

**Summer Research Webinar Series**

**Thursday, July 2, 2020**  
**Jul 2, 2020 11:00 AM – 11:50 AM**

**Zoom Video Conference**

**Offshore Wind Energy: 2020 and Beyond**

**Dr. Jim S. Chen**

Department of Mechanical Engineering  
[shih-jiun.chen@temple.edu](mailto:shih-jiun.chen@temple.edu)

**Abstract:**

The cost per kilowatt hour of wind power has gone down from 60¢ to 6¢ since 1980, while global capacity has gone up 100-fold just since 1995. In this presentation, I will focus on recent technological advances of wind turbines in aerodynamics, materials, structures, and controls. Environmental and economic impacts of wind energy will also be illustrated. Wind turbines have become not only much more numerous, but significantly larger and more efficient — approaching the theoretical maximum possible efficiency of 59.3%. Offshore wind resources are stronger and more consistent than land-based wind resources. The U.S. has only one offshore wind energy farm in 2020, but a \$70 billion market is on the way. Because of the complexity of offshore wind turbines, the wind power industry employs aerospace engineers, civil engineers, computer engineers, electrical engineers, environmental engineers, industrial engineers, materials engineers, and mechanical engineers. Finally, challenges, opportunities, and risks associated with global offshore wind development will be presented.

**Topic: Offshore Wind Energy: 2020 and Beyond**

**Time: Jul 2, 2020 11:00 AM Eastern Time (US and Canada)**

**Join Zoom Meeting**

<https://temple.zoom.us/j/97594871999>

**Meeting ID: 975 9487 1999**

**One tap mobile**

+13126266799,,97594871999# US (Chicago)

+19292056099,,97594871999# US (New York)

**Dial by your location**

+1 312 626 6799 US (Chicago)

+1 929 205 6099 US (New York)

+1 301 715 8592 US (Germantown)

+1 346 248 7799 US (Houston)

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

Meeting ID: 975 9487 1999

Find your local number:

<https://temple.zoom.us/u/ad6LvMXHiU>

**Join by SIP**

[97594871999@zoomcrc.com](mailto:97594871999@zoomcrc.com)

**Join by H.323**

162.255.37.11 (US West)

162.255.36.11 (US East)

115.114.131.7 (India Mumbai)

115.114.115.7 (India Hyderabad)

213.19.144.110 (EMEA)

103.122.166.55 (Australia)

64.211.144.160 (Brazil)

69.174.57.160 (Canada)

207.226.132.110 (Japan)

Meeting ID: 975 9487 1999

**Join by Skype for Business**

<https://temple.zoom.us/skype/97594871999>