Technologies for Space Exploration
Session co-chairs: Ian Clark, Jet Propulsion Laboratory, and Minna Palmroth, University of Helsinki

What if the Solar System could be made affectively smaller by a revolutionary propulsion method? Such an innovation could be the electric solar wind sail, or E-sail, that promises fast and economic travels through the Solar System. The idea is based on Coulomb repulsion between a positively charged sail interacting with the solar wind protons, promising an order of magnitude higher thrust compared e.g., to photonic sail. The talk by Sini Merikallio from the Finnish Meterological Institute gives an introduction to the technology, and highlights some of the possibilities that could be realized with the new propulsion method. The next presentation by Andrew Johnson of the Jet Propulsion Lab will discuss the challenges of placing new vision technologies in planetary landers. The session will conclude with a talk by Will Pomerantz from Virgin Galactic on commercial entities and the democratization of space, using one of the three Virgin Group companies, Virgin Orbit, as a case study.