

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
New Worlds - Non-Traditional Space Education and Outreach (7)

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LECTURE SERIES FOR ENCOURAGING COMMERCIAL SPACE UTILIZATION FOR THE
GENERAL PUBLIC

Abstract

Nagoya University has been performed a five-year education program for doctoral course students aimed to develop international leaders with a broad foundation and the ability to spearhead the expansion of space utilization and related industries since FY2012. Expanding this experience, we started a new lecture series for encouraging commercial space utilization for the general public since 2019. We offer two kinds of lecture series: fundamental and advanced courses. This paper introduces the overview of the lectures and summarizes the responses from the attendances. The lectures period is set as two weeks and the lectures summarize the important essence of the five-year education program. We already performed two fundamental courses and one advanced course. The fundamental course aims to learn the overview of space development, the current status of satellite utilization, and project management. The advanced course aims to learn more detailed elements for some important aspects of satellite development or utilization. We could gather a wide range of applicants from undergraduate students to retired, including engineers from companies and liberal arts students. The applicants are gathered from the entire length of Japan from Hokkaido to Kagoshima. Each course consists of classroom lectures and practical works. The fundamental course's classroom lecture consists of 1: current and future international trends of space utilization, 2: introduction on the example of space data utilization, 3: project management of the satellite project, 4: current and future international trends of small satellite and 5: an overview of the small satellite system. The practical works consist of 1: satellite data utilization, 2: proposal for small satellite mission design, 3: space development-related lab and museum tour, 4: understanding satellite system through the classroom satellite training, and 5: satellite communication training. The advanced course's classroom lecture consists of 1: remote sensing data analysis, 2: a new commercial area which is enabled by space business, 3: an overview of the satellite environmental experiments, 4: current status of the international space law and 5: project management of the international space projects and systems engineering. The practical works consist of 1: remote sensing data analysis, 2: thermal vacuum test training, and 3: vibration test training. We perform the questionnaire to the applicants at an appropriate time and the effectiveness of each topic is evaluated with the results. This paper reports mainly focuses on the effect of engineering hands-on training. The details of the lectures, its effectiveness, and the results of the questionnaire are discussed. The authors believe that these reports help the related educational program establishment or modification in the future.