Report on OpenVSP workshop conducted by Ozhli Academy of Science
On 12th & 13th of August, 2022

Open-VSP, also known as Open Vehicle Sketch Pad, is an open source parametric aircraft geometry tool originally developed by NASA. It can be used to create 3D models of aircraft and to support engineering analysis of those models. OpenVSP allows the user to quickly generate computer models from ideas, which can then be analyzed. As such, it is especially powerful in generating and evaluating unconventional design concepts. The department always aims at facilitating students in learning various skills required for the aviation industries. This software is one such software which gives insight into design and analysis of aircrafts.

The workshop started at 9AM on 12th August, 2022 with the introduction to basic concepts of aircraft design and the software OpenVSP. In the first session, the trainers discussed various design parameters, configurations of Aircrafts, types of fuselage, types of wings and control surfaces. A brief discussion on non-conventional Aircraft Designs was also done. In the second session the trainers assisted the students in downloading and installing the software on their computers. Students were then given the design parameters of Airbus A380 to model the aircraft in the software. After successfully modelling the aircraft, the pressure distribution and induced drag was computed and plotted for major parts of the modelled aircraft.

On second day, first session of the workshop, students were given two aircrafts' design parameters to model and compute the pressure distribution and induced drag. The aircrafts modelled were Boeing B737 and Embraer190. A brief discussion on the obtained results was done to understand the need to study pressure distribution and induced drag. In the last session of the workshop, students were made into groups and were given tasks based on the learning done in previous sessions. Groups were given three design requirements one for each, Commercial, Cargo and Military aircraft. Students were to discuss and present their design for all three configurations according to the given requirements. Students were finally

evaluated based on their participation throughout the workshop and also based on the last task given to them.

Certificates were issued based on the performance in the assessment conducted by the team.