PLANET OCEAN
UNCW SEMINAR SERIES

Deep-Diving Marine Mammals:

What Can They Tell Us About Human Medicine?

with Dr. Michael Tift

UNCW Department of Biology and Marine Biology

Apr. 13, 2021
6:00 PM
VIRTUAL SEMINAR

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Carbon monoxide (CO) is known by many as "the silent killer" due to its extremely toxic effect of reducing oxygen delivery in the body. Sources of CO production include incomplete combustion of organic fuels (e.g. car exhaust or cigarette smoke). However, many do not know the gas is also made naturally in every living organism, and new research is showing that moderate doses of CO can be protective. Surprisingly, some species of deep-diving marine mammals have levels of CO in their blood that resemble those seen in chronic cigarette smokers. In this presentation, Dr. Michael Tift will discuss the physiology of deep diving mammals and explain how studying them can advance our understanding of human medicine.

Dr. Michael Tift has been an Assistant Professor in the Department of Biology and Marine Biology at UNCW since 2019. Originally from Ohio, he received a B.S. and M.S. from Sonoma State University where he conducted research on several different aspects of physiology in deep-diving marine mammals. He then went on to Scripps Institution of Oceanography to earn his Ph.D. in 2016 studying the extreme physiology and health of deep-diving mammals and birds. In 2017, he was awarded a Ruth L. Kirschstein Postdoctoral Fellowship Award from the National Institutes of Health to study the role of carbon monoxide in high-altitude human populations at the University of California San Diego School of Medicine.

Dr. Tift's research focuses broadly on the extreme physiology of vertebrates. Most recently, his lab has been studying the role of gasotransmitters (carbon monoxide, hydrogen sulfide, nitric oxide) in deep-diving mammals. Considered by many to be strictly toxic, these gases are now known to be naturally produced in the body and are even being incorporated into novel drugs to treat many injuries associated with exposure to low oxygen (hypoxia) or reduced blood flow (ischemia). The Tift Lab has recently teamed up with several clinical research laboratories to understand the functional and evolutionary role of these gases in certain populations of animals and humans.

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