

Application: 0016 | General

Global OCEANS 2020: Singapore – U.S. Gulf Coast Tutorial 1 Practical Underwater Software-Defined Networking

Started at: 6/5/2020 10:34 AM - Finalized at: 10/1/2020 06:42 AM

Page: Applicant Information

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Organization Name

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Page: Event Information

Title of Event

Global OCEANS 2020: Singapore – U.S. Gulf Coast Tutorial 1 Practical Underwater Software-Defined Networking

Event Type

Virtual event

Event Start Date

10/12/2020

Event End Date

10/12/2020

Event Address

N/A

N/A Mississippi 39532 US

Event URL

<https://global20.oceansconference.org/program/agenda/tutorial-underwater-networking/>

Page: Certificate Information**Continuing Education Unit (CEU)**

In order for a participant to receive a CEU-bearing certificate, the event must include:

- **Assessment:** case study, class assignment, class quiz/test or facilitated Q&A
- **Instructional Method:** lecture, class discussion, panel discussion, or problem solving
- **Feedback:** evaluation form

Professional Development Hour (PDH)

In order for a participant to receive a PDH-bearing certificate, the event must include:

- **Feedback:** evaluation form

Certificate of Participation (CoP)

Proof of attendance with no number value

Calculating CEUs/PDHs

1 hour of instructional hours = 0.1 CEU/1 PDH

10 hours of instructional hours = 1 CEU/10 PDH

Instructional Hours

4

Certificate Type

Continuing Education Unit (CEU)

Assessment

Quiz/Test

Instructional Method

Lecture

Page: Supporting Documents

Please note there is a limit to one document per attachment field. Users have the options to consolidate in one document, use the additional fields or zip files before uploading.

Instructor Biography

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aliase8a574178e464bfd8b42074add1fdae

Prasad Anjangi received his Ph.D. in Electrical & Computer Engineering from National University of Singapore (NUS) in 2016. Prior to that he received the B.Eng. degree in Electronics and Instrumentation Engineering from Andhra University, Andhra Pradesh, India, in 2007 and the M.Eng. degree in Biomedical Engineering from the Indian Institute of Technology (IIT), Bombay, India, in 2009. Currently, he is a Research Scientist and part of the core team at Subnero Pte. Ltd. He worked in semiconductor industries with Atmel and STMicroelectronics as Firmware and Senior Design Engineer, respectively, from 2009 to 2012. His current research interests include underwater acoustic communications, signal processing, networking protocol design, and autonomous underwater vehicles. Dr. Anjangi has served in technical program committee of WUWNet and is a reviewer of many journals including IEEE Journal of Oceanic Engineering and IEEE Transactions on Communications.

Shiraz Shahabudeen has held various engineering roles including at Infocomm Development Authority of Singapore (IDA), NeST Software, India etc. He was a Research Fellow at ARL, National University of Singapore (NUS) where his research interests included underwater acoustic communications and autonomous underwater vehicles. He is currently a R&D consultant for Subnero, Singapore. Dr. Shahabudeen holds an M.S degree in telecommunication engineering from Melbourne University (Australia) and a PhD from NUS in Underwater Communications.

Chinmay Pendharkar received his B.Eng. degree from the National University of Singapore (NUS) in 2006. Since then he has spent more than 10 years in the industry from working on embedded software in Motorola Electronics Pte. Ltd. to working with experimental audio technologies at a startup spun out of NUS. He also has an M.Sc in Engineering Acoustics from Chalmers University of Technology (Sweden) which he completed in 2011. He is currently the Chief Technology Officer at Subnero, where one of his focuses is on implementing software-defined networking applications on physical devices.

Course Abstract

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This is a comprehensive tutorial on the subject of practical software-defined underwater networks. The content presented in this tutorial can be broadly classified into the following two major topics:

- (a) Setting up a practical underwater network.
 - (i) Crucial concepts involved in a network stack.
 - (ii) Need for cross-layer optimization in an underwater network stack.
 - (iii) Configuring network stack for different application scenarios.
- (b) Developing applications utilizing the underwater network infrastructure such as:
 - (i) File transfer among nodes in an underwater acoustic network.
 - (ii) Underwater localization of a mobile node (e.g. an Autonomous Under-water Vehicle (AUV)).
 - (iii) Processing baseband acoustic signals using a software-defined modem.

The purpose of this tutorial is to expand the audience's knowledge in the domain of practical underwater networks and software-defined modems. The content is prepared keeping the current state-of-the-art in mind. The objective is to equip the audience to be at the cutting-edge of this field at the end of this tutorial. The tutorial is not only useful for the new researchers in this domain but also to the experts in academia and relevant industries wanting to quickly develop, simulate and deploy their underwater networking solutions. The subject matter is covered through a combination of theoretical and hands-on sessions. The audience will learn to simulate and develop underwater peer-to-peer and networking applications using the tools and techniques presented. The content outline section presents in detail the topics that are covered.

Agenda

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This is a tutorial that belongs to the Global OCEANS 2020: Singapore - U.S. Gulf Coast. Global OCEANS includes 5 different tutorials (5 applications are submitted) and is a global event joining two conferences that were supposed to take place in Singapore and Gulf Coast U.S. The following is the schedule based on the two timezones.

7:30 AM – 9:30 AM (CST)

8:30 PM – 10:30 PM (SGT)

Tutorial 1 (Part 1): Practical Underwater Software-defined Networking

Break

10:30 AM – 12:30 PM (CST)

11:30 PM – 1:30 AM (SGT)

Tutorial 1 (Part 2): Practical Underwater Software-defined Networking

additionalNotes

Please review your application before final submission.