PROGRAM SPEAKERS

FOR 1958 TRIENNIAL INSPECTION OF THE AMES AERONAUTICAL LABORATORY

Title and Branch	Speakers		
Earth Satellites 40- by 80-Foot Wind Tunnel *(G. G. Edwards)	F. A. Demele A. E. Lopez D. E. Gault	F. W. Boltz G. C. Kenyon D. W. Smith	G. A. Smith J. S. White G. R. Holden
Aerophysics Hypervelocity Air Flow Apparatus *(C. F. Hansen)	S. Kraus G. S. Locke F. E. Alvafon	C. S. Taylor G. W. Asimos	R. A. Early F. C. Witteborn
Aêrodynamic Heating Low Density and Heat Transfer Wind Tunnels *(C. B. Neel)	C. B. Neel W. P. Jones	M. Inouye	J. G. Marvin
Hypervelocity and Entry Research Techniques Atmosphere-Entry Simulator and Ballistic Range *(S. E. Neice - R. E. Berggren)	G. H. Bowman J. L. Summers	F. A. Sonnenberg J. S. Curtis	 H. E. Bailey
Stability During Atmosphere Entry Supersonic Free Flight Wind Tunnel *(A. Seiff - J. R. Jedlicka)	W. C. Davey D. B. Kirk	P. F. Intrieri	D. L. Compton
Flight Research for Space Craft Langley Exhibit 11- by 11-Foot Transonic Wind Tunnel	C. L. Gillis	W. N. Bland	J. L Mitchell
Space Propulsion Systems Lewis Exhibit 6- by 6-Foot Supersonic Wind Tunnel *(F. A. Lazzeroni)	L. L. Presley V. I. Peterson	J. K. Butler J. L. Troutman	W. P. Peterson K. E. Knudson
Piloting Problems During Entry Flight Research Laboratory *(R. C. Wingrove)	B. L. Gadeberg C. D. Havill J. G. Douvillier R. C. Wingrove	D. T. Higdon C. P. Steinmetz B. F. Doolin R. F. Vomaske	R. M. Gerdes B. Y. Creer R. S. Bray
Supersonic Airplanes 8- by 7-Foot Supersonic Wind Tunnel *(L. F. Lawrence)	R. L. Kurkowski R. C. Smith T. J. Gregory	R. C. Kauffman R. R. Muhl W. P. Nelms	S. J. Keating A. G. Thomas W. S. Wilson

*Display Managers

SUGGESTED INTRODUCTORY REMARKS

FOR GROUP LEADERS

Earth Satellites. - 40- by 80-foot Wind Tunnel:

This large building is the 40- by 80-foot wind tunnel, probably the world's largest. Its top speed of 250 miles per hour is appropriate for research on the landing of space craft, but it has nothing to do with the subject you will hear about now. The subject is Earth Satellites. You will hear about the application of some fundamental physical principles to the operation of earth satellites. Mr. - - -

Aerophysics. - Hypervelocity Air Flow Apparatus:

Here, the subject is the nature of the earth's atmosphere and of space beyond. We are concerned with the environments through which all types of craft will fly. But this is not enough: returning space craft will hit the air so hard as to tear apart its molecules and atoms, thus changing its nature. Mr. . . . . . will start the discussion of these matters.

Aerodynamic Heating. - Low-Density and Heat-Transfer Wind Tunnel:

Some very fast types of vehicles, such as boost gliders, will fly considerable distances through the air. Space craft will generally have tremendous speeds as they return into the atmosphere. Mr. . . . . . . will tell you how the air will heat very fast vehicles, and about means being studied to prevent their destruction by heat.

Hypervelocity and Entry Research Techniques. - Atmosphere-Entry Simulator and Ballistic Range:

Flight at the fantastic speeds expected soon will depend on research results. The conventional tool for aerodynamic research has been the wind tunnel. If we try to make wind tunnels operate at extremely high speeds, we encounter many obstacles. Therefore, we have developed other research techniques. Mr. . . . . . will start the discussions of these techniques and of some of the knowledge gained through their use.

Stability During Atmosphere Entry. - Supersonic Free-Flight Wind Tunnel:

Attainment of the best degree of stability has always been a major problem in airplane design. Space craft present similar problems during all phases of their flight. Mr. . . . will begin a discussion of one phase of the problem, that of stability of missiles, satellites, and space craft during their return through the atmosphere.

Flight Research for Space Craft. - 11- by 11-foot Transonic Wind Tunnel:

You are in the test chamber of the 11-foot transonic wind tunnel regularly used to assist industry and the military to develop aircraft and missiles. Here the NACA's Langley Aeronautical Laboratory will discuss some of their recent research. Messrs. Clarence Gillis, William Bland, and Jesse

Mitchell of the Langley Laboratory will tell you of some of the research being done with new high-temperature air-flow devices and with multi-stage research rockets. They will also tell you about these balloons. Mr. Gillis . . .

Space Propulsion Systems, 6- by 6-foot Supersonic Wind Tunnel:

The speeds of satellites and space craft can be reached only with the help of advanced types of propulsion. As you probably know, the major portion of the NACA's research on propulsion is done at its Lewis Flight Propulsion Laboratory, at Cleveland. The discussion here will concern some aspects of their work. It is being presented by the staff of this 6- by 6-foot supersonic wind tunnel. Mr. . . . . will be the first speaker.

Piloting Problems During Entry, - Flight Research Laboratory, Hangar I:

For economy, for safety, and to advance the science as rapidly as possible, we do as much of our research as feasible on the ground. Here, we will tell you about some research done on the ground to study the problems that will be met by pilots of vehicles returning to earth. Mr. . . . . will start the discussion.

Supersonic Airplanes. - 8- by 7-foot Supersonic Wind Tunnel:

Most of today's presentations are concerned with flight "out of this world." This does not infer that the problems of airplanes are all solved. We are still very much concerned with airplanes and are doing research toward their improvement. The speakers here, starting with Mr. . . . ., would like to describe a few facets of this research.

Copies to:
- Group leaders (1)
- Assistant group leaders (1)
- Group attachés (1)
- M. Erickson (3)
- F. Hansen (3)
- C. Neel (3)
- S. Neice (3)
- R. Berggrun (3)
- A. Seiff (3)
- F. Lawrence (3)
- C. Hall (3)
- G. Rathert (3)
- L. Hunton (3)
- J. S.W. Davidsen (6)
- M. Hood (1)