

## Biography



### John A. Ochsendorf

Class of 1942 Professor of Architecture  
Professor of Civil and Environmental  
Engineering  
Massachusetts Institute of Technology

John Ochsendorf is the Class of 1942 Professor of Structural Engineering and Architecture at the Massachusetts Institute of Technology, where he directs the Structural Design Lab and the Masonry Research Group. Trained in structural mechanics at Cornell, Princeton, and the University of Cambridge, he conducts research on the structural safety of historic monuments and the design of more sustainable infrastructure. A founding partner of the firm Ochsendorf DeJong and Block Engineering, his team has worked on the static and dynamic analysis of significant structures and has contributed to the design of several award-winning buildings around the world. Ochsendorf is the author of "Guastavino Vaulting: The Art of Structural Tile" (Princeton Architectural Press, 2010) and several dozen journal papers in structural mechanics. He has been awarded a Rome Prize from the American Academy in Rome and a MacArthur Fellowship from the John D. and Catherine T. MacArthur Foundation.

[www.ce.jhu.edu](http://www.ce.jhu.edu)

## The Richard J. Carroll Memorial Lectureship

The Richard J. Carroll Memorial Lectureship in Civil Engineering was established at The Johns Hopkins University to commemorate one of Baltimore's leading structural engineers, Richard J. Carroll, P.E. The lectureship was endowed by the many friends and admirers of Mr. Carroll, who passed away in 1982. The endowment contributes to the ongoing guest seminars in the Department of Civil Engineering and provides for these special lectures.

Richard J. Carroll, P.E. received his bachelor of civil engineering degree from Villanova University in 1955 and studied advanced structural design at The Johns Hopkins University and George Washington University. He was chief structural engineer for the firms of Knoerle, Bender, Stone, and Associates, and Ewell, Bomhardt and Associates and chief field engineer for the Portland Cement Association. In 1964 he founded his own firm, Carroll Engineering, Inc., which grew to 26 employees under his leadership. Mr. Carroll made contributions to the civil engineering profession through his membership in numerous professional societies and he published several papers on concrete use and design with an emphasis on post-tensioned and pre-stressed concrete. He also taught courses in ultimate strength design and plastic design in steel. His untimely death at the age of 49 left a legacy of professionalism, integrity, and vigor.

Donors to the Carroll Memorial Lectureship include:

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Civil  
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at JOHNS HOPKINS UNIVERSITY

THE JOHNS HOPKINS UNIVERSITY  
DEPARTMENT OF CIVIL ENGINEERING  
2015 RICHARD J. CARROLL MEMORIAL LECTURESHIP

## CHALLENGES AND OPPORTUNITIES FOR STRUCTURAL DESIGN

### John A. Ochsendorf

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Professor of Civil and  
Environmental Engineering  
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**Wednesday, April 8, 2015**

**1:30-2:30 p.m.**

The Johns Hopkins University  
Homewood Campus  
Hodson Hall, 3rd Floor Boardroom



JOHNS HOPKINS  
WHITING SCHOOL  
of ENGINEERING

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Wednesday, April 8, 2015

1:30–2:30 p.m.

The Johns Hopkins University

Homewood Campus

Hodson Hall, 3rd Floor Boardroom

*Afternoon Seminar*

**1:30–2:30 p.m., Hodson Hall, 3rd Floor Boardroom**

## Challenges and Opportunities for Structural Design



Structural engineering is often described as a mature field, yet there are many unsolved problems in structural design. This seminar presents a series of broad challenges for our profession and identifies exciting opportunities for the future, highlighting recent research from the Structural Design Lab at MIT. With powerful incentives to deliver improved environmental and economic performance, it is essential that we capitalize on the unprecedented computational power available today to provide a leadership role for society. This discussion will focus on structural engineering, though the issues are relevant to wider audiences in other fields of engineering and beyond.

*Evening Talk*

**8:00–8:30 p.m., The Engineers Club**

## Analysis of Ancient Structures: From Inca Suspension Bridges to Gothic Cathedrals

Many pre-industrial civilizations constructed extraordinary structures, some of which have lasted for centuries despite the lack of modern building codes at the time of their design. Yet, the analysis of historical structures can present a major challenge for engineers today. This illustrated lecture will highlight some of the greatest structures in history and will share recent research into their construction and structural safety. New methods of analysis developed at the Massachusetts Institute of Technology are enabling an improved understanding of the structural behavior and safety of historical monuments. The lecture will demonstrate how the study of great structures from history can also help to inspire new designs for the future.

### Events at ASCE Meeting:

6:00 p.m. .... Cocktails

7:00 p.m. .... Dinner

8:00 p.m. .... After Dinner Seminar  
By John A. Ochsendorf

The Engineers Club  
11 W. Mount Vernon Place  
Baltimore, MD 21201

**Register at [ascemd.org](http://ascemd.org)**

