to facilitate economic development;
- testified before the House of Representatives Science Committee and Appropriations Committee on funding for science education and research; was told that the NSF ATE program regained its funding because of my testimony;
- facilitated the Community College System Restructuring Task Force; coordinated the Rocky Flats redeployment educational initiatives .

Vice Chancellor for Academic and Student Affairs and Provost, University of Colorado at Denver and Health Sciences, July 1998 – March 2003. (note: merger formally took place in 2004)

Responsible for all activities relating to faculty and students, including management of the entire academic component of CU-Denver, and the entire student component of CU-Denver, including admissions, enrollment, retention, and student activities. CU-Denver has nearly 12,000 students, half of whom are graduate students, and half are undergraduate students, enrolled in seven colleges: Liberal Arts and Science, Business, Engineering, Education, Public Affairs, Architecture and Planning, and Arts and Media. Major areas of accomplishment include:

- managed the development of an academic strategic plan which was started and completed in my first year at CU-Denver; the previous plan had expired in 1995; provided for yearly reports and updates;
- initiated the Center for Computational Biology which grew to a system-wide center, the Center for Digital Animation, which did some of the work on Shrek II, and a joint Information Systems-Computer Science Ph.D degree crossing the College of Business and the Engineering College;
- developed of campus graduate school policies that included all graduate programs at CU-Denver following the system office decentralization to the campuses;
- developed policies to govern all international education activities, including study abroad activities, international colleges, and international students on campus; (CU-

Denver has 4 degree granting international colleges in Moscow, Beijing, Nepal and Mongolia);

- raised over 15 million dollars by negotiating a 4 million dollar agreement with US West (now Qwest) to provide scholarships and retraining of employees in computer science and information systems; expanded to include a million dollars each from Raytheon and Agilent Technologies, and donor contributions from Starz-Encore and others;
- increased sponsored research by 15% each year for five years;
- led state-wide efforts to deal with assessment of student learning in higher education;
- hired outstanding Associate Vice Chancellors for Academic Affairs and Student Affairs, Deans for Arts and Sciences and Business, and a great Director for CU-Online;
- centralized all advising services on campus and secured system funding to support the new Academic Advising Center;
- increased the student and faculty diversity on campus substantially and hired one minority Associate Vice Chancellor in addition to the existing minority VC.

Director of the Division of Elementary, Secondary, and Informal Education, National Science Foundation, December 1991-June 1998; Program Officer for the Division July 1991-November 1991.

Responsible for the five programs of the Division: Informal Science Education (museums, media, and community based programs), Teacher Enhancement, Instructional Materials Development, and Presidential Awards, as well as co-Director of the Advanced Technology Education Program. Each of these programs includes mathematics, science and technology education PreK-14. The total budget for the Division was approximately $250,000,000 annually in those years; the Division consisted of 25 professional staff and 15 support staff. Major areas of accomplishment include:

- brought the initial five programs of the division together as a cohesive unit; prior to December 992 there had been two separate divisions; reorganized the support staff functionally, to alleviate backlogs and down times; adopted a twice yearly performance appraisal system for both professional staff and support staff;
- doubled, in one year, the number of teachers trained through the Teacher Enhancement Program; continued to make the teacher enhancement projects effective and less costly so that now 65,000 teachers a year receive intensive professional development;
- increased the informal science education budget by 50% over the six years;
- with the undergraduate division initiated and directed the Advanced Technological Education Program, a program designed to improve the education of students entering the technical workforce from two-year and four year colleges;
- cochaired the first National Science Foundation Women's Conference: *Women and Science - Celebrating the Achievements, Charting the Challenges,* December 1995
- co-chaired both the Federal Coordinating Committee on Science, Mathematics and Technology on K-12 Education, and the Department of ED - NSF Committee on

Systemic Reform in Education; the documents written in both of these committees have been used frequently in the federal sector both for appropriations hearings and bill passage; The documents entitled "Building a Capacity for Systemic Reform" and Intermediate Benchmarks for Systemic Reform" are used by States for both the Goals 2000 activities and the Statewide Systemic Reform activities sponsored by NSF.

- drafted policy statements on mathematics and science K-12 education for the White House, Congress, and the Director of NSF, including a Human Resource Policy framework for the whole federal sector; and
- represented the National Science Foundation at numerous events, including the Peabody Awards, the Sesame Street Birthday Celebration, various awards activities, etc.

Chairperson of the Mathematics Department, Northeastern University, 1988-1991.

Responsible for a Department of 55 full time faculty, nearly 200 part time faculty and 100 teaching assistants. The Department taught about 30,000 undergraduates and 300 graduate students a year. The operating budget for the department was $3,000,000 annually. The Department was also responsible for the Math Workshop, a remedial center on campus. Major areas of accomplishment include:

- developed a strong mathematics program for minorities (EXCEL) by securing both external and internal funding, and the commitment of the entire faculty in the department; now 80% of those minorities that start out as engineering majors graduate, whereas in 1990 only 50% did so; there are more minority electrical engineering majors at Northeastern than any other non minority institution in the country;
- even without outside funding, the calculus reform program at Northeastern has become a national model; the teaching assistant training program has become the program used by most calculus reform projects in the country;
- created a supportive environment for graduate students; increased the percentage of minority graduate students to 10% of the total, and the percentage of women graduate students to 55% of the total; no other graduate program in mathematics can boast these statistics;
- increased the number of faculty supported on outside grants from 6 in 1988 to 19 in 1992;
- in 1991, the American Mathematical Society rated Northeastern's Mathematics Department 16th in the nation, in contrast to ten years earlier when it was 34th; it was rated the most improved in that time period in a rating system determined by quality of program, quality of faculty, and quality of research;
- hired nine new faculty who were both first rate mathematicians and teachers;
- created a climate where both research and teaching were rewarded and where the undergraduate student received an excellent education;

A Sample of MAJOR COMMITTEE, BOARD, AND TASK FORCE RESPONSIBILITIES (past and present)

Executive Board of Directors for the NJ Mathematics and Science Coalition
Board of Directors for the Economic Club of Colorado
Board of Directors of the Wings over the Rockies Air and Space Museum
SECURICS Corporate Board of Directors
Board of Directors of the Consortium on Mathematics and its Applications (COMAP)
American Council on Education Task Force on Teacher Preparation
Corporate Board of Directors for New Forum Publishers
Co-chairperson of the Technical Review Panel for TIMSS-R, the Third International Assessment of Mathematics and Science at the eighth grade repeat study
Committee of Visitors for the Division of Mathematical Sciences at the National Science Foundation
American Association of State Colleges and Universities Leadership Task Force
Mathematical Association of America Science Policy Committee
American Association of State Colleges and Universities Teacher Education Implementation Task Force
OERI Review Process Review Panel
Manager of the Colorado State Assessment Committee
President Clinton's Task Force on Education as the Number One Priority
National Education Research Policy and Priorities Board
NSF's Director's Policy Group Task Force on Scientific Literacy
NSF's Director's Policy Group Task Force on Integration of Research and Education
Science and Technology Center Reviewer – Site Visits, including November 2004 IMA;
co-chair of Federal Coordinating Council on Science, Engineering, and Technology Committee on Education and Human Resources.
Education and Human Resources Strategic Planning Committee
Undergraduate Division Reorganization Committee

THESIS ADVISOR TO Ph.D. STUDENTS - dates degrees were awarded, positions:
Ding-I Wang, June 1985, "Closed Neighborhood Containment Graphs and the Channel Assignment Problem" , Analyst - Taiwan Govt., and IBM Taiwan.
Laura Kelleher, August 1985, "Domination in Graphs and Social Network Theory", Prof. Massachusetts Maritime College
Shu-Shih Yang Wu, June 1986, "Graphs that are n*-line Connected and k*-line Critical", University of Kentucky and Northeastern University
Shwu-Huey Yen, August 1986, Hamiltonian Elimination Orderings of Graphs", Asst.Prof., Merrimack College
Robert Enzmann, August 1986, "A Mathematical Model of a 2-legged Walking Machine" (joint with Computer Science and Engineering) Mathematician for Raytheon Company
Hwei-Jen Lin, September 1989, joint with Computer Science Assistant Professor, Rhode Island College
Ioannis Bonias, July 1992 , Senior Scientist with Digital Corporation
Dara Moazzami, joint with Samuel Stueckle, February 1992, Professor at Tehran University

Omid Zafar, August 1994, Associate Professor, Newberry College
Philip Carrigan, Psychology defense committee, December 1986
Dong Hsu, Electrical Engineering defense committee, December 1988
Heather Barker, Applications of Game Theory to Terrorism, CU-DenverHSC, May 2005, Assistant Professor at Colorado School of Mines

GRANTS:

Department of Homeland Security: *CCICADA- COE,* Rutgers 2009-2015
National Science Foundation: *Value of Computational Thinking Across Grade Levels,* Rutgers, 2010-2015
National Science Foundation: *Interdisciplinary Mathematics and Biology,* Rutgers, 2010-2015
National Science Foundation: *Bio-Math Connection, 2006-2011*
National Science Foundation: *MPE 2013+*Evaluator, *2013-1016*
National Science Foundation: *Using Robotics to Teach Calculus* Evaluator, U of Georgia, 2013-2016.
National Science Foundation: *Qualitative Assessment of VIGRE,* 2006-2008
Office of Naval Research Grant, joint with S. Stueckle, 1990 –1993
National Science Foundation Research Conference Grant, 1991
National Science Foundation: Project Director for funded *Faculty Advancement in Mathematics Programs:*
Summer 1988 - Geometry Workshop at Virginia Commonwealth University
Discrete Math Workshop at Northeastern University
Summer 1990 - Statistics Workshop at Virginia Commonwealth University
Geometry Workshop at Northeastern University

Editor of **CONSORTIUM** for ten years, 1984-1994**,** newspaper published by COMAP and mailed to every high school and mathematics department in the United States - has a mailing of over 40,000 interested teachers.

PUBLICATIONS:

Articles and Papers:
Cozzens, M.B., and Maurer, S.B., "Nearly Cycle Complete and Nearly Cocycle Complete Graphs", *Congressus Numeratum, Vol. 27,* Dec. 1979 .
Cozzens, M.B., and Roberts, F.S., "Double Semiorder and Double Indifference Graphs", *Siam J. of Algebraic and Discrete Methods,* Vol. 3, No. 4 (1982) 566 -583.
Cozzens, M.B., and Roberts, F.S., "T-Colorings of Graphs and the Channel Assignment Problem", *Congressus Numeratum,* Vol. 35, December 1982.
Cozzens, M.B., and Roberts, F.S., "Computing the Boxicity of a Graph by Covering its Complement by Cointerval Graphs", *Discrete Applied Math,* Vol. 6 (1983), 217-228.

Cozzens, M.B., and Wang, D-I, "The General Channel Assignment Problem", *Congressus Numeratum*, Vol. 43, December 1983.
Cozzens, M.B., and Roberts, F.S., "On k-Suitable Sets of Arrangements and the Boxicity of a Graph", *J. Comb. Inf. and Syst., Sciences,* Vol. 9 (1984), 14-24.
Cozzens, M.B., "Computing the Circular Dimension of a Graph is an NP-Complete Problem, *SIAM J of Computing,* June 1984.
Cozzens, M.B., and Leibowitz, R., "Threshold Dimension of Graphs", *SIAM Journal of Alg. and Disc. Methods,* Vol. 5, No. 4 (1984).
Cozzens, M.B., and Wang, D-I, "Closed Neighborhood Containment Graphs" *Congressus Numeratum,* Vol. 46, December 1984.
Cozzens, M.B., and Leibowitz, R., "Mutidimensional Guttman Scales and Threshold Graphs", *J. of Math Psych.,* June 1987.
Cozzens, M.B., and Wu, S.S. "On Minimum Critically n-Edge Connected Graphs", *SIAM J. of Alg. and Disc. Methods, Vol.* 8, No. 4 (1987) 659-669.
Cozzens, M.B., and Kelleher, L., "Dominating Sets in Social Network Graphs", *Math Soc Sciences,* Vol. 16, No. 3, 1988, pp. 267-279.
Cozzens, M.B. , and Wu, S.S., "Graphs that are n-edge Connected and k-edge Critical", *Disc. Math., 1989.*
Cozzens, M.B., and Wu, S.S, "Maximum Critical n-edge Connected Graphs", *J of Graph Theory, Vol. 13,* No. 5, (1989), 559-568.
Cozzens, M.B., and Yen, S. "Hamiltonian Elimination Orderings of Interval Graphs", to *Europ. J. on Comb. and Graph Theory, 1989.*
Cozzens, M.B., and Roberts, F.S. "On Dimensional Properties of Graphs", *Graphs and Combinatorics,* Vol. 5. No. 1, 1989, pp. 29-46.
Cozzens, M.B., Deller, J., Hsu, D., and Venkatesh, C.G., "A Graph Partitioning Approach to Speech Decoding", *Circuits and Systems.*
Cozzens, M.B., and Mahadev, N.G., "Consecutive Ones Property for Matrices andGraphs", *Springer Verlag Lecture Notes Series in Mathematics and its Applications: Applications of Combinatorics and Graph Theory to the Biological and Social Sciences, Vol.* 17 1989, 75-93.
Cozzens, M.B., "Separator Theorems for Nonplanar Graphs and their Applications to Various Decoding Problems", *SIAM Discrete Math* October 1989.
Cozzens, M.B., and Kelleher, L., "Clique Dominating Sets", *Annals of Disc Math,* 1990.
Cozzens, M.B., and Kelleher, L., "Dominating Cliques in Graphs, *Discrete Math.,* Vol. 86, 1990, pp. 1-16.
Cozzens, M.B. and Wu, S.S.Y., "Critical Neighborhood Connectivity", *Ars Combinatorica* Vol. 29, 1990, pp. 149-160.
Cozzens, M.B., Deller, J.R. Jr., and Venkatesh, C.G., " A Graph Partitioning Approach to Sentence Level Speech Decoding", *IEEE Trans. Acoustics, Speech, and Signal Processing, 1991.*
Cozzens, M.B. "Real Unit Concatenation Structures and Archimedeaness", revised for the J *of Math Psych.*
Cozzens, M.B. and Mahadev, N.G., " Recognizing Mixed Diagonal Consecutive Ones Graphs" *SIAM J. of Computing.*
Cozzens, M. B. and Halsey, M. D., The Relationship between the Threshold Dimension

of Split Graphs and other Dimensional Parameters of Graphs", *Discrete Applied Math* 30(1991) 125-135.

Cozzens, M. B. and Roberts, F. S., " Greedy Algorithms for T-colorings of Graphs and the Meaningfulness of Conclusions about them", J. of *Comb. and Inf. Sys.,* Vol. 16 No. 4 (1991), pp. 271-318.

Cozzens, M. B., "Quo-Vadis Graph Theory Applications?", *Proceedings of the Quo-Vadis Graph Theory Meeting in Fairbanks Alaska - 1990.*

Cozzens, M. B., "Issues in International Undergraduate Mathematics Education", *Proceedings of the International Congress on Mathematics, ICME'7,, August 1992*

Cozzens, M. B. and Peden, I., "Thoughts on Recrutiting Women", *Association for Women in Mathematics Newsletter*, Vol. 23, No. 6, 1993.

Cozzens, M. B., Moazzami, D., and Stueckle, S., " Tenacity, An Optimal Parameter for Graph Stability", Proc. of the Seventh Inter Conf. in *Graph Theory, Comb., Algorithms, and Appl., 1994.*

Cozzens, M. B., Moazzami, D., and Stueckle, S., "Tenacity of Harary Graphs", *J. of Combin Math and Combin. Comput,* 16 (1994) pp. 33-56.

Cozzens, M. B. and Wu, Shu-shih Yang, "Extreme Values of the Edge-Neighbor-Connectivity", *Ars Combinatorica*, 39 (1995) pp. 199-210.

Cozzens, M. B. and Wu, Shu-shih Yang, "Bounds of Vertex Neighbor Integrity of Graphs", *Ars Combinatorica, 1994.*

Cozzens, M. B., Moazzami, D., and Stueckle, S., " Tenacity, An Optimal Parameter for Graph Stability", Proc. of the Seventh Inter Conf. in *Graph Theory, Comb., Algorithms, and Appl., 1994.*

Cozzens, M. B., Moazzami, D., and Stueckle, S., "Tenacity of Harary Graphs", *J. of Combin . Math and Combin. Comput,* 16 (1994) pp. 33-56.

Cozzens, M. B. and Wu, Shu-shi Yang, "Vertex Neighbor Integrity of Trees, *Ars Combinatorica,* 43 (1996) pp. 169-180.

Cozzens, M. B. and Wu, Shu-shih Yang, "Edge Neighbor Integrity of Trees, *Australasian J. of Combinatorics (10), 1994, pp.163-174.*

Cozzens, M.B., "Education, Ecomonics and Federal Policy", Report to the Office of Science and Technology Policy, 1996.

Cozzens, M. B. and Wu, Shu-shih Yang, "Vertex-Neighbor Integrity of Powers of Cycles", *Ars Combinatorica, 1994.*

Cozzens, M. B. "A Change in Thinking is Required - transitions in education at all levels", *SYNERGY*, Spring 1995.

Cozzens, M. B., and Robinson, E. "Implementing Standards-based Curriculum in the last half of the Decade", *ESIE ACCESS*, Winter 1994.

Cozzens, M. B. and Kepner, H. "Algebra for all, but not necessarily a discrete course", *The Mathematics Teacher* May 1996.

Cozzens, M. B. and Wu, Shu-shih Y, "Bounds of Edge-Neighbor Integrity of Graphs, *Aust.* J *of Comb*. 15 (1997) pp. 71-80.

Cozzens, M. B. "Discrete Mathematics: *A Vehicle for Problem Solving and Excitement" DIMACS Series in Discrete Mathematics and Theoretical Computer Science,* 36 (1997) pp. 67-74.

Cozzens, M.B. "Education for African American Children", *National Council of Teachers Mathematics Monograph.* No. November 1998.

Gerlenter, M. and Cozzens, M, " The Context of Higher Education", AASCU publication December 1999.

Gelernter, M and Cozzens, M, " A Statewide Rising Junior Exam – Challenges and Opportunities", November 1999.

Cozzens, M. B. "The Technological Workforce of the 21st Century", CIT. June 2003.

Cozzens, M. B., "Science and Technology Are Moving at the Speed of Light – Is the Workforce Ready?". CIT, April 2005

Cozzens, Margaret and Susan Fuhrman. "Lessons from the Third International Mathematics and Science Study – Repeat". *Education Statistics Quarterly,* Vol. 3, Issue 1.2008

Cozzens, M.B. "Integrating Mathematics and Biology at the High School Level", *COMAP UMAP Journal* editorial, October 2010.

Cozzens, M.B. "Integrating Mathematics and Biology in the High School Curriculum", BioMath in the Schools, Providence: American Math Society. 2011

Cozzens, M. B. and T.M Wang and CM Lin. "Edge Control in Signed Graphs". Submitted for publication to *Mathematics and Computer Modeling*, fall 2010.

Cozzens MB Food Webs, Competition Graphs, and Habitat Formation. *Mathematical Modeling of Natural Phenomena* John. R. Jungck and Elsa Schaefer (eds.), 2011

Wang, T-M, M. Cozzens, and C-M Lin. "Edge Control in Signed Graphs". Submitted to *J of Discrete Mathematics.*

Co-authored papers have been presented at many other meetings and conferences, including American Math Society, Mathematical Association of America, National Council of Teachers of Mathematics, American Acoustical Society, various IEEE meetings, and ORSA-TIMS meetings.

BOOKS and Book Chapters:

Cozzens, M.B., and Porter, R,, *Recurrence Relations - Counting Backward,* HIMAP Module - No. 2, COMAP Inc., 1985

Cozzens, M. B. and Porter, R., *Problem Solving Using Graphs,* HIMAP Module - No. 6, COMAP Inc., 1987.

Cozzens, M. B., and Porter, R *Mathematics and its Applications to Management, Life and Social Sciences with Discrete and Finite Mathematics,* Lexington: D.C. Heath & Co., 1987.

Cozzens, M.B., and Porter, R. , *Mathematics with Calculus and its Applications to Management, Life, and Social Sciences,* Lexington: D.C. Heath & Co., 1987.

Cozzens, M. B. ed., *The Challenge and Promise of K-8 Science Education Reform,* Foundations**:** Monographs for professsionals in science, mathematics, and technology education, Volume 1, March 1997.

Cozzens, M.B. *Questions for the 21st Century,* Office of Academic and Student Affairs, University of Colorado at Denver, May 1999.

Cozzens, M. B. Increasing the Quantity and Quality of the Mathematical Sciences Workforce Through Vertical Integration and Cultural Change: *Stories of Innovations and Culture Change.* Providence: American Math Society. 2008.

Cozzens, M.B. and FR. Roberts eds., BioMath in the Schools, Providence: American Math Society. 2011.

Cozzens, M.B., S. Miller. An Introduction to the Mathematics of Encryption. Providence: American Math Society. 2013.

Cozzens, M. B. Algebraic and Discrete Mathematical Methods for Modern Biology, Chapter 2: Food Webs and Graphs**.** Robeva editor. Massachusetts: Elsevier Press. 2014 expected.

Grades 9-14 Modules

Cozzens, M.B,, N Chrisler, T. Fleetwood, and R. Rotjan. *Food Webs,* BioMath Module. 2010,

Cozzens, M.B., H. Gaff, and C Young, *Habitat Analysis,* BioMath Module. 2011

Cozzens, M.B and K. Palmer, *Tomography and its Applications to Food Safety, Infrastructure and Health.* BioMath Module. *2012.*

Cozzens, M. B. and J. Choate, *Heart Transplants and the NFL Draft – valuation schemes.* Value of Computational Thinking Module.2012.

Cozzens,M. B. and K. Palmer *3-D Reconstructions in Tomography.* Value of Computational Thinking Module.2013.

Alphonce, C. and M. B. Cozzens, M. B. *Recursive Thinking.* Value of Computational Thinking Module.2014..

Cozzens, M. B. and S. Miller, *Stegnography,* Homeland Security Module. in testing..

Cozzens, M. B. and S. Miller, *RSA codes,* Homeland Security Module. in testing.

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REVIEWS:

Cozzens, M.B., a Review of *Interval graphs and Interval Orders* by Peter Fishburn, J. *of Math Psych.,* Jan. 1987.

Cozzens, M.B., a Review of *Elements of Psychophysical Theory ,* by Jean-Claude Falmagne, *Mathematics Intelligencier***,** Jan. 1987.

Cozzens, M.B., a Review of *Mathematical Models in the Social and Behavioral Sciences***,** by Anatole Rapoport, *SIAM Review,* June 1985.

Cozzens, M.B., a Review of *Mathematics in the Social and Life Sciences, Theories, Models and Methods,* by M.A. Ball for *SIAM Review,* May 1987.

SAMPLE OF INVITED LECTURES

"Introducing Sustainability Topics Through Modules for 8-14 Classrooms" Joint Mathematics Meeting, Baltimore, MD. January 16, 2014.

"Development of Intedisciplinary Materials", three invitational talks at the Mathematical Biology Institute Workshop on Mathematics and Modern Biology. Ohio State University. Columbus, Ohio. August 2013.

"Learning Objectives and Corresponding Assessments", two-day workshop at Tuskegee University, February 20-21, 2013.

"Working with Majority Serving Institutions", Tuskegee University. February 22, 2013

"Game Theory and its Applications to Homeland Security", Reonnect 5-day Workshop for College Faculty at Winona State University, Winona, MN. June 2012.

"Interdisciplinary Materials Development", Invitational Talk at Teachers College Columbia University, March 5, 2012.

"Working with Minority Serving Institutions". Invitational talk at DHS Education Summit March 15, 2009 in DC

"Graphs, Food Webs, and Biodiversity" and "Applications of Game Theory Graph Theory to Social Networks and Viral Marketing", two invited presentations at The University of Minnesota at Winona October 10-12, 2010.

"Graphs, Food Webs, and Biodiversity" and "Applications of Game Theory and Graph Theory to Social Networks and Viral Marketing"; "Habitat Analysis and Conservation Management", three invited presentations at the Embry Riddle Aeronautical University October 25-27, 2010.

"Food Webs, Competition Graphs and Diversity", NIMBIOS, Ecology and Graphs Workshop, August 16-18, 2010, Knoxville, TN

"Graphs, Games, and Viral Marketing", NIMBIOS, Ecology and Graphs Workshop, August 16-18, 2010, Knoxville, TN

"Landscape Graphs, Habitat Graphs, and Effect Graphs", NIMBIOS, Ecology and Graphs Workshop, August 16-18, 2010, Knoxville, TN

"Centers of Excellence Working with Minority Serving Institutions", DHS Education Summit, March 8, 2010, Washington DC

"Evaluation and the Centers of Excellence", DHS Education Summit, March 14, 2009, Washington DC

"The Technology Industry and Economic Development in Colorado", Inverness Meeting, July 23, 2004, Denver, CO.

"Projections of Workforce Changes and its Impact on Colorado", Economic Club of Colorado, July 6, 2004

"The Future of Economic Development" in Colorado with Wayne Herman, Channel 4 Business Anchor, April 16, 2004.

"Scientific Literacy and the Workforce of Tomorrow", National Academy of Sciences, December 2, 2002

Congressional Briefing on the results of the Third International Mathematics and Science Assessment 8th Grade Repeat (TIMSS-R), December 2001.

"Teacher Education, Critical to Improvement in K-12 Education, American Mathematical Society Meeting, January 11, 2001, New Orleans, LA.

"Creating a Business and Higher Education Interface", AASCU invited address, February 10, 2001, New Orleans LA.

"Nurturing High-Tech", presentation at the Internet Chamber of Commerce, February 26, 2001, Denver, CO.

"Higher Education-Industry Interface", keynote address, Wyoming Higher Education Commission meeting, June 15, 2001, Laramie, Wyoming.

"Growing the Next Generation", keynote address to Secondary Mathematics Education National Curriculum Conference, August 12, 2001, Denver CO.

"Transforming Institutional Strategies for Teacher Preparation and Professional Development", Education Commission of the States Annual Meeting, July 11, 1999, Denver, CO.

"The Process of Mathematics – a Lesson from the Software Industry", Opening dinner keynote for the DIMACS Integration of Research and Education Conference, July 18, 1999, Rutgers University, New Brunswick, NJ.

"Teacher Education, Local Challenges, Local Solutions", President's Summit on Teacher Quality, September 16, 1999, Washington DC.

"Education for All – How we make sure we mean all", Benjamin Banneker Foundation Meeting, Easton, Maryland, August 8, 1997.

" Building Leadership to Sustain Educational Reform: at the Reflecting on Sputnik: Linking the Past, Present and Future of Educational Reform Conference, National Academy of Sciences, Washington DC, October 4, 1997.

"A Mosaic of Evidence", National Assessment Goals Panel Meeting, Arlington, VA, February 29, 1996.

"Research to Practice", Commencement Address for the Margaret Warner Graduate School of Education, University of Rochester, May 28, 1995.