

Utah State University

DigitalCommons@USU

College of Engineering News

Colleges

5-3-2016

Dr. Hadi Soroosh Research Presentation | Biological Engineering

USU College of Engineering

Follow this and additional works at: https://digitalcommons.usu.edu/engineering_news



Part of the [Biomedical Engineering and Bioengineering Commons](#)

Recommended Citation

USU College of Engineering, "Dr. Hadi Soroosh Research Presentation | Biological Engineering" (2016).
College of Engineering News. 145.

https://digitalcommons.usu.edu/engineering_news/145

This Book is brought to you for free and open access by the Colleges at DigitalCommons@USU. It has been accepted for inclusion in College of Engineering News by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.



Dr. Hadi Soroosh Research Presentation | Biological Engineering

05/03/2016

Using microalgae-bacteria (MaB) flocs to treat municipal wastewater and use of the biomass for biogas production

When: May 13, 2016 at 12:00 - 1:00pm

Where: ENGR 406

Abstract:

Rise of human population causes an increase of freshwater use and wastewater production worldwide. Wastewater contains various pathogens injurious to health and nutrients (mainly N and P) which would support photosynthesis of chlorophytes and terrestrial plants but can be also an ecological threat to the environment. The conventional wastewater treatment plants (WWTP) require a large amount of energy (for mechanical aeration) and causes emission of CO₂ and secondary contamination (by use of flocculants). Microalgae-Bacteria (MaB) biocoenosis can improve the capacity of the treatment system by simultaneous removal of the nutrients and carbon from wastewater with minimum carbon footprint and energy demands. In our research, the microalgae from a WWTP in Hamburg, Germany were collected, isolated, identified and used to inoculate municipal wastewater to assess the nutrients removal and biomass productivity of each strain.

BIO:

I pursued my studies in civil engineering in bachelor level in Yazd University (graduate 2007). I received my master's degree in Sustainable Water Management from Kristianstad University, Sweden in 2012. My master thesis is about considering human urine as nutrients resource for cultivation of microalgae *Scenedesmus quadricauda* for biodiesel production. After graduation, I have worked as a research assistant at the Swedish University of Agricultural Science (SLU) in 2013, focusing on nutrients removal capacity of indigenous microalgae in north of Sweden and their potential for biomass and

lipids accumulation along with utilization of flue gases from local power plant. I moved to Germany after receiving a scholarship award in Sustainable Water Management (NaWaM) from German Academic Exchange Service (DAAD) and German Federal Ministry of Education and Research (BMBF) in September 2013. I started working at Hamburg University of Technology in 2014 as researcher after 4 months of German language courses. Now, I am pursuing my doctorate studies at University of Hamburg since April 2015, concentration on municipal wastewater treatment using isolated green microalgae integrated with sustainable bio-processing of the biomass for biogas production.

[Downloadable PDF](#)