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Žák, Michal
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Student: Ing. Michal Žák
Supervisor: Ing. Pavel Izák, Ph. D., DSc.

Recently, purification of raw biogas has attracted a great attention of the research community. Possibility of effective waste utilization for cheap biofuel production has enormous ecological and economical benefits.

In this work are compared a water-swollen thin film membranes and composite hollow fiber membrane modules. Effective separation of carbon dioxide from methane in raw biogas is case study. A fundamental part of the project lies in pilot plant verification of the membrane gas separation based on our patent (CZ303106) by hollow fibres modules. The subject of the future doctoral thesis is the determination of permeation properties of raw biogas by spiral wound modules and hollow fibres modules. On the basis of the results the most economically promising system is now further developing for the commercial utilization in the industry.

The most promising system is also modelled in two ways, first, chemical engineering model is already compared in this work. Developing of the second model, physical chemistry one, which will be describing the behaviour of moisture in raw biogas, is also already in progress.