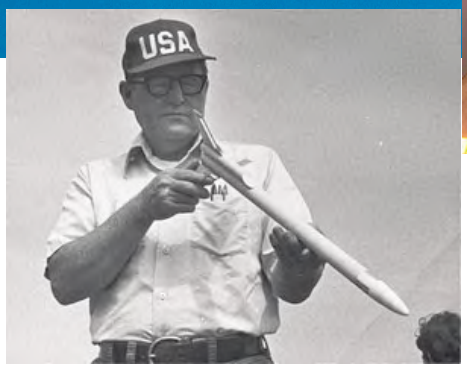
CIAMFlyer
The Introduction to the Modelaircraft World
FAI AEROMODELLING COMMISSION

Space Models (Hi)Story – 50 Years in the FAI

George Harry Stine, a young rocket professional from White Sands Proving Ground in New Mexico (USA) and his associate Orvil Carlslile (a shoemaker from Nebraska) invented in 1957 a new hobby – rocket models propelled by small solid propellent engines. Soon after that the first association National Association of Rockety (NAR) was born – and its work was covered by the first rules – the famous „Pink Book".

Srdjan D. Pelagic, dipl.ing, chairman of the CIAM Space Modelling Subcommittee



Howard R. Kuhn

Greate theoretical background

Next year, in 1958, Vernon and Gleda Estes established „Estes Industies" - the first enterprise dedicated to the needs of spacemodellers. That was the base for fabricated engines of different types, model kits, ground facilities and famous „Technical Reports" where Dr Gerald Gregorek, professor of aeronautics at the Ohio States University, gave the greatest theoretical background to space models development.

The first FAI Space Models Rules

Five years later Harry Stine presented space models to CIAM and on 21st November 1962 it was accepted as a new modelling activity. Two years later (in 1964) the first FAI Space Models rules were approved. Spacemodelling crossed the ocean and became popular first in Europe and later in the whole world. „Dubnicky May", the first international event according the FAI rules, took place from 28 to 29 May, 1966 in Dubnica nad Vachom (former CSSR now Slovakia) participated by six countries.

What is a Space Model ?

...but – what is a space model and what is spacemodelling indeed? ***"Space Model"*** is an aeromodel that ascends into the air without the use of aerodynamic lifting forces against gravity; that is propelled by means of a space model engine

and includes a device for returning it safely to the ground in a condition to fly again; and it is made of substantially nonmetallic parts.

*S**pacemodelling*** is an airsport based on competition with space models. These are: *duration competitions (*parachute-S3, streamer-S6, gyrocopter-S9, boost gliders-S4 and soft wing – S10) , *altitude*-S1 and S2, *scale models* (scale S7 and altitude-S5) and *RC gliders*-S8. Nowadays there are 10 official and 3 provisional spacemodelling classes. Eight of them are world championship classes and five are world cup classes. In these 50 years spacemodelling was practiced in 39 countries at 4 continents.

Competition Classes

All SM classes (except S7) are divided into subclasses according to the total impuls of the engines to A/2 – 0 -1,25 Ns, A-0-2,5 Ns. B-2,51 -5 Ns, C-5,01-10 Ns, D-10,01 – 20 Ns, E-20,01 -40 Ns and E-40,01 -80 Ns. Introduction of composite propellants made possible design of thrust-time curves according to the needs of users and/or weather conditions that improved flight characteristics very much. Other technology improvements were use of RC devices and recently introduction of electronic altimeters into altitude classes that simplified competitions in these classes and made them much more reliable and cheaper.

G. Harry Stine, first Chairman of CIAM Space Modelling Subcommitte

Different Skills

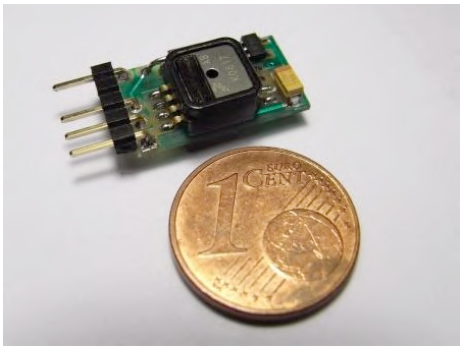
Spacemodelling requires very different skills and knowledge from mathematics to metheorology and requires an excellent phisical fitness – a competitor runs daily up to 15 kilometers to retrieve his models. It is challenging for athletes of all ages from 8 to 75 years old and of very different education background from elementary school pupils to professinal rocket designers and PhDs.

Spacemodelling required constant development. Therefore in 1997 was launched the SAPPHIRE SM Development Program. It was organized in four working groups: WG-1 Rules, WG—2 Aerodinamics, Balistics and Ground Facilities, WG-3 Space Models Engines and WG-4

Education and Publications. It contributed very much to periodical improvement of the FAI SM rules that improved technical specifications of the models and organization of the events.

First official World Championships

International events became popular. The FAI rules were modernized and modified in 1970 so to cope with the CIAM modelling principles. The test (unofficial) World Championships was hold in Vrsac (ex-Yugoslavia now Serbia) with participation of four countries in 1970 and in 1972 at the same place was held the first official SM World Championshps in three classes – parachutes (S3), boost gliders (S4) and scale models (S7), participated by nine countries. The greatest merit for having this „giant step" had Gradimir Rancin from NAC Yugoslavia. The first ever SM world champion was Ioan Radu from Romania. Other two champions were Mohamad Orfy (Egypt)(S4) and Otakar Saffek (CSSR)(S7). Ioan Radu wrote in 2011 a book „World Space Modelling" that was the first comprehensive history of spacemodelling.

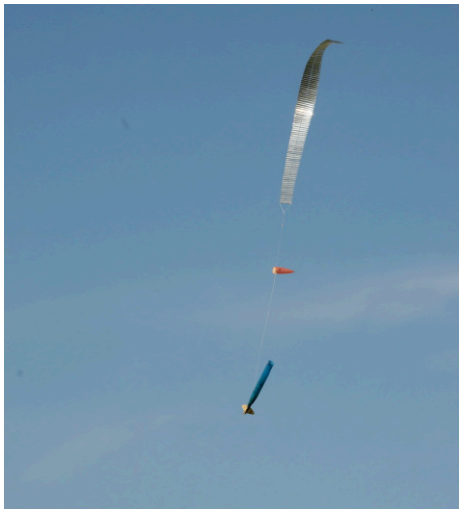


Electronic altimter

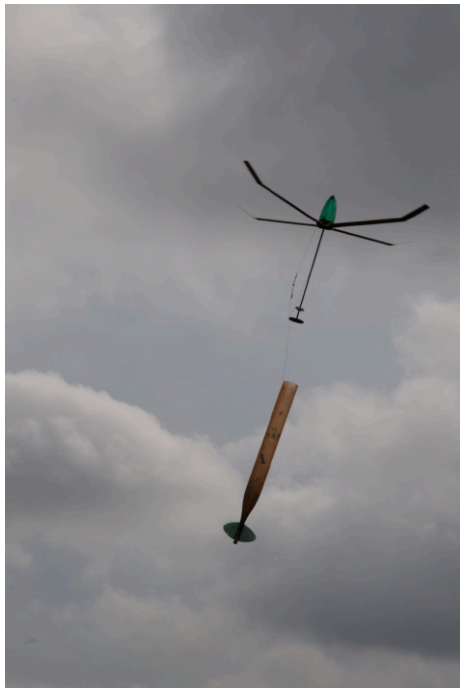
Antonio Mazzarachio – 4 time World Champion

Class S4A Boost Glider

Class S6A Streamer



Class S7 Scale Model



Class S9A Gyrocopter

Class S8EP RC Rocket Glider

World Championships also for Juniors

SM World Championships became traditional from that time and there were organized 18 of them in senior classification and this year will be held the 19th. The greatest one, which established new standards of organization of such events, was organized by the Federation of the Spacemodelling Sport of Russia in Baikonur Space Center

in 2006 with participation of 25 countries. Thanks to the initiative of the Polish Aeroclub junior SM World Championships are organized since 1994 when the first one was held in Leszno (Poland). There were 9 such events so far and this year will be the 10th.

Continetal SM Championships have started in 1979 with the 1st European SM Championships in Lleida (Spain). There were organized 15 such events so far – 5 of them in Romania thanks to initiative to Mihail Zanciu, former Secretary General of Romanian Modelling Federation. Junior continental championships started a year after their beginning in World Championships, in 1995 with the European SM Championships in Liptovsky Mikulas (Slovakia). The 1st Open Asian SM Championships was held in Baikonur (Kazakhstan) in 2007 in both senior and junior classification.

Successful FAI World Cup Series

World Cup series are organized for almost 20 years in 16 to 18 countries at 3 continents (Europe, Asia and America) with participation of about 25 countries every year with more than 1200 entries and more than 6000 competition flights. World Cup classes are S4A – boost gliders, S6A – streamers, S7 – scale models, S8E/P – RC rocket gliders with precision landing and S9A – gyrocopters. Junior competitors are very much present is these events also. These events were the main engine for popularization of spacemodelling. Ing Marian Jorik (Slovakia) was the SM World Cup coordinator from 1993 to 2007 and contributed very much to popularity of spacemodelling.

In addition to regular awards in sports events spacemodellers from different countries were awarded for their achievements and contribution to development of this airsport with many

↑ Opening Ceremony 2006 World Championships Baikonur

specialized CIAM-FAI awards like Antonov Diploma, Tupolev Diploma, Tupolev Medal, Aeromodelling Gold Medal etc. Spacemodelling activities in CIAM – FAI are all these years coordinated by the CIAM Space Models Subcommittee (CIAM SM SC) composed of technical experts from nominated different countries. Now it has 23 members, one per a country. This Subcomittee was chaired through these 50 years by only four men: G. Harry Stine (USA)(1962-1972), „father of spacemodelling", Otakar Saffek (CZE)(1973-1978 and 1996), Howard Kuhn (USA)(1997-1995) and Srdjan Pelagic (Serbia) (1997 and still in chair). Spacemodelling, as one of younger FAI and CIAM activities, was welcomed and supported by them, but outstanding help during all this time was by two persons Sandy Pimenoff, CIAM President for 40 years (1968 to 2008) and Max Bishop, the FAI Secretary General for 17 years (1994 to 2010).

Novi Sad, Serbia, 11th March, 2012
Srdjan D. Pelagic, dipl.ing

↓ Arianne takes-off

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Photographs S. Lodge, H. Stine, G.H. Stine, S.D. Pelagic and Adrel

S-Space Models read more on www.fai.org/aeromodelling

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