

**AGENDA – FALL 2020 MEETING**  
**Joint ASCE/ACI Committee 445 – SHEAR AND TORSION**  
**Monday, October 26, 2020 – 17:00-21:00 (EDT)**  
**Virtual Meeting: <https://global.gotomeeting.com/join/704881677>**

**Chair: Abdeldjelil (DJ) Belarbi**

**Secretary: Adam S Lubell**

**1. Call to order – welcome** (Belarbi)

***No audio, photo, or video recording – ACI Policy for all Committees and at Convention***

**2. Introductions** (Group)

**3. Approval of the agenda** (Belarbi)

**4. Approval of meeting minutes of Fall 2019, Cincinnati, OH** (Belarbi)

**5. Chair’s Report** (Belarbi)

**6. Ballot Results and Immediate Plan for the 445-R20 Document: *Shear Design and Analysis in Structural Concrete Document*** (Ramirez/Belarbi)

**7. Torsion Design Examples Sessions and SP-344** (Lantsoght/Greene)

**8. Subcommittee reports and on-going 445 activities** (Sub-Committee Chairs)

- ✓ 445-A Strut and Tie (Klein)
- ✓ 445-B Seismic Shear (Rautenberg)
- ✓ 445-C Slab Shear (Hrynyk/Dam)
- ✓ 445-D Beam Databases (Williams)
- ✓ 445-E Torsion (Greene/Lantsoght)

**9. Future technical sessions** (Group and Sub-Committee Chairs)

- ✓ Fall 2021 (Atlanta, GA) – Oct. 17-21, 2021  
    **“Strut-and-Tie Method Guide”** (Klein/Belarbi)
- ✓ Spring 2022 (Orlando, FL) – Mar. 27-31, 2022
- ✓ Fall 2022 (Dallas, TX) – Oct. 23-27, 2022
- ✓ Spring 2023 (San Francisco, CA) – Apr. 2-6, 2023

**10. Liaison Reports**

ACI445/421/352- (Polak/Hammill)

**11. Technical presentations ( *short presentations only* )**

- i. *“FIU Pedestrian Bridge Collapse: Testing of Full-Size Replicas of Failed Connection”* **Gary Klein**
- ii. *“Gap Test and the Enormous Effect of Crack-Parallel Stresses on Fracture Energy and Beam Shear Strength”* **Zdenek P. Bazant**, Hoang T. Nguyen, Gianluca Cusatis, Madura Pathirage, and Abdullah Donmez
- iii. *“Torsional Cracking: testing a volume-based size-effect cracking model”* **Evan Bentz**
- iv. *“Strut-and-Tie Model for Stay Cable Bridge Diaphragms”* **Bob Anderson** and Trevor Kirkpatrick
- v. *“Shear behavior of RC Members without Shear Reinforcement in Combination of Larger Depth and Low Reinforcement Ratio - the Delft Shear dataset”* **Yuguang Yang**
- vi. *“Effect of Reinforcement Ratio on the Shear Strength of Members without Shear Reinforcement that are Subjected to Distributed Loads”* **Dan Kuchma**
- vii. *“Direct Shear in UHPFRC under Impact Loading”* **Michael Jasser-Stone** and Ted Krauthammer

**12. New business** (Open)

**13. Next meeting and wrap-up** (Belarbi)

**14. Adjourn** (Belarbi)

## **Sessions on Design Example for Torsion, Sponsored by 445**

### **Examples for the Design of Reinforced and Prestressed Concrete Members Under Torsion, Part 1 of 2**

Thursday, October 29, 2020—10:00 to 12:00 (EDT)

<https://zoom.us/j/98971648321?pwd=QTNVbFdUYitrOFQyanJSbzhONkN2dz09>

- 1) **Overview of Torsion Design Methods:** Camilo Granda Valencia
- 2) **Neglecting Compatibility Torsions in the Design of Concrete Structures:** Giorgio Proestos, Michael Collins, Evan Bentz
- 3) **Design Example of Bridge Pier Cap Considering Torsional Effect:** Yang Yang, Ruili He, Lesley Sneed
- 4) **How to Model Post-Cracking Torsional Stiffness and Why It Matters:** Edvard P.G. Bruun, Allan Kuan, Evan Bentz
- 5) **Torsion Design Example: Prestressed Concrete Girder Bridge:** Kevin Benitez, Eva Lantsoght
- 6) **Torsion Design Example: Inverted Tee Bent Cap:** Camilo Granda Valencia, Eva Lantsoght

### **Examples for the Design of Reinforced and Prestressed Concrete Members Under Torsion, Part 2 of 2**

Thursday, October 29, 2020—13:00 to 15:00 (EDT)

<https://zoom.us/j/99646381129?pwd=eStNdTBlKzRGRE04d0ZmK0h2MWftZz09>

- 1) **Torsion in a Grade Beam due to Wind loading on CMU Wall:** Gary Greene, David Hartmann
- 2) **Design of a Cantilever Canopy and its Supporting Beams for a Sport Stadium:** Thomas Hsu, Yagiz Oz
- 3) **Alternative Design Procedures for Torsion in ACI 318-19: A Comparative Study:** Allan Kuan, Michael Collins, Evan Bentz, Edvard P.G. Bruun
- 4) **Torsion Design of Slender and Compact Spandrel Beams:** Greg Lucier, Gary Klein, Catrina Walter
- 5) **Alternative Methods for Torsion Design of Prestressed Concrete Members in the PCI Design Handbook:** Sergio Brena, Jared Brewé, Edith Smith

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## **Mini-Session on UHPC/Shear, Sponsored by 343**

### **Shear Behavior of UHPC Bridge Girders**

Monday, October 26, 2020—13:00 to 14:00 (EDT)

<https://global.gotomeeting.com/join/561558653>

- 1) **Tentative Shear Design Recommendations of UHPC Prestressed Concrete Member:** Maher Tadros
- 2) **Shear Performance of UHPC Bridge Girders:** Benjamin Graybeal

## FALL 2020 – Virtual meeting

### Meeting Schedule by Time

	<b>SUNDAY October 25</b>	<b>TIME (EDT)</b>	<b>Meeting Link</b>
445-0A	Shear & Torsion- <i>Strut &amp; Tie</i>	12:30 – 15:30	<a href="https://global.gotomeeting.com/join/190994877">https://global.gotomeeting.com/join/190994877</a>
445-0B	Shear & Torsion- <i>Seismic Shear</i>	14:30 – 16:30	<a href="https://global.gotomeeting.com/join/560369309">https://global.gotomeeting.com/join/560369309</a>
445-0C	Shear & Torsion- <i>Punching Shear</i>	16:00 –18:00	<a href="https://global.gotomeeting.com/join/848315005">https://global.gotomeeting.com/join/848315005</a>
	<b>MONDAY October 26</b>		
445-0D	Shear & Torsion- <i>Shear Databases</i>	10:00 – 13:00	<a href="https://global.gotomeeting.com/join/411562541">https://global.gotomeeting.com/join/411562541</a>
445-0E	Shear & Torsion- <i>Torsion</i>	13:00 – 14:30	<a href="https://global.gotomeeting.com/join/948652925">https://global.gotomeeting.com/join/948652925</a>
445-Main	Shear & Torsion	17:00 – 21:00	<a href="https://global.gotomeeting.com/join/704881677">https://global.gotomeeting.com/join/704881677</a>
	<b>TUESDAY October 27</b>		
318-0E	Section and Member Strength	11:00 –15:30	
318-0F	Foundations	11:00 –15:30	
	<b>WEDNESDAY October 28</b>		
318	Structural Concrete Building Code	11:00 –21:00	