

# CURRICULUM VITAE

## CRISTINA COSMA, PhD, PE, MASCE



### Address:

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### Education:

**2003** Ph.D. (Civil Engineering), University of Florida, Advisor: Dr. Z. J. Herbsman  
**2003** M.E. (Civil Engineering), University of Florida  
**1987** B.S. (Civil Engineering), "Gh. Asachi" Technical University of Iasi, Romania

### Special Fields

- Planning and scheduling techniques for construction projects
- Construction risk and uncertainty assessment by linguistic using the fuzzy sets theory
- Application of TQM philosophy and tools to solving construction industry problems

### Professional Licensures & Certificates

**2008** Professional Engineer (by exam)  
**2006** Engineer-in-Training (by exam)  
**1995**

### Work Experience:

**01/12 – Present** Associate Professor , Department of Construction Management, College of Architecture, Design and Construction, Wentworth Institute of Technology, Boston, MA

**10/04 – 01/12:** Assistant Professor, Department of Civil, Construction & Environment, Wentworth Institute of Technology, Boston, MA

**02/04 - 08/04:** Engineer, GRANITE Construction Inc., HCD, SR 429 Western Beltway Part "C" Project (\$45 mill), Orlando, FL.

**05/03 - 08/03:** Office Engineer Intern, GRANITE Construction Inc., Tri County Rail Segment 5 Project (\$231 mill), Pompano Beach, FL.

**1999 - 2003:** Graduate Teaching Assistant, Department of Civil and Coastal Engineering, University of Florida, Gainesville, FL.

**1991 -2004:** Assistant Professor, Department of Civil Engineering, "Gh.Asachi" Technical University of Iasi, Romania

**1987-1991:** Field/Office Engineer, T.A.G.C.Ind.IASI (General Contractor for Industrial Construction), Iasi, Romania

## **Teaching Experience:**

### **Wentworth Institute of Technology (2004-Present):**

- CCEV 135 – Materials and Methods in Construction I
- CCEV 205 – Materials and Methods of Construction II
- CCEV 206 – Heavy Construction
- CCEV 406 – Construction Project Scheduling
- CCEV 471 – Structural Design III (Concrete Design)
- CCEV 550 – Construction Scheduling and Control
- CCEV 580 – Construction Project Control

### **University of Florida (1999-2003)**

- CGN 4101 – Engineering Economics and Cost Analysis

### **“Gh.Asachi” Technical University of Iasi (1991-2004)**

- Construction Project Planning and Scheduling
- Construction Project Estimating
- Construction Equipment Management
- Site Layout Management and Organization
- Introduction to Engineering Accounting

## **Research/Grants/Consultancy Experience:**

- 2012**                      **Chapter of Excellence Grant**, MCA<sup>1</sup> Development Committee award for the MCA Student Chapter, \$7,500
- 2010**                      **Bistline Grant**, WIT internal funding, research for developing a hybrid course in Construction Scheduling, \$7,000.
- 2007**                      **Consultancy Contract**, Client: Whiting Turner, Framingham, MA, \$15,000.
- 2003**                      **Doctoral Work (Dissertation)**: “Development of a Systematic Approach for Uncertainty Assessment in Scheduling Multiple Repetitive Construction Processes by Using Fuzzy Sets Theory”
- Achievements: The assessment procedure proposed is a heuristic tool that can process linguistic terms as used by experts allowing the quantification of expert knowledge in estimating and assessing uncertainty in scheduling repetitive construction projects.
- 1999**                      **Research Contract**: “The Application of Linear Scheduling in the FDOT Construction Operation”, University of Florida, \$80,000.
- Client: Florida Department of Transportation (FDOT)

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<sup>1</sup> Mechanical Contractors Association

Achievements: Florida Linear Scheduling Program (FLSP) is a prototype of a planning and scheduling software for linear construction projects such as highways and pipelines.

- 1997** **Fulbright** Researcher, Rinker School of Building Construction, University of Florida, Gainesville, FL.
- 1996** **TEMPUS**<sup>2</sup> Research Scholarship at University of Derby, UK
- 1995** **TEMPUS** Research Scholarship at Sheffield Hallam University, UK
- 1994** **Research Proposal:** “Student Training towards the Implementation of Technical and Managerial Innovations”, “Gh.Asachi” Technical University of Iasi, Romania

Client: The Romanian Ministry of Education and Research

- 1993** **Research Proposal:** “Analysis of the Economic Efficiency of Thermal Retrofit of High Rise Apartment Buildings in Romania”, “Gh.Asachi” Technical University of Iasi, Romania

Client: The Romanian Ministry of Transport, Construction and Tourism

### **Undergraduate Research:**

- 1987** “Spatial analysis of construction structures using the matrix approach”, Presentation at the 19<sup>th</sup> edition of the National Conference of Student Scientific Clubs, Iasi, Romania
- 1987** “Methods of structural static analysis using bilinear M-phi modeling”, Presentation at the 19<sup>th</sup> edition of the National Conference of Scientific Student Clubs, Iasi, Romania
- 1986** “Contribution to the determination of wind forces on solar panels”, Presentation at the 18<sup>th</sup> edition of the National Conference of Scientific Student Clubs, Iasi, Romania
- 1986** “Wind tunnel experiments to determine the effect of the magnitude of wind forces on solar panels”, Presentation at the 18<sup>th</sup> edition of the National Conference of Scientific Student Clubs, Iasi, Romania

### **Other Professional Experience, Faculty Development & Community Service Activities:**

#### **Department/Institute Committees**

- 2012** **HealthCare Committee** (College), Member
- 2011** **Faculty Senate**, Member
- 2008** **Diversity Committee** (Dept.), Member

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<sup>2</sup> TEMPUS is a cooperation program in Higher Education managed by the European Commission, Directorate General for Education and Culture

- 2007 **Master Program in Construction Management Task Force** (Dept.), Member
- 2004 **Global Education Opportunities (GEO) Committee @ WIT**, Member

### Events Organized

- 2008 Member of the technical committee of **The 32<sup>nd</sup> ARA<sup>3</sup> Congress** organized at Wentworth Institute of Technology, Boston, July 22-26 (60 participants)
- 2007 Organizer of WIT community attendance to the **2010 Global Emergency Teach-In Web-Cast**, WIT, Boston, Febr.20 (70 participants)
- 2002 Member of the organizing committee of the “**Construction in the 21st Century: Challenges and Opportunities in Management and Technology**” (CITC2002) International Conference, Miami, April 25-26 (130 participants)

### Community Outreach & Service

- 2008 Instructor for the **BSCES<sup>4</sup> Professional Engineer Refresher Course: Construction Management**
- 2008 Participant to “**A Day of MaGiC - Girls of Tomorrow**” hosted at Wentworth Institute of Technology for Girl Scouts, Boston, April 15
- 2008 Participant as a SWE representative to the **NSTA<sup>5</sup> National Conference on Science Education**, Boston, March 28
- 2006 **Service Learning - Benchmarking Trip** at University of Cincinnati and University of Kentucky, Nov.9-13
- 2002 Instructor for the **EIT Exam Review: Engineering Economics** sponsored by Tau Beta Pi Engineering Society, University of Florida

### Technical & Pedagogical Development Activities

- 2010 **The 24<sup>th</sup> University-wide Teaching Conference**, Tufts University, Medford Campus, December 21, Medford, MA, Attendee and Presenter
- 2010 **COACH Workshop** (COACHing Strong Women in the Art of Strategic Persuasion), August 21, Boston, MA, Attendee (scholarship)
- 2010 **Annual Sloan Consortium Emerging Technologies for Online Learning Symposium**, San Jose, CA, July 20-23, Participant
- 2010 **ASC46 Annual International Conference**, Technology Workshop, April, Boston, MA, Mediator
- 2010 **(ASEE) Northeast Section Annual Conference**, Women in STEM Workshop, Boston, MA, Attendee

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<sup>3</sup> American Romanian Academia: <http://www.meca.polymtl.ca/ion/ARA-AS/index.htm>

<sup>4</sup> Boston Society of Civil Engineers

<sup>5</sup> National Science Teacher's Association

- 2010** (ASEE) Northeast Section Annual Conference, Educational Technologies and Equipment Workshop, Boston, MA, Mediator
- 2010** (ASEE) Northeast Section Annual Conference, Graduate School Workshop, Boston, MA, May 8, Attendee
- 2007** **TUiasi, Romanian Academy of Technical Sciences, Romanian Ministry of Culture and Cults, National Office of Historical Monuments, The State Construction Inspectorate (ISC)**, Actual Problems of Conservation and Rehabilitation for Historic Buildings, Symposium, Iasi, Romania, May 18, Attendee
- 2006** **ASCE**, Annual Conference and Sustainability in Practice and Education Workshop – Chicago, Oct.19-2, Attendee
- 2006** **TUiasi**, Sustainability Issues in Civil Engineering; Analysis of the Impact of Climatic Changes, Energy Prices and Seismic Risks, Roundtable – “Gh.Asachi” Technical University of Iasi, Romania, May 19, Participant
- 2005** **ASME**, Essential Teaching Seminar for Engineering Faculty, San Francisco State University, Sept. 22–24, Attendee
- 2001** **ASEE**, Teaching and Learning in the Engineering Classroom, The SUCCEED Coalition of NSF and The College of Engineering, University of Florida, Feb. 16-17, Attendee
- 1989** **COCC (Center for Organization and Cybernetics in Construction)**, Efficient Construction Technologies and Methods Seminar, Bucharest, Romania, Attendee

**Other Activities**

- 2013** Advisor of **Wentworth MCA<sup>6</sup> Student Chapter**
- 2007** Associate Editor of **CMAA Newsletter-New England Chapter**
- 2005** Faculty Coordinator of **CMAA<sup>7</sup> Student Chapter @ Wenworth**

**Awards:**

- 2002** Certificate of Achievement, University of Florida International Center
- 2001** Certificate of Achievement, University of Florida International Center
- 2001** Presidential Recognition, University of Florida
- 2000** Certificate of Award for Academic Achievement by an International Student, University of Florida International Center

**Professional Memberships:**

- 2011** **Sigma-Lambda-Chi International Construction Honor Society**, Member
- 2007** **Society of Women Engineers (SWE)**, Member

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<sup>6</sup> MCA = Mechanical Contractors Association

<sup>7</sup> CMAA = Construction Management Association of America

**2006**                    **American Society of Mechanical Engineers (ASME)**, Affiliate Member (by invitation)

**2004**                    **American Society of Civil Engineers (ASCE/BSCES)**, Member

**2001**                    **Tau-Beta-Pi Engineering Society**, Member

**\*\*\***                      **CIB, W116, Smart and Sustainable Building Environments**, through TUIasi Membership

## Papers, Posters, Presentations

1. **Cristina Cosma**, "INTEGRATION OF WEB-ENHANCED TEACHING TOOLS IN UNDERGRADUATE CONSTRUCTION AND CIVIL ENGINEERING HIGHER EDUCATION", *Proceedings of the 10th International Symposium in "Computational Civil Engineering"*, Iasi, Romania, May 25th, 2012, page 109 – 122
2. **Thomas Taddeo and Cristina Cosma**, "QUALITY ASSURANCE IN A CONSTRUCTION MANAGEMENT PROGRAM: AN OVERVIEW", *Proceedings of the 7<sup>th</sup> International Conference on Quality Management in Higher Education (QMHE)*, Iasi, Romania, November 16-17, 2012
3. **Cristina Cosma**, "FACILITATING LEARNING THROUGH HANDS-ON EXPERIENCES AND ONLINE TECHNOLOGIES", *The 24<sup>th</sup> University-wide Teaching Conference*, Tufts University, Medford Campus, December 10, 2010
4. **Cristina Cosma**, "AVAILABLE SCHEDULING SOFTWARE FOR LINEAR REPETITIVE CONSTRUCTION PROJECTS", *The 6<sup>th</sup> International Symposium on Computational Civil Engineering*, Technical University "Gh.Asachi" Iasi, pg.138-154, Iasi, Romania, 30 May 2008
5. **Cristina Cosma**, "INTEGRATION OF HEALTH AND SAFETY INFORMATION INTO THE CM CURRICULA", poster, *The 2<sup>nd</sup> Annual Academic Poster Session*, WIT, Boston, 10 January 2008
6. **C.Cosma**, Z.J. Herbsman and J.D. Mitrani, "MOVING THE UNIVERSITY TO THE INDUSTRY - A SUCCESSFUL CASE STUDY", *Second International Conference on Structural Engineering and Construction, ISEC-02*, Roma, Italy, 23-26 September, 2003 (accepted for presentation)
7. **Cristina Cosma**, Zohar J. Herbsman, and Jose D. Mitrani, "GRADUATE EDUCATION IN ENGINEERING MANAGEMENT: THE CONCURRENT APPROACH: A CASE STUDY", *Proceedings of the 3<sup>rd</sup> International Conference on Concurrent Engineering in Construction - CEC02*, University of California at Berkeley, California, USA, 1-3 July 2002
8. Z.J.Herbsman, E.E.Middleton, and **C.Cosma**, "DEVELOPING AN "IN-HOUSE" GRADUATE PROGRAM IN ENGINEERING MANAGEMENT – A CASE STUDY", *Proceedings of the 2002 American Society for Engineering Education, Annual Conference & Exposition*, American Society for Engineering Education, Montréal, Québec, Canada, June 16-19, 2002
9. Zohar J. Herbsman, Ana\_Maria Elias and **Cristina Cosma**, "INNOVATIVE METHODS FOR REDUCING CONSTRUCTION TIME OF TRANSPORTATION PROJECTS IN URBAN AREAS", *Proceedings of First International Conference on Construction in the 21<sup>st</sup> Century (CITC2002) "Challenges and Opportunities in Management and Technology"*, Miami, Florida, USA, 25-26 April, 2002

10. Zohar J. Herbsman and **Cristina Cosma** , “TIME IS QUALITY – THE USE OF INNOVATIVE CONTRACTING TECHNIQUES FOR TIME REDUCING OF TRANSPORTATION PROJECTS” , *CIB Publication W89*, pg.101-114, 2000
11. Zohar Herbsman, Ana Maria Elias and **Cristina Cosma**, "BUYING TIME" - AN INNOVATIVE PROCUREMENT CONCEPT FOR TRANSPORTATION PROJECTS”, *CIB 092 Procurement Systems Symposium: Information and Communication in Construction Procurement*, Santiago - Chile, 24-27 April 2000 (accepted for publication)
12. **Cristina Cosma**, “SOCIAL AND ECONOMICAL INFLUENCES ON THE HOUSING AFFORDABILITY IN ROMANIA (INFLUENCIA ECONOMICO-SOCIAL DE LA ACCESIBILIDAD DE LA VIVIENDA EN ROMANIA)”, *Proceedings of the 9<sup>th</sup> Annual Rinker International Conference on Building Construction*, Conferencia International de Urbanización y Vivienda, URVI 98, pg 361, Barquisimeto, Venezuela, October 1998
13. **Cristina Cosma** and Charles Duvel, “TOTAL QUALITY MANAGEMENT IN EASTERN EUROPE CONSTRUCTION: THE PARADIGM SHIFT”, *Proceedings, “Total Quality Management”*, Vol.9, No. 4&5, ISSN 0954-4127, Carfax Publishing Ltd., July, 1998
14. Radu Lupasteanu and **Cristina Cosma**, “SOME SHARP MANAGERIAL ASPECTS REGARDING HOUSES’ ERECTION, MAINTENANCE AND REHABILITATION IN ROMANIA”, *Proceedings of the Tokyo Symposium on Strategies and Techniques for Maintenance and Modernization of Buildings*, Vol. 1, Pg. 391, Japan, 1994
15. **Cristina Cosma**, “QUALITY MANAGEMENT IN ROMANIA, A STEP TO HEALTHY BUILDINGS”, *Proceedings of the 3<sup>d</sup> International Conference on Healthy Buildings*”, Vol. 2, Pg.243, Budapest, Hungary, 1994
16. **Cristina Cosma** and Radu Lupasteanu, “THE ROMANIAN PROCEDURES AND ORGANIZATIONS DEALING WITH THE BUILDING DIAGNOSIS AND ON-FIELD INVESTIGATIONS”, *Proceedings of the International Symposium on Dealing with Defects in Building*, Part.2, Pg.767-772, Varrena, Italy, 1994
17. Radu Lupasteanu and **Cristina Cosma**, “PRIVATIZATION AMONG THE ROMANIAN CONSTRUCTION FIRMS AND SAFETY ON CONSTRUCTION SITES”, *Proceedings of the Fifth Annual Rinker International Conference on Construction Safety and Loss Control*, Pg. 425-432, Florida, USA, 1994
18. **Cristina Cosma**, “SOLVING THE PROBLEM OF AFFORDABILITY: DO-IT-YOURSELF”, *Proceedings of the 4<sup>th</sup> Annual Rinker International Conference on Building Construction*, Pg. I.32, Florida, 1993
19. Radu Lupasteanu and **Cristina Cosma**, “NEW TENDENCIES IN THE QUALITY MANAGEMENT OF CONSTRUCTIONS IN ROMANIA”, *Proceedings of “The Way Forward” Symposium*, Pg.447-452, Trinidad, 1993
20. **Cristina Cosma**, “DO-IT-YOURSELF HOMES, MORE OR LESS CONFLICT PROBLEMS”, *Construction Conflict Management and Resolution: Proceedings of the First International Construction Management Conference*, University of Manchester, Edited by Peter Fenn and Rod Gameson, E & FN SPON, ISBN 0419181407, 9780419181408, Pg.172-177, UK,1992



21. **Cristina Cosma**, "USER'S ROLE IN MAINTENANCE WORK: DO-IT-YOURSELF EDUCATIONAL SYSTEM", *Proceedings of the Symposium on Innovations, Management, Maintenance and Modernization of Buildings*, Vol.8, Rotterdam, 1992

### **Publications in Romanian Journals and Proceedings**

22. **Cristina Cosma**, "METHODS FOR SOLVING CONSTRUCTION DISPUTES" (in Romanian), *Antreprenorul Magazine*, No. 9-10, Pg. 23-25, 1992
23. **Cristina Cosma**, "THE TIME-COST TRADEOFF IN CONSTRUCTION PROJECTS" (in Romanian), *Antreprenorul Magazine*, No. 11-12, Pg. 7-9, 1992
24. **C. Cosma**, R. Lupasteanu, E. Antohie, I. Ciocan, "USERS' ECONOMIC EXIGENCIES: IMPLICATIONS ON CONSTRUCTION DESIGN" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare*, Pg. 92-96, Baia Mare, Romania, 1991
25. **C. Cosma**, R. Lupasteanu, E. Antohie, "CONSIDERATIONS ON CONSTRUCTION COST FORECASTING" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare*, Pg. 97-100, Baia Mare, Romania, 1991
26. **C. Cosma**, E. Antohie, R. Lupasteanu, I. Ciocan, "CONSTRUCTION COST-TIME TRADEOFF" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare*, Pg. 101-104, Baia Mare, Romania, 1991
27. E. Antohie, I. Serbanoiu, R. Lupasteanu, **C. Cosma**, "ASPECTS OF THE CONSTRUCTION ACTIVITIES IN A MARKET ECONOMY" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare*, Pg. 26-29, Baia Mare, Romania, 1991
28. E. Antohie, I. Serbanoiu, R. Lupasteanu, **C. Cosma**, "ASPECTS CONCERNING THE CHANGES IN CONSTRUCTION INDUSTRY DURING THE TRANSITION TO THE MARKET ECONOMY" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare*, Pg. 30-32, Baia Mare, Romania, 1991
29. R. Lupasteanu, V. Hagiu, E. Antohie, **C. Cosma**, "CONSIDERATIONS ON THE BIDDING SYSTEM IN CONSTRUCTION" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare*, Pg. 73-80, Baia Mare, Romania, 1991
30. E. Antohie, I. Serbanoiu, R. Lupasteanu, **C. Cosma**, "GENERAL CONSTRUCTION EXECUTION PLAN BASED ON THE MULTI- BIDDING MECHANISM" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare*, Pg. 81-85, Baia Mare, Romania, 1991
31. R. Lupasteanu, V. Hagiu, E. Antohie, **C. Cosma**, "SPECIFIC MANAGERIAL ASPECTS IN CONSTRUCTION" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare*, Pg. 86-91, Baia Mare, Romania, 1991

32. R.Lupasteanu, V. Hagi, E. Antohie, **C.Cosma**, "ESTIMATING BUILDING PERFORMANCES BASED ON GLOBAL COST" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare* , Pg. 105-110, Baia Mare, Romania, 1991
33. I.Ciocan, R.Lupasteanu, E.Antohie, **C.Cosma**, "ASPECTS OF USING VALUE ENGINEERING FOR THE BUILDING ENVELOPES OF INDUSTRIAL CONSTRUCTIONS DURING THE DESIGN PHASE" (in Romanian), Baia Mare University, *Session of Scientific Communications Celebrating 30 Years of Higher Education in Baia Mare* , Pg. 122-127, Baia Mare, Romania, 1991