



## OSTIV AWARD

presented at the

**Soaring Society of America Convention  
on February 28th, 2014, Reno, NV-USA**



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## OSTIV-Plaque with Klemperer Award

**Rule:** The OSTIV-Plaque with Klemperer award is the Award to the person, who has made „*the most noteworthy scientific and/or technical contribution to soaring flight*“ in recent years. Since 1968 it is in combination with the „*Klemperer Award*“.

Nominations are made by all OSTIV Members. The selection is made by the Board.

**The OSTIV–Plaque with Klemperer Award is awarded to:**

***Bruce H. Carmichael***

**for his many significant contributions to soaring technology in laminar flow research, scholarly papers, popular articles, books and seminars in recent years.**

**He has made information on laminar flow research, design and practical operation from more than forty years of industry and personal experience available to a wide audience through his many scholarly papers, popular magazine articles and books on ultralight gliders, sailplanes, motor gliders and personal aircraft drag reduction. In addition, he has planned, organized and conducted dozens of seminars and conferences on soaring technology which have introduced many interested people to the science and culture of soaring. He has inspired and motivated several generations of soaring enthusiasts**

## Citation

**Bruce Carmichael has earned the affectionate cognomen of "Mr. Low Speed Aerodynamics," having made low Reynolds Number fluid flows the object of his life's work. An aviation enthusiast since 1928, he earned his Bachelor of Science degree in Aeronautical Engineering at the University of Michigan in 1944, studying under Prof. Edgar Leshner. He worked for Chance Vought and Goodyear Aircraft as an Applied Aerodynamic Engineer. Later he joined the late Dr. August Raspert's team at Mississippi State College conducting flight research on boundary layer control, continuing that work under Dr. Werner Pfenninger at Northrop. Before retiring from North American Rockwell, he worked on low drag underwater vehicles with Dr. Max Kramer.**

**His 43-year career has been characterized by analytical and experimental work in both hydro- and aerodynamics. It included test programs in low-turbulence wind tunnels, in flight, in water tunnels, water basins, deep lakes and the ocean. The emphasis throughout was on laminar flow, both natural and suction-stabilized, and on the aerodynamics of the critical Reynolds Number regime.**

**Bruce Carmichael has lectured at Cal Tech, USC and MIT. He has been featured speaker at National Soaring Conventions, Experimental Aircraft Association conventions and Sailplane Homebuilders Association workshops. His work has been published in the IAS Journal, various NASA Contractor Reports, Northrop and Rockwell reports, Soaring, Technical Soaring, OSTIV publications, Sailplane Builder, National Free Flight Symposium journals, Sport Aviation, Kitplanes, Contact magazine and the French magazine Experimental. He describes himself as a "ham-handed model airplane builder and sailplane pilot."**

**Presented on occasion of the Soaring Society of America Convention, February 28<sup>th</sup>, 2014, Reno, NV-USA.**

***The Board of OSTIV***

**Loek M.M.Boermans, President**