

saprà dare un importante contributo allo sviluppo del Volo a Vela, e nella speranza che, tornando in patria, ciascuno porti con sè un grato ricordo di questo soggiorno a Rieti.

#### **AWARDS-Giving**

The OSTIV-President then called for the winners of the OSTIV-AWARDS, reading the citations and handing out the following awards:

- **OSTIV-Plaque 1985 with Klemperer Award to Dr. Werner Pfenninger, USA**



Since 1948, Dr. Werner Pfenninger, who was born at Switzerland, has been working in the United States. He received the OSTIV-Plaque 1985 with Klemperer Award with the following citation:

"The OSTIV-PLAQUE 1985 with Klemperer Award is given to: Dr. Werner Pfenninger for his outstanding scientific and technical contributions in the permanent quest for higher performance of sailplanes and aircraft. Dr. Pfenninger received his technical education at the Swiss Federal Institute of Technology under Professor Ackeret - one of the great names in aerodynamics. It was there in 1942 that Dr. Pfenninger invented and tested blowing turbulators to avoid drag producing laminar separation bubbles. Just recently this work was rediscovered and many high performance gliders now use blowing holes. In 1947, together with R. Markwalder, Dr. Pfenninger designed the Super Elfe, the first sailplane which, except for its wood construction, had all the features of today's high performance gliders: a low profile fuselage, high aspect ratio wing, thin laminar flow airfoil sections

with a small chord trailing edge flap. These were the first laminar flow airfoils designed with a concave corner at the flap hinge line for increased low drag flap deflection range.

Also at Zurich, Dr. Pfenninger conducted the first, pioneering laminar flow control (LFC) experiments, where the low drag laminar boundary layer is stabilized and maintained over the whole wing by suction of air through a number of span-wise slots. In 1948, Dr. Pfenninger moved to the United States for extensive LFC research with the Northrop and Boeing aircraft companies, and now with NASA. Much of this work is directed towards a large, long range transonic aircraft. But Dr. Pfenninger never lost interest in soaring and he is now investigating LFC for sailplanes. The predicted quantum jump in performance with a lift/drag ratio of about 90 will certainly justify the added complexity. Through Dr. Pfenninger's research, the technology is now at hand to build such a super high performance glider; what is needed are sponsors. Some day such an ultimate soaring machine will fly opening new frontiers to human endeavor, and Dr. Pfenninger's lifetime work will have found its due reward."

- **The OSTIV-Prize 1985 to Heiko Friess, Klaus Holighaus, Wolf Lemke and Gerhard Waibel**

On nomination of the OSTIV-Sailplane Development Panel the OSTIV-Prize was given to Heiko Friess, Klaus Holighaus, Wolf Lemke and Gerhard Waibel with the following citation:

"The OSTIV-Prize 1985 is awarded to Heiko Friess, Klaus Holighaus, Wolf Lemke, Gerhard Waibel for their outstanding improvement in Sailplane Technology.

The famous D 36 of the wellknown Akaflieg Darmstadt had been designed in 1963/64 by the students Heiko Friess, Klaus Holighaus, Wolf Lemke and Gerhard Waibel (now diploma engineers). The D 36 won the German Championships at Roth 1964 with Waibel as pilot and was second in the World Championships at South Cerney 1965 with Rolf Spänig as pilot.

With the BS 1 of Björn Stender and the D 36 the development of families of very efficient open class glass fibre sailplanes began. After their studies Friess entered on the Luftfahrt-Bundesamt (West German aviation authority); Holighaus

designed for Schempp-Hirth the CIRRUS, NIMBUS, JANUS, VENTUS, DISCUS; Lemke for Rolladen-Schneider the LS1 to LS6 and Waibel for Alexander Schleicher the ASW 12, 15, 17, 19, 20, 22, of which the ASW 12 was the production version of the D 36.

The four ingenious designers contributed so much to the perfection of sailplanes and so to improvements of soaring performance that all of us are obliged to them who began as young boys with model flying, worked hard as students in the Akaflieg and were often successful in competitions. They know well theory and practice, design and constructions, flying and testing, calculating and certificating. They thought out new ideas, even in details, and persevered to bring them to fruition.

The OSTIV is glad to present the Prize for their most outstanding contribution to the development of sailplanes after the war to Heiko Friess, Klaus Holighaus, Wolf Lemke, Gerhard Waibel."

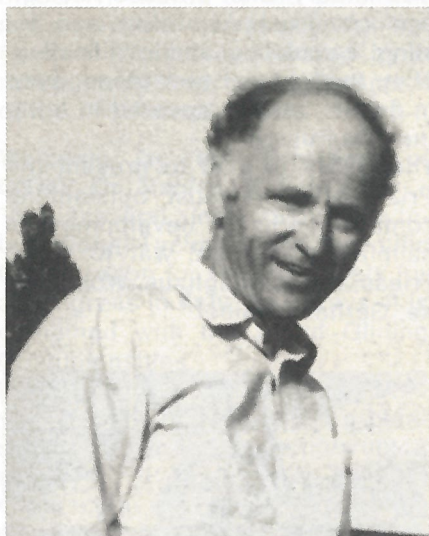


Heiko Friess made his studies in mechanical and aircraft engineering at the Technical University Darmstadt. He was as a member of the Akademische Fliegergruppe Darmstadt glider pilot since 1961 and a few years later he was licensed as aircraft pilot in 1966. During this Akaflieg period the D-36 was designed and constructed by the above mentioned group of four young engineers, namely Friess, Holighaus, Lemke and Waibel; it was brought to a full success.

After finishing his diploma Friess started his professional career at the German Aviation Authority (Luftfahrtbundesamt) being responsible for licensing of new con-



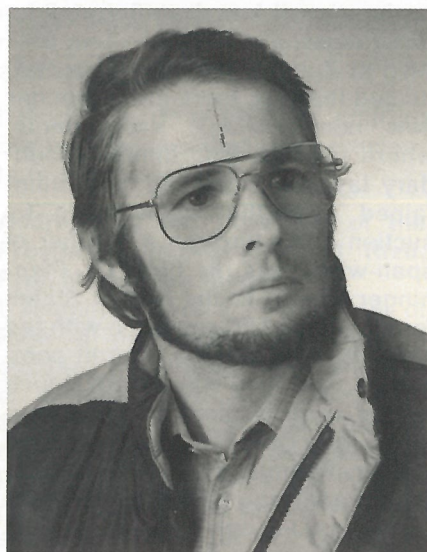
structions of gliders and motorgliders. As an expert of testing the flight characteristics he has flown more than 100 different types of gliders, motorgliders and aircraft. His knowledge and experience had and has highly estimated impact on national and international airworthiness requirements for gliders and motorgliders. Since 1967 he is member of the OSTIV Sailplane Development Panel and he is also chairman of the JAR-Working Group on "Sailplanes and Powered Sailplanes".



**Klaus Holighaus**, born on 14 July 1940 at Eibelshausen near Frankfurt-Main began also his career very early, when he started building model sailplanes and model aircraft with the age of 10. In 1959 he achieved with a remote controlled model sailplane a new record in the category of "duration of flight" glying his model for 6 hours 11 minutes over the hills of Hirzenhain.

Finishing highschool 1960 he turned to studies in Mechanical Engineering at the Technical University of Darmstadt. Soon he became member of the Akademische Fliegergruppe there and was involved as part of the famous "Darmstädter Schule" in the construction of the "D-36". The V-tailed "SAK" was reconstructed by him and also prepared for being built as a serie with the Schempp-Hirth Company. In this company which je joined in 1965 he continued his steep career as designer, constructor and test pilot. Such famous glider names as Cirrus, Standard-Cirrus, Nimbus One and Two, Ventus, Discus as well as the 2-seaters Janus and Nimbus 3D and also some motor-

gliders and self-sustained gliders are flying in all parts of the world.



**Wolf Lemke**, born near Frankfurt in West Germany on August, 11, 1938 displayed already in his youth a great interest in aeronautics.

In the age of 15 he designed his own aeromodels, tested their flying qualities, modified them till all features were investigated.

His greatest interest was in tailless wings.

Aged 18 he got his glider pilot license and 2 years later joined the well known AKAFLIEG DARMSTADT in 1959 where he began his study at the technical high-school in Darmstadt. During his studies he had the chance to meet Dr. Alfred Puck, from whom he could participate at the newest developments of the glasfiber reinforced plastic (GRP), and Prof. FX. Wortmann, from whom he learned a lot of the newest laminar profile developments.

Together with Gerhard Waibel, Heiko Friess and Klaus Holighaus he designed, constructed and tested the famous D 36. He finished his studies after proving theoretically that it was not useful to use tailless wings for competition gliders. He then was employed with ROLLADEN SCHNEIDER Company, where the second D 36 was constructed by Walter Schneider under the help of the students of the AKAFLIEG DARMSTADT.

At ROLLADEN SCHNEIDER he designed, tested and licenced the glider types LS1 up to now the LS7. On private he is till now happy with his tiny two seater, the LSD "Ornith".



**Gerhard Waibel** was born on October 3, 1938 at Frankfurt-Main. Soon and very naturally he came in contact with aircrafts and flying sports being with his father, who was an aeronautical engineer and also an aircraft pilot participating in competitions. Gerhard's father himself worked under Arthur Martens, who made on August 18, 1922, the famous first flight from the Wasserkuppe/Rhön, exceeding more than one hour in motorless flight.

Very early Gerhard became a model glider enthusiast and later, as a member of the Akaflieg Frankfurt, he received 1958 his glider license.

For his studies of mechanical engineering he changed University and went to the Technical University Darmstadt, where he became also a member of the Akaflieg there.

Being a very active glider pilot he soon was near the top of the competition pilots, won the German Championships 1964 in the Open Class and participated in the World Gliding Championshipsships 1970 at Marfa, Texas, where he finished 6th place in Standard Class.

From profession Gerhard Waibel is the responsible designer of all ASW-gliders and -motorgliders for the glider manufacturer A. Schleicher, Poppenhausen, very near to the Wasserkuppe/Rhön.

#### • OSTIV Diplomas

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