

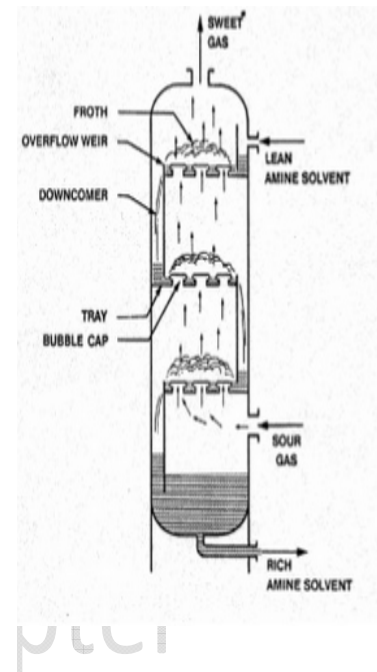


The Student Chapters of SPE/AAPG and Petroleum Engineers Club cordially invite you to the following event:

Improving the Performance of a DiEthanolAmine Acid Gas Removal Process

Abstract

Natural gas containing hydrogen sulfide and carbon dioxide, also known as sour gas, requires treatment prior to its utilization. In June 2016, the amount of sour gas reserves worldwide was approximately 64%, while in June 2018, this amount increased by 4%. To this end, a DiEthanolAmine (DEA) acid gas removal process was investigated and, in particular, the interplay between the DEA concentration and the amine circulation rate which yields the lowest possible CO₂ level in the treated gas. Both an analytical and a simulation approach were considered with the intention of proposing a robust methodology for designing an efficient gas treatment unit. A number of different parameters, such as the DEA concentration, the sour gas composition, the sour gas and the lean solution flow rates, were varied as a function of the amine circulation rate. Results revealed that the amine circulation rate can be theoretically reduced by up to 25% for an aqueous DEA solution ranging between 16 wt% to 42 wt% while factoring in the reaction kinetic rates. Systematically increasing the lean solution flow rate of the simulated system led to a directly proportional boost in the amine circulation rate.



Speaker's bio:

Ms. Panagiota Argyrou is currently reading for the PhD in Oil, Gas and Energy Engineering at the University of Nicosia. Her field of investigation deals with natural gas treatment including acid gases removal. Panayiota's research aims to propose a more efficient process for eliminating acid gases while lowering the operating costs of natural gas treatment plants raising also the market share of more environmentally cleaner natural gas. Ms Argyrou, in parallel with her postgraduate studies, as part-time lecturer in Intercollege teaches Physics and Mathematics. Panayiota holds an MSc by Research in Physics during which she worked as a member of the Superconductivity and Magnetism group of the Condensed Matter team at the Department of Physics of University of Warwick, UK. She completed her undergraduate studies at the University of Kent, UK, receiving a Bachelor Degree with Honours in Physics. During her studies, Panayiota was employed as a Laboratory Demonstrator/Supervisor (2015-2016) and as an academic peer mentor for undergraduate Physics students (2012-2015).

The talk will be delivered in English and is open to the public. Please save the date:

Date: 12th December, 2019

Venue/Time: Europa Building, Room EU 101, Central Campus; 17:00-18:00