



# THE STRUCTURAL ENGINEERS ASSOCIATION OF TEXAS

## FORT WORTH CHAPTER

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Volume 14, Issue 4

## SEAoT Fort Worth News

May 2021

Wednesday, May 26, 2021

### Presentation:

#### Long-Span Lateral Force Resisting Systems – Steel Special Truss Moment Frames (STMF) and Steel Staggered Truss Framing (STF) Systems

*Speaker: Dr. Shih-Ho (Simon) Chao*

The need for a long-span lateral-force resisting system in industrial, residential, sporting, and industrial venues puts steel moment frames and braced frames at a disadvantage. In this regard, steel special truss moment frames (STMFs) can accommodate a large span by utilizing truss girders to provide high lateral stiffness. Recent research indicates that STMFs can provide high ductility and strength as a reliable lateral-force resisting system with a span length up to 90 ft. This presentation will briefly present recent research outcomes and proposed provision changes in AISC 341. Steel staggered truss framing (STF) system is another type of steel structural system which has long-span and high lateral-force resisting capacity. It has been used in mid- to high-rise buildings subject to relatively smaller lateral forces. It was initially developed in the 1960s in order to create a steel framing system that has low floor-to-floor height (9 to 10 ft) and wide column-free space (60 to 80 ft).

*Continued on page 2*

## President's Message

**Brion Echols, P.E.**

Following up from last month, we have continued discussions with the Dallas Chapter about doing another joint presentation this year. It will likely be in October and we are looking to hold it at Texas Live as we had planned last year. I'm looking to get an estimate of how many Fort Worth members would attend a joint presentation in person. We will likely be sending out a poll soon, so be on the lookout for that.

As the spring semester is coming to an end for most schools, it is a time when many graduate engineers will be starting their first jobs in the profession. Many of us will get the opportunity to serve as mentors to these young engineers. It is important to remember back to when you first started working as a structural

*Continued on page 3*

### Lunch Meeting Information

**May 26, 2021**

Virtual Meeting

(Link will be sent to registered participants  
the day before the presentation)

<b>Check-In:</b>	11:45 AM – 11:50 AM
<b>Chapter News:</b>	11:50 AM – 12:00 AM
<b>Program:</b>	12:00 PM – 1:00 PM

## INSIDE THIS ISSUE

PAGE	
1, 2	Program and Speaker Bio
1, 3	President's Message
2, 3	Meeting Reservation Policy/Cancelations/ Membership Announcements
3	Calendar

Presentation Description continued from page 1

This system consists of a series of story-high trusses spanning the total width between two rows of exterior columns and arranged in a staggered pattern on adjacent column lines. STF can be a very economical steel framing system because it consists of pre-fabricated trusses and precast prestressed hollow-core slabs as diaphragm, along with its low floor-to-floor height and large column-free space. This presentation will discuss the potential issues of using STF in seismic regions and proposed solutions based on recent research.

### **SPEAKER BIO:**

Dr. Shih-Ho (Simon) Chao is a professor at the University of Texas at Arlington. His research interests include earthquake engineering, seismic behavior of structural systems, and large-to full-scale experimental testing of reinforced concrete, prestressed concrete, and steel structures. Dr. Chao is a member of AISC's TC 9 Committee on Seismic System, which is responsible for AISC 341 - Seismic Provisions for Structural Steel Buildings. He teaches various courses such as Steel Connection Design, Prestressed Concrete Design, Post-Tensioned Concrete Design, Earthquake-Resistant Design of Reinforced Concrete Structures, Plastic Analysis & Design of Steel Structures, Structural Steel Design, and Structural Dynamics. He was the recipient of the ACI Chester Paul Siess Award for Excellence in Structural Research, the AISC Milek Young Researcher Fellowship Award, University of Texas System Regents' Outstanding Teaching Award, UTA President's Award for Excellence in Teaching, and the UTA College of Engineering Teaching Award. He was inducted into UT Arlington's Academy of Distinguished Teachers in 2019.

## **Newsletter Advertisement Policy**

The Fort Worth Chapter of SEAoT would like to invite all prospective advertisers to contribute to the newsletter. We will definitely appreciate your support. You may support SEAoT by advertising in the newsletter. Space is available to structural engineering firms, vendors, and suppliers starting at \$175.00 for one year of advertisement (8 newsletters). If interested, please contact the newsletter editor, Misty Thomison, via phone at (817) 735-7240 or email at [fortworthseao@gmail.com](mailto:fortworthseao@gmail.com).

The newsletter editor is also looking for articles and announcements for publication. Submissions may be sent to the editor at [fortworthseao@gmail.com](mailto:fortworthseao@gmail.com). Articles and ads to be included in the newsletter must be received by the first Wednesday of the month the article or ad is to first appear. The newsletter is loaded on the SEAoT website, so you will get exposure to the entire state of Texas and more.

## **Reservations for Meeting**

To reserve a place at this month's meeting, please **RSVP by 5:00 PM on Tuesday May 25, 2021**. You may make your reservations via email at [fortworthseao@gmail.com](mailto:fortworthseao@gmail.com) or by phone to Misty Thomison at (817) 735-7240. Indicate the name of each attendant when making a reservation for several people. The cost is \$5.00 for members and \$10.00 for non-members. The cost for students is \$5.00. Reservations are required to ensure adequate space.

President's Message continued from page 1

engineer and how little you may have known about the business and the day to day operations. These graduates likely know how to perform design calculations in steel and concrete but know little or nothing about producing construction documents. We need to remember to be patient with the new engineers and try to be the resource that many of us had, or wish we had, when we started. I believe a good mentor early in the career of an engineer can make a huge difference. And of course one great way to help the young engineer is to get them involved in SEAoT. Make sure they know they are welcome to attend meetings. Once we are back in person it's an excellent way to meet other structural engineers and to just feel that you are part of the engineering community.

Brion Echols, PE  
President, SEAoT Fort Worth Chapter

## Cancellations

Please note that cancellations must be made by **8:00 a.m.** on **Wednesday, May 26, 2021**, to be honored. SEAoT reserves the right to decline cancellations made after the cut-off and to invoice no-shows.

## Membership Announcements

Current SEAoT members who would like to be transferred to this chapter are invited to do so by logging in with their user name and password and updating their chapter selection from their membership profile. Please email [fortworthseaot@gmail.com](mailto:fortworthseaot@gmail.com) for additional information. ❖

## CALENDAR OF EVENTS

SEAoT FORT WORTH LUNCH MEETINGS FOR 2020:

### CHAPTER MEETINGS - FORT WORTH, TX

February 24, 2021

March 31, 2021

April 22, 2021

May 26, 2021

June 23, 2021

August 25, 2021

September – State Conference

October 20, 2021

November 17, 2021

### Upcoming Seminars:

- [SJI Seminars](#)
- [ACI/PCA Seminars](#)
- [AISC Seminars](#)

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### Chapter Positions

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