

# SUSAN M. REYNOLDS, PE, RA, LEED AP

Teaching Associate Professor  
Department of Civil and Environmental Engineering  
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## EDUCATION

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|--------------------------------------|------------------------|------|
| M. S. Civil Engineering (Structural) | University of Illinois | 2004 |
| B. Architecture                      | Auburn University      | 2000 |
| B. A. Spanish                        | Auburn University      | 2004 |

## PROFESSIONAL LICENSES

|                              |                             |                |
|------------------------------|-----------------------------|----------------|
| Professional Engineer        | State of Alabama            | 2011 – present |
| Professional Engineer        | Commonwealth of Virginia    | 2010 – present |
| Registered Architect         | District of Columbia        | 2008 – present |
| LEED Accredited Professional | U.S. Green Building Council | 2008 – present |

## PRIOR ACADEMIC APPOINTMENTS

|   |                             |             |
|---|-----------------------------|-------------|
| Tuskegee University, Tuskegee, Alabama      | Assistant Professor         | 2011 – 2012 |
| University of Illinois, Champaign, Illinois | Graduate Teaching Assistant | 2002 – 2004 |
| University of Illinois, Champaign, Illinois | Graduate Research Assistant | 2002 – 2004 |

## COURSES TAUGHT

|            |                         | <u>FA13</u> | <u>SP13</u> | <u>FA12</u> | <u>SP12</u> | <u>FA11</u> | <u>SU11</u> | <u>SP11</u> |
|------------|-------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| EGGN 320   | Mechanics of Materials  | 2           | 1           | 2           |             |             |             |             |
| EGGN 4/598 | Structural Preservation |             | 1           |             |             |             |             |             |
| EGGN 491   | Senior Design I         | 1           |             | 1           |             |             |             |             |
| EGGN 492   | Senior Design II        |             | 1           |             |             |             |             |             |
| ARCH 343   | Structures I            |             |             |             |             | 1           |             |             |
| ARCH 344   | Structures II           |             |             |             | 1           |             | 1           | 1           |
| ARCH 443   | Structures III          |             |             |             |             | 1           |             |             |
| CSMT 435   | Soils & Foundations     |             |             |             | 1           |             |             | 1           |
| CSMT 342   | Construction Methods    |             |             |             | 1           |             |             |             |
| CSMT 352   | Construction Safety     |             |             |             |             |             |             | 1           |
| ARCH 364   | Historic Preservation I |             |             |             |             | 1           |             |             |

## ENGINEERING / ARCHITECTURAL PRACTICE

|  |                                  |             |
|--|----------------------------------|-------------|
| <u>AECOM</u> , Washington, DC and Arlington, VA  | Structural Engineer (Associate)  | 2007 – 2010 |
| <u>Robert Silman Associates</u> , Washington, DC | Structural Engineer              | 2004 – 2007 |
| <u>ICCROM</u> <sup>1</sup> , Rome, Italy         | ICOMOS <sup>2</sup> Intern       | Summer 2006 |
| <u>The National Trust</u> , Washington, DC       | RSA Fellow for Preservation Eng. | 2004 – 2005 |
| <u>tvdesign</u> , Chicago, IL                    | Intern Architect                 | 2000 – 2002 |

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<sup>1</sup> International Center for the Conservation and Restoration of Cultural Property

<sup>2</sup> International Council on Monuments and Sites

## RESEARCH, GRANTS

- NCARB Grant 2011, National Council of Architectural Registration Boards. "Preservation Tenets, Technology, and Stewardship of the Historic Tuskegee University Campus." \$11,700. Awarded in full 9/2011. Co-PI with Prof. R. Fluker. Intent of grant is to incorporate issues facing the architecture profession into the academy by building partnerships with practicing architects. Funds to be used to strengthen historic preservation education at Tuskegee.
- HUD Grant. "Rehabilitation of the Tuskegee University Alumni and Community Center." Proposal submitted 2011. Co-PI with several others (not funded). Anticipated involvement was as a technical building specialist and adviser.
- Getty Campus Heritage Grant, Getty Conservation Institute. Educational Component: "Research, Assessment, and Planning for a Historic Structure," \$17,000. Awarded in 2006; expended in 2011. Administrator of the educational component. Funds were used to purchase technical preservation equipment for ARCH 364 (Historic Preservation I), such as flashlights, tape measures, crack gauges, work gloves, safety goggles, accelerometers, displacement sensors, liquid dyes that fluoresce under black light, student cameras, an infrared camera, and finite element software, in order to support preservation education at Tuskegee.
- Course creation, "Structural Issues Related to Conservation of the Built Heritage," for ICCROM, Rome, Italy, 2006. Research included construction of a database of people and organizations in structural conservation, creation and deployment of a questionnaire to conservationists worldwide, and development of a course outline.

## INVITED LECTURES

- "Preservation Challenges of African American Sites with Ties to Tuskegee: Three Case Studies,"* Tuskegee University Black History Month lecture series, 2/2012.
- "Common Sense Revit Solutions,"* AECOM Structural Summit, Virginia Beach, VA, 9/2008.
- "Revit Experiences and Lessons Learned,"* AECOM Architectural Atelier, Charlotte, NC, co-presenter with S. Oaks and A. McCreary, 4/2008.
- "An Introduction to Revit,"* AECOM office, all departments, Washington, DC, 11/2007.
- "An Introduction to Revit Structure,"* AECOM office, Structural Department, Washington, DC, 7/2007.
- "Conservation Engineering: International Trends,"* RSA office, Washington, DC, 11/2006.
- "A Structural Engineer's Perspective on Conservation,"* ICCROM office, Rome, Italy, 8/2006.
- "UVA-ART Building - Seismic Design,"* RSA office, Washington, DC, 3/2006.
- "A Dialogue of Projects as the Robert Silman Fellow,"* 2/18/2005 in Washington, DC and 2/11/2005 in New York, NY, both to an office location of Robert Silman Associates.

## PUBLICATIONS

- Reynolds, Susan: "Preservation Engineering Trends: the U.S. approach in the context of international practice," US/ICOMOS quarterly newsletter, 11/2006.
- Reynolds, Susan: "How to Inspect a National Trust Historic Site," internal National Trust publication, 2006.

## AWARDS

- Tuskegee University 2011-2012 Faculty Performance Award for Research in the School of Architecture and Construction Science. 4/24/2012.
- AECOM Performance Award, in recognition of commitment to client service and technical quality. 3/21/2010.

## ACADEMIC SERVICE

Senior Design CEE Task Force Committee, Chair, Fall 2013.  
 Search Committee for *Sustainable Structures* Faculty, member, 2012-2013.  
 The Architecture & Engineering of Sustainable Buildings 2011-2012 Student Competition, Juror, 2012.  
 Varner House Restoration Committee, member, Tuskegee University, 2011-2012.  
 IT Committee, chair, School of Architecture & Construction Science, 2011-2012.  
 Curriculum Committee, member, School of Architecture & Construction Science, 2011-2012.  
 Academic Adviser, School of Architecture & Construction Science, 2011-2012.  
 Design and Construction of Signage for School of Architecture & Construction Science, 2011.

## M.S. COMMITTEE WORK

Bray, Jared, The Potential Leachability of Encapsulated Mine Tailings in Structural Concrete

## PROFESSIONAL MEMBERSHIPS

|   |                |
|---|----------------|
| National Council of Examiners for Engineering and Surveying | 2010 – present |
| American Institute of Steel Construction                    | 2010 – present |
| International Council on Monuments and Sites                | 2006 – present |
| National Building Museum, Washington, DC                    | 2004 – 2008    |

## CONFERENCES / TRAINING ATTENDED

|   |                |         |
|---|----------------|---------|
| Center for Sustainable Engineering Workshop           | Atlanta, GA    | 6/2013  |
| Engineering By Doing                                  | Golden, CO     | 5/2013  |
| Architecture and Engineering of Sustainable Buildings | Chicago, IL    | 7/2012  |
| LEED Green Associate Test Preparation                 | Tuskegee, AL   | 5/2012  |
| Robert R. Taylor Symposium                            | Tuskegee, AL   | 4/2011  |
| Progressive Collapse Seminar                          | Richmond, VA   | 7/2008  |
| Revit Advanced Training                               | Washington, DC | 4/2008  |
| Design for Shallow Foundations                        | Richmond, VA   | 6/2008  |
| Revit Basic Training                                  | Washington, DC | 11/2007 |
| APT Building Codes and Historic Rehabilitation        | Chicago, IL    | 10/2006 |
| Autodesk University                                   | Orlando, FL    | 11/2005 |
| Revit Structure Seminar                               | Baltimore, MD  | 7/2005  |
| National Trust Annual Conference                      | Louisville, KY | 9/2004  |
| International Masonry Institute                       | Annapolis, MD  | 8/2004  |

## SELECTED ARCHITECTURE / ENGINEERING PROJECTS

The Varner House, Tuskegee, AL, for Tuskegee University (owner). Condition assessment of an antebellum mansion and a feasibility analysis for the proposed rehabilitation project. Author (pro bono), 2011.

Mercy Clinic Expansion, Janesville, WI, for Ellerbe Becket (architect). Structural design of a geometrically complex 1-story steel-framed health care facility. Project structural engineer with AECOM, 2010.

Office of Chief Army Reserves, Ft. Belvoir, VA, for US Army Corps of Engineers. Fast-track design of structural steel for a 2-story office building to generate a steel mill order prior to project award; antiterrorism design (project awarded to others). Project structural engineer with AECOM, 2010.

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Second Avenue Subway, New York, NY, for the NY Metropolitan Transit Authority. Visual surveys and condition assessments of 180 existing buildings along the proposed subway line to mitigate structural damage under anticipated vibrations and settlement. Task leader with AECOM, 2010.

Big Meadows Lodge, Luray, VA, for the National Park Service. Condition assessment of the deteriorated reinforced concrete and masonry 1920s era historic structure, and recommendations for structural stabilization and repairs. Project structural engineer with AECOM, 2009.

National Museum of Natural History, West Wing, Washington, DC, for the Smithsonian Institution. Analysis of the structural capacity of the existing storage facility to be upgraded to high-density storage for museum artifacts. Project structural engineer with AECOM, 2009.

National Museum of Health and Medicine, Silver Spring, MD, for the Army Corps of Engineers. Pre-design architectural and engineering services and compilation of a Request For Proposal for Design-Build services by others for a one-story museum. Project structural engineer with AECOM, 2009.

Defense Media Activities Building and Adjudication Activities Building, Ft. Meade, MD, for the Army Corps of Engineers. Full architectural/engineering design services for two new multi-story structures. Building Information Modeling (BIM) was contractually obligated. BIM Implementation Lead with AECOM, 2009.

Navy Medical Biological Defense Research Laboratory (NMBDRL), Ft. Detrick, MD, for the Army Corps of Engineers. Pre-design architectural and engineering services and compilation of a Request For Proposal for Design-Build services by others for a 2-story research laboratory with stringent vibration criteria on a site characterized by karst terrain. Project structural engineer with AECOM, 2009.

Flight Simulator (Building 206), Dover, DE, for Dover Air Force Base. Structural engineering services for the renovation of the existing building, including roof reinforcement and antiterrorism (blast) engineering upgrades to existing glazed windows and doors. Project structural engineer with AECOM, 2009.

Squadron Operations Building, Fire Station, and Base Supply Building, Martinsville, WV, for the West Virginia Air National Guard. Construction administration services for the 3 referenced low-rise structures. Original structural design and documentation (by others) contained errors, necessitating re-design, revision of details, and change orders. Project structural engineer with AECOM, 2009.

National Park Service Headquarters and United States Park Police Headquarters, Washington, DC, for the Park Service. Preliminary structural design of a 2-story office, 3-story police station, 3-story parking deck, and 2-story hangar (project remains unbuilt). Project structural engineer with AECOM, 2008.

The Pentagon, Arlington, VA, for Washington Headquarter Services. Structural analysis of portions of the original 1940s reinforced concrete structure under the application of potential helicopter, crane, and vehicular loads. Project structural engineer with AECOM, 2008.

Regional Correctional Facility, Ft. Leavenworth, KS, for the US Army Corps of Engineers. Structural design of four small, new buildings that support the 224,000 square-foot prison. Project structural engineer for the four supporting buildings and antiterrorism design for the entire project, with AECOM, 2007.

The National Gallery of Art (East Building), Washington, DC, for the National Gallery. High-profile façade investigation of exterior stone cladding panels with insufficient structural anchorage, including extensive research, investigation, and on-site testing and analysis. Project structural engineer with RSA, 2006.

The Farnsworth House, Plano, IL, for the National Trust. Extensive condition assessment of Mies van der Rohe's one-story steel masterpiece; special attention to oxide jacking and corrosion protection, cracking of marble pavers, and moisture migration. Primary assessor with the National Trust, 2005.

Advanced Research and Technology Building, Charlottesville, VA, for Perkins + Will (architect). Owner: The University of Virginia. Structural design of a new 750,000 square-foot steel-framed research laboratory with stringent vibration mitigation requirements. Supporting structural engineer with RSA, 2006.

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The National Portrait Gallery (Old Patent Office Building), Washington, DC, for Beyer Blinder Belle (architect). Owner: The Smithsonian Institution. Blast analysis and upgrade to the historic unreinforced 4-story masonry bearing walls and historic glazed windows. Project structural engineer with RSA, 2004.

McCormick Place West Expansion, Chicago, IL, for the Metropolitan Pier and Exposition Authority. Architectural design of a new 2.5 million square-foot addition to the existing convention center. Supporting architectural designer/drafter and liaison to structural consultant with tvsdesign, 2002.

Washington Convention Center, Washington, DC, for the Washington Convention Center Authority. Architectural design services for a new 2.3 million square-foot convention center during construction. Supporting architectural designer/drafter with tvsdesign, 2001.

Hyatt Regency, Orlando, FL, for the Hyatt Corporation. Preliminary architectural design of a new 34-story high rise hotel (project remains unbuilt). Supporting architectural designer/drafter with tvsdesign, 2001.

**THESES**

"A New Music Education and Performance Facility for Auburn University"

B. Architecture

"Documentation and Modeling of the Thomas M. Siebel Center for  
Computer Science: A Framework for the Development of a Living  
Laboratory for Structural Health Monitoring"

M. S. Civil Engineering