PSYCHOLOGICAL EVALUATION OF EUROPEAN ASTRONAUT APPLICANTS:

INTRODUCTION. In summer 1991 the European Space Agency (ESA) performed its second selection campaign since 1977 in order to identify 10 astronaut candidates (laboratory specialists and space plane specialists). An integral part of this selection process was the psychological evaluation according to the principals laid down in the study report “definition of Psychological Testing of Astronaut Candidates.” METHODS. After national preselections, 59 applicants participated in the psychological evaluation which consists of the assessment of operational aptitudes (basic cognitive and psychomotor functions) and personality traits (motivation, social capability, stress resistance). The test program included a diverse number of scales discriminated between Astronauts rated high and low on their peers and least often rated among the lowest five. A number interpersonal skills were most often rated among the top five by astronauts.

A follow-up of the test scores with the original normative data, culture-fairness of the psychological selection, and discriminant functions analyzing the assessment decisions will be presented and discussed. CONCLUSIONS. Since the psychological evaluation was finished just before the deadline of the abstract, quantitative results and conclusions cannot be given in this abstract but will be reported in the conference paper.


NASDA has started the recruitment of Japanese Mission Specialist (MS) candidates who will join the NASA MS training course in 1992. Finally, two MS candidates will be selected. Our selection schedule is as follows: 1) Recruitment period (May 1 to August 31, 1991) 2) Phase I selection (September, 1991) 3) Phase II selection (November, 1991) 4) Phase III selection (March 30 to April 24, 1992) 5) Special medical exam (LNHP, Rotary Chair etc.) 6) Interviews. NASDA Class II medical exams Announcement of final Japanese MSs will be on May 1992. As the psychological exams, NASDA will use the anxiety test, mental activity test, psychosocial personality test, aptitude test, and semi-structured psychological interviews based on the psychological criteria which is determined by the international psychological working group. Since the selection process is in progress, the results will be presented and discussed at the panel.

VALIDATION OF ASTRONAUT PSYCHOLOGICAL 'SELECT-IN' CRITERIA. R. M. Rose, R.L. Holmreich, T. McFadden, P. A. Santy*, and A. W. Holland*, MacArthur Foundation, Chicago, IL University of Texas, Austin, TX USNS, Galveston; and NASA Johnson Space Center.

INTRODUCTION. An optional astronaut selection strategy would select-in individuals on the basis of personality attributes associated with superior performance. METHOD. A test battery, the Astronaut Personal Characteristics Inventory (APCIV), was developed which assesses positive and negative components of achievement motivation and interpersonal orientation and skills. The battery was administered to one hundred three Astronaut Candidate applicants on the basis of personality attributes (positive and negative). RESULTS. The success of the selection strategy would be determined by the international psychological working group. Since the selection process is in progress, the results will be presented and discussed at the panel.

HUMAN FACTORS TRAINING OF SCIENCE ASTRONAUTS IN GERMANY: CONCEPT AND METHODS. D. Nanezy & A. Schneider, German Aerospace Research Establishment (DLR), Hamburg, Germany.

INTRODUCTION. Even though the significance of psychological issues of manned space flights is widely acknowledged, up to now very few attempts have been made in America or Europe to integrate some kind of psychological training within the normal training syllabus of astronauts. A human factors training program for science astronauts has been developed by the German Aerospace Research Establishment and approved as an integral part of the biomedical training of five German astronaut candidates. METHODS. The training program consisted of several elements: (1) Psychological training consisting of 4 two-day sessions with the topics "Communication and Cooperation," "Stress-Management," "Coping with Operational Demands," and "Effective Problem Solving in Groups." (2) Problem-oriented team supervision of 5 teams, integrated within the psychological training sessions and the weekly "Monday meetings" of astronauts. (3) Individual training during parabolic flights. (4) Training of psychomotor coordination under 0-G conditions during parabolic flights. RESULTS AND CONCLUSIONS. The empirical results of the psychomotor training showed considerable improvement in 0-G psychomotor performance. The predominant positive feedback of the astronauts who participated in this training program as well as an obviously improved team-efficiency which became evident during two follow-up 0-G tests meetings with the astronauts points to the success of this training approach.