



SAN DIEGO STATE
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College of Engineering
Associate Dean for Graduate Studies & Research

CANDIDATE SEMINAR

A Resource-Savvy Integrated System for the Water-Energy-Food Nexus *Algae as a Model Feedstock*

Dr. Temesgen Garoma

Professor of Civil, Construction and Environmental Engineering
San Diego State University

February 25, 2020 at 10:45 am – 12:00 pm
Bioscience Gold Auditorium

Abstract: Algae have emerged as the most promising long-term and sustainable feedstock for biofuel production because of their high productivity rate, ability to tolerate a wide range of growth conditions, and lack of competition for land and water with food crops. CO₂ sequestration via algae is also one to two orders of magnitude higher than terrestrial plants. Furthermore, technologies that will be developed for the algal-biofuel industry have a broader impact and commercial potential that span several strategically-important industries that use algae as a feedstock to produce high-value products, such as the pharmaceutical, food supplement, and green-chemistry industries. Despite these societal benefits, a sustainable algal biofuel industry has yet to emerge. The key barriers are the costs associated with the cultivation, harvesting, dewatering, and conversion of algal biomass.

The goal of the research efforts in Dr. Garoma's laboratory have been focused on developing a cost-effective, energy-efficient, and resource-savvy integrated system for algal biomass cultivation, harvesting, dewatering, and conversion using novel and innovative processes. The findings from some of the research efforts will be presented at the seminar.

Bio: Dr. Garoma is a professor in the Department of Civil, Construction and Environmental Engineering. He is the Blasker Chair in Environmental Engineering and the Director of the Environmental Engineering program. Currently, he serves as the Interim Associate Dean for Graduate Studies and Research in the College of Engineering, San Diego State University.

He holds a PhD degree in Engineering Mechanics, with an emphasis on Environmental Engineering, from SDSU-UCSD (2004), an MS degree in Geotechnical Engineering from the University of Hannover, Germany (2000) and a BS degree in Civil Engineering from Addis Ababa University, Ethiopia (1996).

Dr. Garoma has been a faculty member at San Diego State University since 2007. He is the author of over 60 scientific publications and conference presentations. He has supervised over 50 graduate and undergraduate students and visiting scholars.

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