

## **SEMINAR ANNOUNCEMENT**

**DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING**  
**Faculty of Engineering**  
Website: <https://www.eng.nus.edu.sg/ece/>

**Area: Communications & Networks**

**Host: Assoc Prof Mandar Chitre**

<b>TOPIC</b>	:	<b>Impact of Bubbles on Underwater Acoustic Communication</b>
<b>SPEAKER</b>	:	<b>Mr Gabriel Chua Yu Han</b> <b>Graduate student, ECE Dept, NUS</b>
<b>DATE</b>	:	<b>15 October 2019, Tuesday</b>
<b>TIME</b>	:	<b>11am to 12pm</b>
<b>VENUE</b>	:	<b>E5-02-32, Engineering Block E5, Faculty of Engineering, NUS</b>
<b>ABSTRACT</b>		
<p>In this talk, we first give a motivation on the impact of bubbles towards underwater acoustic communication. We present an experiment conducted in a wind-wave channel, where we carefully quantified and characterize the impact of bubbles. We show that the smaller bubbles of around 100 microns in size are the ones that present a more persistent impact. Subsequently, we present an experiment conducted in the kilometer proximity from the shipping lanes in Singapore. We show the bubbles being advected into the channel, therefore causing an impact towards communications system, we quantified the impact and present a statistical model to emulate the impact of bubbles.</p>		
<b>BIOGRAPHY</b>		
<p>Gabriel Chua Yu Han is currently pursuing a Ph.D. degree from the National University of Singapore. His research interests include underwater acoustic communications and underwater acoustics propagation.</p>		

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