

STUDENTŲ ĮTRAUKIMO Į MOKSLINĘ VEIKLĄ SKATININAMOJO KONKURSO TEMA

Temos pavadinimas: <u>Condensing PyroVapour to Pyrolysis oil</u>
Tikslas: <u>To design the condensator for produsing pyrolysis oil</u>
Trumpas temos vykdymo aprašymas (ne daugiau kaip 2000 ženklai): Pyrolysis plastic has the potential to produce valuable fuel intermediates for the production of renewable transportation fuels. In a world, a large amount of nonrenewable plastic waste is used for incinerators, but it is not a sustainable use. The pyrolysis process emerges as a promising solution at the intersection of environmental conservation and energy production. Pyrolysis not only mitigates plastic pollution but also transforms discarded plastics into valuable resources, including liquid fuels like crude oil, diesel, and gas. In this project, copper is used in the condenser for better cooling the pyro vapor, which is from the reactor, which is heated up in an oxygen-free environment. The rest of other all the pipes and collecting tanks are made up of carbon steel sheets. In this process, there are 5 steps to get the result: <ul style="list-style-type: none">• Condensing• Flue gas• Reusing vapour• Filtering• Collecting After the pyrolysis process is complete, oil samples will be collected at the first, second, third, and fourth condensers respectively. This study will be a step toward developing pyrolysis-based biorefineries. Biorefineries have a great potential to convert plastic waste into energy and other valuable products and could help to achieve circular economies. However, there are many technical, operational, and socio-economic challenges, that need to be overcome in order to achieve the maximum economic and environmental benefits of condensators.
Tema siūlantis mokslininkas/dėstytojas: doc. dr. Kristina Baziene