

Giovanni Loreto  
College of Architecture and Construction Management  
Kennesaw State University  
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## Education

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01/2011

**PhD, Civil Engineering**, Faculty of Engineering, Università degli Studi di Napoli “Federico II”, Italy  
Dissertation title: “Corrosion Detection for Health Monitoring of RC Structures”  
Advisors: Prof. Antonio Nanni, Prof. Renato Iovino

07/2006

**Laurea (BS/MS, 5-years program) Architectural and Construction Engineering**, Università degli Studi di Napoli “Federico II”, Faculty of Engineering, Italy  
Thesis title: “Retrofit and Rehabilitation of the Church of San Nicolaikirche (Zerbst-Sachsen Anhalt, Germany)”  
Advisor: Prof. Renato Iovino  
Final mark: 110/110 *cum laude*

## Research Interests

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Sustainable construction materials. Structural performance evaluation. Advanced composite materials for reinforced concrete and masonry structures. Nondestructive evaluation methods for monitoring and assessment of existing structures. Concrete and cementitious materials. Engineering and architecture education.

## Scholarly Experience

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06/2016 – present

**Assistant Professor (tenure track)**, College of Architecture and Construction Management, *Kennesaw State University*, Marietta, GA.

- Teaching in the area of structural engineering and architectural design.
- Conducting multiscale evaluation tests on new façade systems and concrete formworks.

05/2014 – 06/2016

**Postdoctoral Associate**, Department of Civil and Environmental Engineering, *Georgia Institute of Technology*, Atlanta, GA.

Project title: “Self-Consolidating Concrete Construction for Modular Units”

- Development of innovative self-consolidating concrete mixtures with enhanced shear-friction capacity between cold joints.
- Conducting multiscale evaluation tests. Assessment of cold joint shear-friction capacity. Shear and flexural performance of steel composite elements, validation through full-scale testing and modeling.

01/2012 – 03/2013

**Assistant Director**, National Science Foundation Industry/University Cooperative Research Center (NSF I/UCRC) for Integration of Composites into Infrastructure, *University of Miami*, Miami, FL.

ISO/IEC 17025 and IAS AC89 Accredited Laboratory

- Researched Fiber Reinforced Cementitious Matrix (FRCM) composite materials for structural retrofit.
- Performed evaluation tests on reinforced concrete and masonry structures.

08/2011 – 04/2013

**Postdoctoral Associate**, Department of Civil, Architectural and Environmental Engineering, *University of Miami*, Miami, FL.

Project title: “Self-Powered Wireless Sensor Network for Structural Bridge Health Prognosis”

- Examined acoustic emission for structural health monitoring of reinforced concrete structures.
- Conducted acoustic emission intensity analysis for in situ evaluation.

01/2010 – 11/2010

**Visiting Research Scholar**, Department of Civil, Architectural and Environmental Engineering, *University of Miami*, Miami, FL.

Project title: "Durability of Reinforced Concrete in Marine Environment"

- Developed a methodology for service life prediction and assessment of reinforced concrete structures affected by corrosion.

01/2008 – 12/2010

**Research Assistant**, Department of Building Engineering, Faculty of Engineering, *Università degli Studi di Napoli "Federico II"*, Italy.

Project title: "Assessment of Existing Reinforced Concrete and Masonry Buildings"

- Performed pseudo-dynamic tests of reinforced concrete and unreinforced masonry walls.
- Researched the use of autoclaved cellular concrete in seismic areas.
- Examined the use of non-destructive evaluation techniques (i.e., half-cell potential, EIS, LPR, etc.) for structural health monitoring.

01/2006 – 06/2006

**Exchange Student**, Institute for History, Architecture and Preservation (Bauingenieurwesen, Institut für Baugeschichte, Architekturtheorie, und Denkmalpflege), Faculty of Civil Engineering, *Technische Universität Dresden*, Germany.

Project title: "Rehabilitation of Historical Buildings"

- Examined retrofit techniques for unreinforced masonry structures.

## Publications

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### Refereed Journal Papers

1. **Loreto, G.**, Leardini, L., Babaeidarabad, S., and Nanni, A. (2015) "RC Beams Shear-Strengthened with Fabric-Reinforced-Cementitious-Matrix (FRCM) composite," *Advances in Structural Engineering*, 7 (341).
2. Babaeidarabad, S., **Loreto, G.**, Arboleda, D., and Nanni, A. (2015) "FRCM-Strengthened CMU Masonry Walls Subjected to Out-of-Plane Load," *The Masonry Society Journal*, 32 (1).  
*Recipient of the TMS Journal Outstanding Award.*
3. Babaeidarabad, S., Arboleda, D., **Loreto, G.**, and Nanni, A. (2014) "Shear Strengthening of Un-reinforced Concrete Masonry with Fabric-Reinforced-Cementitious-Matrix," *Elsevier Construction & Building Materials*, 65 (243-253).
4. Babaeidarabad, S., **Loreto, G.**, and Nanni, A. (2014) "Flexural Strengthening of RC Beams with Externally-Bonded Fabric-Reinforced-Cementitious-Matrix (FRCM)," *ASCE Journal of Composites for Construction*, 18(5).
5. Di Benedetti, M., **Loreto, G.**, Matta, F., and Nanni, A. (2014) "Acoustic Emission Historic Index and Frequency Spectrum of Reinforced Concrete under Accelerated Corrosion," *ASCE Journal of Materials in Civil Engineering*, 26(9).
6. **Loreto, G.**, Leardini, L., Arboleda, D., and Nanni, A. (2013) "Performance of RC Slab-Type Elements Strengthened with Fabric-Reinforced-Cementitious-Matrix (FRCM) Composites," *ASCE Journal of Composites for Construction*, SPECIAL ISSUE: 10<sup>th</sup> Anniversary of IIFC, 18(3).
7. Di Benedetti, M., **Loreto, G.**, Matta, F., and Nanni, A. (2013) "Acoustic Emission Monitoring of Reinforced Concrete under Accelerated Corrosion," *ASCE Journal of Materials in Civil Engineering*, 25(8).
8. **Loreto, G.**, Di Benedetti, M. and Nanni, A. (2011) "Durability of Reinforced Concrete in Marine Environmental: a Simplified Model for Service Life Prediction," *International Journal of 3R's*, 2(2).

### Conference Papers

1. Soltani, M., Tetreault, J.R., Eslami, M., and **Loreto, G.** (2018) "Exploratory Review of Reinforcing Solutions for Precast Concrete 3-D Printing" *Precast/Prestressed Concrete Institute (PCI) Convention and National Bridge Conference*, Denver, CO February 24-24.

2. Stewart, L. K., Gao, N., Pezzola, G., Sanborn, M., Sanborn, K., Nail, A., and **Loreto, G.** (2017) "Georgia Institute of Technology Laboratory for Blast, Shock, and Impact," *7<sup>th</sup> International Conference on Advances in Experimental Structural Engineering*, Pavia, Italy, September 6-8.
3. **Loreto, G.**, Babaeidarabad, S., De Caso y Basalo, F., J., and Nanni, A. (2016) "Axial Testing of Reinforced Concrete Columns Strengthened with Fabri-Reinforced-Cementitious-Matrix (FRCM) Composite," *7<sup>th</sup> International Conference on Advanced Composite Materials in Bridges and Structures*, Vancouver, British Columbia, Canada, August 24-26.
4. Kim, G., **Loreto, G.**, Kim, J.Y., Kurtis, K.E., Wall, J.J., Jacobs, L.J. (2016) "Monitoring Creep Damage and Microstructure Evolution in Concrete Using Nonlinear Rayleigh Waves," *43<sup>rd</sup> Annual Review of Progress In Quantitative Nondestructive Evaluation (QNDE)*, Atlanta, Ga, July 17-22
5. **Loreto, G.**, Gentry, R., Kurtis, K., Kahn, L. (2016) "Self-Roughening Concrete with Enhanced Shear Friction Capacity for Cold Joint Applications," *RILEM International Concrete Sustainability Conference*, Washington, DC, May 15-18.
6. Babaeidarabad, S., **Loreto, G.**, Arboleda, D., and Nanni, A. (2014) "Flexural Behavior of RC Beams Strengthened with Fabric-Reinforced- Cementitious-Matrix (FRCM) Composite," *The 7<sup>th</sup> International Conference on FRP Composites in Civil Engineering (CICE)*, Vancouver, Canada, August 20-22.
7. **Loreto, G.**, Mantegazza, G., and Nanni, A. (2014) "Prestazioni di Lastre in C.A. Rinforzate con Composito FRCM (Fabric Reinforced Cementitious Matrix)," *Giornate AICAP 2014*, Bergamo, Italy, May 22-24.
8. Leardini, L., **Loreto, G.**, Poggi, C., and Nanni, A. (2014) "Studio Sperimentale del Comportamento a Taglio di Travi in C.A. Rinforzate con Fabric Reinforced Cementitious Matrix (FRCM)," *Rehanbend 2014*, Santander, Spain, April 1-4.
9. Leardini, L., **Loreto, G.**, Poggi, C., and Nanni, A. (2013) "Shear Experimental Analysis of RC Beams Strengthened with FRCM," *39<sup>th</sup> World Congress on housing Science*, Milano, Italy, September 17-20.
10. Arboleda, D., **Loreto, G.**, De Luca, A., and Nanni, A. (2012) "Material Characterization of Fiber Reinforced Cementitious Matrix (FRCM) Composite Laminates," *X Simposio Internacional del Ferrocemento y Compuestos Delgados de Cemento Reforzado and 6 Conferencia Latinoamericana y del Caribe del FERROCEMENTO*, Havana, Cuba, October 15-17.
11. Verbovszky, S., Loreto, G., DeLuca, A., and Nanni, A. (2012) "Experimental Analysis of Twist-Off and Pull-Off Testing Methodologies to Measure the Bond Strength Between GFRP and Concrete," *Bound in Concrete (BIC) 2012*, Brescia, Italy, June 17-20.
12. **Loreto, G.**, Di Benedetti, M. and Nanni, A., (2012) "Evaluation of Concrete Structures in Marine Environment – Geiger Key Bridge," *SPIE – Nondestructive Characterization for Composite Materials, Aerospace Engineering, Civil Infrastructure, and Homeland Security*, San Diego, CA, March 11-15.
13. Di Benedetti, M., De Cais, E., Karim, Z., **Loreto, G.**, Presuel, F. and Nanni, A. (2012) "Acoustic Emission Characterization of the Onset of Corrosion in Reinforced Concrete," *SPIE – Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems*, San Diego, CA, March 11-15.
14. Di Benedetti, M., **Loreto, G.**, Nanni, A., Matta, F., and Gonzalez-Nunez, M.A. (2011) "Continuous Acoustic Emission Monitoring of Reinforced Concrete under Accelerated Corrosion," *SPIE – Nondestructive Characterization for Composite Materials, Aerospace Engineering, Civil Infrastructure, and Homeland Security*, San Diego, CA, March 6-10.
15. **Loreto, G.**, Di Benedetti, M., Iovino, R., Nanni, A. and Gonzalez-Nunez, M.A., (2011) "Evaluation of Corrosion Effect in Reinforced Concrete by Chloride Exposure" *SPIE – Nondestructive Characterization for Composite Materials, Aerospace Engineering, Civil Infrastructure, and Homeland Security*, San Diego, CA, March 6-10.
16. **Loreto, G.**, Iovino, R. (2010) "Evaluation of Corrosion in Concrete by Chloride Exposure - First Results," *37 IAHS World Congress on Housing*, Santander, Spain, October 26-29.
17. **Loreto, G.**, Sannino, F., Iovino, R. (2009) "Architectonical and Constructive Aspects of the Monastery of San Giovanni in Parco, Nocera Inferiore (SA)," *National Congress of Historic of Engineering*, Napoli, Italy, April

27-30.

18. **Loreto, G.**, Solimene, R., Iovino, R. (2009) "The Use of Autoclaved Cellular Concrete in Earthquake Zone," *ARTEC Congress - Il sisma. Ricordare, prevenire, progettare*, Messina, Italy, November 18-21.
19. **Loreto, G.** (2009) "Characterization of the Degradation Processes Induced in Concrete Through Different Types of Ageing," *V CODAT Congress*, Messina, Italy, November 18-21.

**Books, Book Chapters and Special Publications**

Loreto, G. (2009) "Le Curve Naturali d'Incendio nell'Approccio Ingegneristico alla Sicurezza Antincendio: il Caso Studio di una Scuola Media Superiore," in Iovino, R., Fascia, F., "La Prevenzione Incendi nell'Architettura – Tecnica e Tecnologia" - Aracne Editore.

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Teaching Experience

Spring 2016

**ARCH 3212 Architecture Structure III**

*Kennesaw State University*

Attendance: 34. Course evaluation: 3.50/4.00. Instructor Evaluation: 3.75/4.00

**ARCH 2004 Architecture Studio II**

*Kennesaw State University*

Attendance: 17. Course evaluation: 3.80/4.00. Instructor Evaluation: 3.75/4.00

**ARCH 5017 Thesis Design Studio**

*Kennesaw State University*

Attendance: 2. Course evaluation: 4.00/4.00. Instructor Evaluation: 4.00/4.00

Fall 2016

**ARCH 3211 Architecture Structure II**

*Kennesaw State University*

Attendance: 20. Course evaluation: 3.75/4.00. Instructor Evaluation: 4.00/4.00

**ARCH 2003 Architecture Studio II**

*Kennesaw State University*

Attendance: 16. Course evaluation: 3.80/4.00. Instructor Evaluation: 3.85/4.00

**ARCH 5016 Thesis Research**

*Kennesaw State University*

Attendance: 2. Course evaluation: 4.00/4.00. Instructor Evaluation: 4.00/4.00

Spring 2016

**ARCH 6532 Environmental Systems II**

*Georgia Institute of Technology*

Attendance: 14. Course evaluation: 4.40/5.00. Instructor Evaluation: 4.8/5.00

Spring 2012

**ARC 531 Building Technology II - Instructor**

*University of Miami*

Attendance: 14. Course evaluation: 4.55/5.00. Instructor Evaluation: 4.80/5.00

Summer 2012

**CAE100 Introduction to Civil, Architectural, and Environmental Engineering - Lecturer**

*University of Miami*

Attendance: 16. Course instructor: F. De Caso y Basalo

Winter/Spring 2009

**Building Technology 2 - Lecturer**

*Università degli Studi di Napoli "Federico II" – Faculty of Engineering*

Attendance: 90. Course instructor: Dr. R. Iovino

**Design of Building Components - Instructor**

*Università degli Studi di Napoli "Federico II" – Faculty of Engineering*  
Attendance: 63. Course evaluation: 4.75/5.00. Instructor Evaluation: 4.90/5.00

*Fall 2008*

**Technologies for Building Recovery - Teaching Assistant**

*Università degli Studi di Napoli "Federico II" – Faculty of Engineering*  
Attendance: 70. Course instructor: Dr. F. Fascia

**Building Technology 2 - Teaching Assistant**

*Università degli Studi di Napoli "Federico II" – Faculty of Engineering*  
Attendance: 90. Course instructor: Dr. R. Iovino

*Winter/Spring 2008*

**Design of Building Components - Teaching Assistant**

*Università degli Studi di Napoli "Federico II" – Faculty of Engineering*  
Attendance: 60. Course instructor: Dr. R. Iovino

**Building Technology 1 - Teaching Assistant**

*Università degli Studi di Napoli "Federico II" – Faculty of Engineering*  
Attendance: 110. Course instructor: Dr. F. Fascia

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Professional Certification

04/2007

Registered Professional Engineer in Italy (Albo Ingegneri di Salerno, No. PE 5360)

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Professional Experience

02/2011 – present

**Forum Pro srl** – 59, *viale Don Giovanni Minzoni, Firenze, Italy*

Professional Educational Development.

*Consulting*

11/2007 - 12/2009

**AU project srl** - 28, *via Amato, Nocera Inferiore (SA), Italy*

Architectural Design, structural design, yard management.

*Technical Advice*

01/2007 – 01/2008

**Matera's Studio**, 39, *Via Trento, Salerno (Italy)*

Architectural Design, structural design, yard management.

*Consulting*

10/2006 – 10/2007

**Perna Ecologia s.r.l.**, 25, *via Selve, Marigliano (NA) Italy*

Environmental Engineering: Advice and feasible research.

*Consulting*

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Professional Memberships

2014 – present

American Society for Engineering Education

2012 – present

American Concrete Institute (ACI)

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Institutional and Professional Service

**Institutional Service**

2011 – present

ACI Committee 123 – Research and Current Developments

ACI Committee 549 – Thin Reinforced Cementitious Products & Ferrocement. Voting Member.

**Journal Peer-Reviewer**

2014 – present

Construction and Building Materials, Elsevier

2011 – present

Journal of Composites for Construction, ASCE

2010 – present

Journal of Materials in Civil Engineering, ASCE

Presentations

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“In-Plane and Out-of-Plane Performances of Externally Reinforced Composite Structures using optimized Self-Consolidating Concrete” *ACI Convention Fall*, March 26-30, 2017, Detroit, MI.

“Acoustic Emissions Applications to Structural Engineering,” *Civil Engineering Distinguished Lecture Series at University of Salerno*, December 21, 2016, Salerno, Italy.

“Investigating Shear Friction Behavior in Externally Reinforced Steel Composite (SC) Structure,” *ACI Convention Fall*, October 22-26, 2016, Philadelphia, PA.

“Self-Consolidating Concrete Construction for Modular Units,” *AMM Workshop, Department of Energy (DOE)*, October 17-18, 2016, Germantown, MD.

“Self-Roughening Concrete with Enhanced Shear Friction Capacity for Cold Joint Applications,” *International Concrete Sustainability Conference*, May 15-18, 2015, Washington, DC.

“Performance of RC Axial-Type Element Strengthened with FRCM Composites,” *ACI Convention Spring*, April 17-21, 2016, Milwaukee, WI.

“Development of a Self-Roughening Concrete for Modular Units,” *Advanced Nuclear Manufacturing Conference*, May 18-20, 2015, Pocatello, ID.

“Self-Consolidating Concrete Construction for Modular Units,” *DOE Annual Meeting, Electric Power Research Institute*, October 21, 2014, Charlotte, NC.

“Development of a Self-Roughening Concrete (SRC) for Cold Joints in Walls,” *1st Postdoctoral Research Symposium, Georgia Institute of Technology* September 19, 2014, Atlanta, GA.

“University of Miami Research Projects,” *NSF I/UCRC for “Integration of Composites into Infrastructure” Industrial Advisory Board Meeting*, January 29, 2012, Orlando, FL.

“University of Miami Research Projects,” *NSF I/UCRC for “Integration of Composites into Infrastructure” Industrial Advisory Board Meeting*, June 28, 2012, Morgantown, WV.

“University of Miami Research Projects,” *NSF I/UCRC for “Integration of Composites into Infrastructure” Industrial Advisory Board Meeting*, January 28, 2012, Miami, FL.

“Rehabilitation of the Geiger Creek Bridge,” *ACI Convention Spring*, 3-7 April, 2011, Tampa, FL.

Honors and Awards:

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09/2016

Quick Starters Faculty Award, Faculty Learning Community, *Kennesaw State University*.

05/2015

Outstanding TMS Journal Paper Award, “FRCM-Strengthened CMU Masonry Walls Subjected to Out-of-Plane Load,” *The Masonry Society Journal*.

07/2006

Cum laude Master’s Degree in Architectural and Construction Engineering, Università degli Studi di Napoli “Federico II”, Faculty of Engineering, Italy.

2001 - 2006

A.Di.SU. Scholarship, University of Napoli "Federico II", Italy.