

NASA-SSA THIRD INTERNATIONAL SYMPOSIUM ON THE SCIENCE
AND TECHNOLOGY OF LOW-SPEED AND MOTORLESS FLIGHT

NASA Langley Research Center, Hampton, VA, USA

March 29 and 30, 1979

Notes for participants and attendees:

1. Participants or visitors from outside the United States should request NASA Headquarters' approval through their respective embassies. (NASA Office of International Affairs, Washington, DC 20546, USA) In most cases approval will be automatic, but it is essential to request it.
2. No registration fee will be charged. There will be a small charge for the banquet scheduled for Thursday night, March 29.
3. In order that they may be kept fully informed of later details, persons planning on attending the Symposium should send their name and complete address as soon as possible to:

Perry W. Hanson,
Technical Program Chairman
Mail Stop 340
NASA Langley Research Center
Hampton, Virginia 23669, U.S.A.
Tel. (804) 827-2265
4. A block of rooms has been reserved at the Hampton Holiday Inn. Prices and registration forms will be sent to those who indicate they plan to attend. Air or automobile travel from Washington DC is feasible.
5. Bus transportation will be available from the Holiday Inn to the Symposium and the social activities.
6. Information on nearby historical attractions will be available for those who may wish to visit them during their stay in the area.

Preliminary Program

Thursday, March 29, 1979

0800-0830 Registration
0830-0845 Welcoming and Introductions
0845-0945 LOW-SPEED AERODYNAMICS I

Reynolds number scale effects on low-speed airfoil characteristics,
JOHN H. McMASTERS, Boeing Company, USA

Optimum tailplane design for sailplanes,
KAY MAYLAND, Darmstadt Technische Hochschule, W. Germany

On the profile drag of a practical-metal-construction sailplane airfoil,
DAN M. SOMERS, NASA LRC, USA

0945-1000 Break

1000-1100 LOW-SPEED AERODYNAMICS II

The effect of disturbances on a wing,
RICHARD EPPLER, Stuttgart University,
W. Germany

Lift generation and breakdown - Insight into the physical mechanism
W. LIEBE, Berlin Technische Hochschule,
W. Germany

Introduction to the Arcopter wing,
WILLIAM D. BERTELSEN, Bertelsen Inc., USA

1100-1200 ADVANCED INSTRUMENTATION

Further developments in simple total-energy probes,
ORAN W. NICKS, NASA LRC, USA

MacCready solution errors in existing netto variometers,
STEPHEN DU PONT, SSA, USA

Application of microprocessor technology to inflight computations,
PATRICIA LYNN SAWYER, NASA LRC, USA

1200-1220 MOTORSOARERS

Design of propellers for motorsoarers,
E.E. LARRABEE, Massachusetts Institute of Technology, USA

1220-1330 Lunch

1330-1700 Tour of NASA LRC Research Facilities

1700-1800 Gathering at NASA LRC Visitor's Center

1800-1900 Social Hour

1900-2100 Official Banquet

Speaker: PAUL MacCREADY, leader of the Gossamer Condor MPA team and former World Soaring Champion

Friday, March 30, 1979

0800-0850 General Announcements
Authors/Editors Meetings

0830-1015 OPTIMAL FLIGHT TECHNIQUES

Minimum altitude-loss soaring in a specified vertical wind distribution,
BION L. PIERSON and IMAO CHEN,
Iowa State University, USA

Course selection optimization for cross-country soaring,
STEVEN M. SLIWA, George Washington University, and
DAVID J. SLIWA, University of Illinois USA

On global optimum flight strategy,
G. SANDER and F.X. LITT, Universite de Liege, Belgium

Balance training of the equilibrium organs and its effect on flight strategy,
K.D. EICKEMEIER, W. SCHMIDT, and N. REICKE,
Akaflieg Hanover, W. Germany

Monte Carlo derivation of optimum competition strategy,
MICHAEL P. TETER, Corning Glass Company, USA

1015-1030 Break

1030-1150 STRUCTURES AND MATERIALS

A general method for the layout of ailerons and elevators of gliders and

airplanes,
MANFRED HILLER, Stuttgart University, W. Germany

Experimental investigation into the feasibility of an "Extruded" wing,
PIERO MORELLI and GIULIO ROMEO,
Politecnico di Torino, Italy

Treatment of the control mechanisms of hand-operated aircraft in the flutter-clearance process,
ELMAR BREITBACH, DFVLR-AVA Goettingen, W. Germany

Advanced composites in sailplane structures - Applications and mechanical properties,
DIETER MUSER, DFVLR Stuttgart, W. Germany

1150-1300 Lunch

1300-1430 LOW-SPEED AERODYNAMICS III

Some new airfoils,
RICHARD EPPLER, Stuttgart University, W. Germany

A comparison of the aerodynamic characteristics of eight sailing airfoil sections,
MARK D. MAUGIMER, Princeton University, USA

Length and bursting of separation bubbles - a physical interpretation,
JOHN RUSSELL, Massachusetts Institute of Technology, USA

Wing shape optimization for maximum cross-country speed,
GUNTER HELWIG, Rensselaer Polytechnic Institute, USA

1430-1445 Break

1445-1600 ULTRALIGHT SAILPLANES AND HANG GLIDERS

The ultralight sailplane,
JOHN H. McMASTERS, Boeing Company, USA

Analytical and scale-model research aimed at improved hang-glider design,
LI-SHING CHANG and ILAN KROO, Stanford University, USA

Improvement of hang glider performance by use of an ultralight elastic wing,
JERZY WOLF, Aviation Institute Warsaw, Poland