

of this sailplane were substantiated by the performance of its pilot, winning first place in the '15 meter Class' at the 1978 World Gliding Championships in Chateauroux, France. The exceptional technical features of this sailplane, including a clever mechanical arrangement of chord-extending Wortmann flaps having camberchanging inserts, are cleverly illustrated in the paper 'Auslegung, Konstruktion und Bau der SB-11' presented at the XVI OSTIV-Congress, France 1978."

The Akaflieg Braunschweig has been founded in 1922 as 'Flugwissenschaftliche

Vereinigung der Technischen Hochschule Braunschweig'. In those days the first 1 hour-flights with a new generation of sailplanes were demonstrated at the Rhön by the students of Hannover and Darmstadt, Aachen and Berlin, who all tried to find the optimal design and construction for gliders to achieve best performance. Other Akafliegs have been established also in the twenties contributing more or less to the technical-scientific development of soaring.

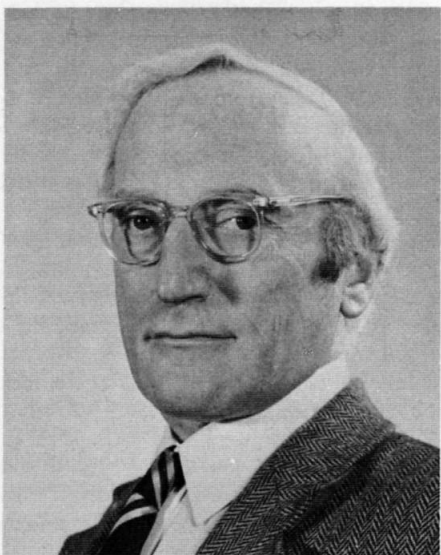
Nearly all Akafliegs were involved after World War II in the introduction of the fiber glass technique and in the applica-

tion of laminar airfoils as well as in developing new design ideas in the general layout and construction of gliders. The Akaflieg Braunschweig contributed the remarkable new concept of the 'Variable Geometry 15 m-Sailplane SB-11' with the chordwise adjustable Wortmann flaps.

It is the hope, that recent study restrictions, financial problems and difficult but necessary tests for official approvals do not handicap the activities of the students too much and that they can continue their creative activities with unbroken abundance of ideas and continuing willingness devoted to glider techniques and sport.

OSTIV Diplomas

Two OSTIV Diplomas have been awarded for papers, presented at the XVIII OSTIV-Congress at Paderborn, one for the best technical and one for the best meteorological paper being of particular value to OSTIV.



Frank G. Irving has received the OSTIV-Diploma for the *TECHNICAL* paper with the following citation:

"The OSTIV-Diploma is awarded to Frank G. Irving for his paper

'The Optimum Centre of Gravity Position for Minimum Overall Energy Loss'.

The paper reports an investigation into the optimum C.G. position from the point of view of induced drag. It shows that, for a typical modern sailplane, when proper account is taken of wing - tailplane interference and of both glide and climb phases of the flight, the optimum C.G. position is somewhat forward of the aft limit. The investigation therefore dispenses of the myth that for best performance the C.G. should be as far as possible; it thus has an important bearing not only on performance but on safety."

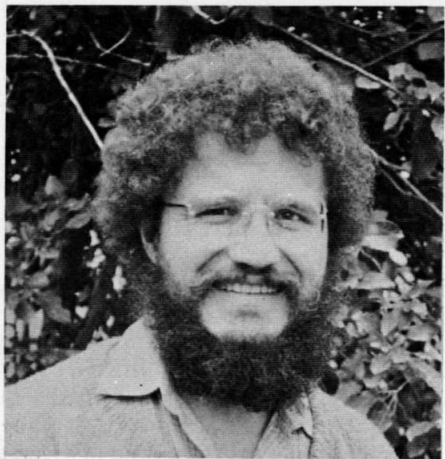
Frank Irving born in 1925, was educated at the University of Liverpool and at Imperial College, London. He gained the qualifications of M. Eng. and D.I.C. and was

elected C. Eng. and F.R.Ae.S. He has spent his working life at Imperial College in the Aeronautics Department where he is now Senior Lecturer.

He has been gliding since 1946 and possesses a Gold Badge and one Diamond; he joined BGA No. 1 Test Group and has flown 68 types of sailplanes, in the case of many of them for the purpose of evaluation as part of the approval for British certification.

He is a member of the BGA Executive Committee, BGA Technical Committee and the OSTIV Sailplane Development Panel, and has written numerous papers for these committees and for OSTIV-Congresses.

One of the few British holders of the Paul Tissandier-Diploma, he was awarded the Royal Aero Club's Silver Medal in 1971 after chairing the second of the above-mentioned committees for more than 20 years.



Dr. Jörg M. Hacker has received the OSTIV-Diploma for the *METEOROLOGICAL* paper with the following citation:

"The OSTIV-Diploma is awarded to Dr. Jörg M. Hacker for his paper

'Preliminary results of the Alpine Experiment DISKUS concerning the structure of convection over mountainous terrain'. During August 1980 the Alpine Experiment DISKUS took place in the region between Davos and St. Moritz, Switzerland. Three instrumented motorgliders of the DFVLR Institute of Atmospheric Physics were used to make meteorological measurements on flights across four parallel mountain ridges and in the valleys between them. Dr. Hacker took part in the Experiment and carried out an analysis and meteorological interpretation of the large amount of data that was recorded. By careful selection and processing of this data he discerned significant fea-

tures of the temperature and flow patterns, cells or bands correlated with increased turbulence and close to the slopes. He not only analyzed these features, he also presented them to the OSTIV-Congress in such a clear and succinct way that his audience were easily able to share his experience and new knowledge of these interesting aspects of airflow across mountain ridges. This paper and presentation typify the aims and spirit of OSTIV."

Jörg Hacker was born in 1949, studied at the University Bonn since 1973 and received his 'Diplom-Meteorologe' there at 1977. Beside his work as an assistant professor at the same institute he worked on a thesis concerning large scale energy

transports and finished it successfully 1980.

Still at the same institute as post doctoral scientist and assistant professor he changed his work from large atmospheric scale to the mesoscale especially to phenomena in the atmospheric boundary layer. The mesoscale experiments DISKUS, BONEX, PUKK and MERKUR saw him

as designing and leading scientist, mission scientist as well as aircraft observer mainly in motorgliders together with the cooperating Institute of Atmospheric Physics of the DFVLR at Oberpfaffenhofen.

Since 1982 is Dr. Hacker a Research Fellow at Flinders Institute for Atmospheric and Marine Sciences at Flinders Univer-

sity at Adelaide/South Australia.

As a glider pilot Dr. Hacker is a member of the 'AKAFLIEG KÖLN' and also now of the Adelaide Soaring Club; he has gliding, motorgliding and aircraft pilot experience with far more than 1000 hours experience.

Special reference to a technical paper

A special reference is made by the Technical Section of OSTIV to the technical paper presented at the Congress by L.M.M. Boermans and H.J.W. Selen.

"We specially commend L.M.M. Boermans and H.J.W. Selen for their paper 'The Design of Some Aerofoils for Sailplane Application'.

The paper reports investigations into sailplane aerofoils. They commenced with

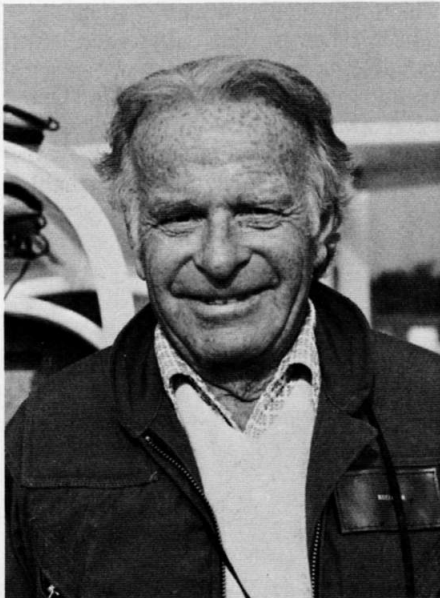
wind-tunnel tests on part-span segments of an actual sailplane wing, including the effect of insect contamination. New aerofoils were designed for the example sailplane, aimed at greater extent of laminar flow and lower sensitivity to insects, within the quite severe constraints of not under-cutting the original wing and not altering the aileron.

Pneumatic turbulators, as originated by

Pfenniger, were used on the lower surface to eliminate the laminar separation revealed by the tunnel tests. Performance measurements, in conjunction with other investigators of the sailplane with original and modified wings, showed the expected improvement. The entire work was well planned and painstakingly carried out."

Dr. JOACHIM P. KUETTNER

30 Years Chairman of the Scientific Section of OSTIV - New Honorary Member of OSTIV.



In appreciation of his outstanding scientific contributions to OSTIV, being also Chairman of the Scientific Section since 1952, never missing any OSTIV-Congress since that time, Dr. Joachim P. KUETTNER was appointed to be Honorary Member of OSTIV on occasion of the Closing Ceremony at the Paderborn Congress. He decided to give the chairmanship in younger hands.

Joachim P. Kuettner, born in Breslau, Germany, received his doctorate in law at the University of Breslau and his doctorate in physics at the University of Hamburg with a dissertation on the discovery of the mountain leewave and its first theoretical

treatment (1939). During the time of his studies he worked as gliding instructor in the Scandinavian countries and spent one year at the Ilmala Aerological Observatory in Finland with Professor Vaisala. From 1940 to 1945 he was test flight engineer and pilot at various aircraft companies.

In 1945 he became Chief of the Zugspitze Mountain Observatory in the Alps and in 1948 made his Dr. habil in meteorology at the University of Munich.

In 1949 he went to the United States and worked at the Air Force Cambridge Research Center on problems of the air flow over mountains, the jetstream and atmospheric electricity using instrumented sailplanes and jet aircraft. During this time he was also Scientific Director of the Mt. Washington Observatory.

From 1952-1955 he was field director of the "Sierra Wave Project" (University of California) which studied the airflow over the Rocky Mountains.

In 1958 he joined NASA's Marshall Space Flight Center at Huntsville, Alabama, and became the Center's Director of the Mercury Project, which resulted in the first manned spaceflights of the USA (Alan Shepard and Virgil Grissom). From 1962 to 1965, Fr. Kuettner worked with the Apollo Project as Deputy-Director of the Saturn-Apollo Systems Office, responsible for the integration of the Apollo spacecraft and the Saturn-V rocket vehicle for the lunar landing.

In 1965 he became Chief Scientist at the National Satellite Center in Washington

where he headed a national ad-hoc task force resulting in the monograph "Man's Environment - It's Study from Space".

In 1967 Dr. Kuettner joined the Research Laboratories of the National Oceanic and Atmospheric Administration (NOAA) in Boulder, Colorado, as Director of Advanced Research Projects. Among his responsibilities were the weather modification programme and the research flight facility of NOAA.

In 1969 Dr. Kuettner became Director of the BOMEX project (Barbados Oceanographic and Meteorological Experiment), the first large experiment of the Global Atmospheric Research Program (GARP), which explored the sea-air interaction over the tropical western Atlantic.

In 1970, Dr. Kuettner joined the World Meteorological Organization (WMO) in Geneva, Switzerland, and Bracknell, Great Britain, as International Director of the GARP Atlantic Tropical Experiment (GATE) conducted in 1974 over the Atlantic and adjacent continents with base in Dakar, Senegal. GATE was a cooperative research effort of 75 nations to explore the tropical heat engine driving the world's weather.

In 1976, he joined the National Center for Atmospheric Research (NCAR) in Boulder, Colorado, USA.

In 1977 he became Director of the American effort in the GARP monsoon project, "MONEX", which studied the Asian winter and summer monsoons. During the MONEX field phases - conducted in 1978 over the South China Sea and in 1979