

The Journal of FAI Space Modelling

The British Space Modelling Association

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opportunity to wish all of you the very best for 2012.

Editorial *BONG...World Cup 2012 is running!! This is a more 'normal' issue than the last, but there's still a lot of variety contained within. First up, we've got some results from what would have been one of the biggest Space Modelling agendas we've ever seen. Good news is that commonsense seems to have prevailed, leaving a sizable chunk as a 'work in progress'. Yup, we've some World Cups too, from Catalunya, Belarus, Russia, Slovakia & Czech Republic...great to see Juniors featuring big time at these events.*

Juniors?!? ..back home in the United Kingdom, we've had the National Finals of the UKAYRoC event. Wot?!? ..read the feature inside and...we checked out the USA's CIAM proposals ~ double egg loft; predicted altitude; predicted flight duration. In all, a really great day; great flying too.

Almost time for me to let this one go. I'm really looking forward to what is likely to be yet another fantastic Space Modelling season. My own agenda is not definite yet, but I will be off to Bulgaria, Croatia and Slovenia and look forward to meeting up with readers around Europe. As I'm running out of 'space', I'll take the

UKAYRoC National Finals ~ Bruntingthorpe-UK...19th April 2012

by Elizabeth Donnelly & the Editor

WOT'S THIS THEN?!? Not an FAI event – not quite! This was the climax of the *United Kingdom Aerospace Rocketry Challenge*. Some SIXTY schools and youth groups started out in regional qualifying events, with TWENTY going to Bruntingthorpe for the Grand Finale. *ADS Group Ltd, Rolls-Royce and Chemring Group* came forward with generous sponsorship and we were off to Cloud 9..

First some basics...UKAYRoC is run to *Team America Rocketry Challenge* (TARC) rules:
*Double Egg Loft : Predicted Altitude
performance : Predicted Flight Duration.*
Um...that sounds like the United States' recent FAI-CIAM proposals and Yup, we were trialling them here in England!

In the run-up, I had been offered a *VIP Guest* place to familiarise me with the event, prior to the *International Rocketry Challenge* (IRC), to be held at the *Farnborough International Airshow* ~ Friday 13th July 2012. With days to go, Elizabeth Donnelly of sponsors *ADS Group Ltd*, 'phoned to ask if I could be a helper with the teams. And then..."could you be RSO at the event?!?" Apparently a sponsor/organiser had pulled out late and Loggi was left...with SERFs' Dave Tranter. *Scuderia SERFs* to the rescue! ..Dave was Contest Director and your Editor was Range

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Safety Officer. OK?!? ...what's that about Swiss watches?!?

First up tho', what schools were represented?!?

Abbeyfield School ~ Teams 1 & 3

Airedale Academy

The Perse School ~ Team 2

1429 Squadron Aberporth ATC

Longstone Special School ~ Teams 1 & 2

Samuel Lister Academy ~ Teams 1, 2 & 3

Whitley Bay High School

Royal Liberty School

Worksop College ~ Teams 1, 2 & 3

Royal Wootton Bassett Academy

Our Lady's Grammar School

Victoria College Belfast, Northern Ireland

Lostock Hall Academy ~ Team 2

The Thomas Hardy School

Brief resume of some key rules:

Rocket must not exceed 650g (23oz) at launch

Carry 2 hen's eggs provided by the organiser

Carry eAltimeter provided by the organiser

Powered by <160Ns ('F') approved motor

Duration Scoring : target is 43-47s, with only the egg/eAltimeter section being timed. Penalties applied for being early or late...Zero is perfect!

Altitude Scoring : target is 800 feet (244m).

Penalties applied for being higher or lower,

again...Zero is perfect. Then add the two

together! OK...there are some technicalities in the precise scoring, but you get the point!

Over to Elizabeth... "Definitely good! I'm delighted you had such a great time and Well Done to you and Dave Tranter for running the range. Please find attached an article in *The Times* and a link to the *The Sun* website which features a great piece.."

<http://www.thesun.co.uk/sol/homepage/news/article4323575.ece>

"..The more media the better! Please find below a super selection of pictures:

<http://www.flickr.com/photos/adsgroup/sets/72157629771826658/>

"Now the important bit...results!"

1 *The Perse School* ~Team 2

803m + 39.8s = 13 points

2 *The Thomas Hardy School*

795m + 40.1 = 14 points

3 *Abbeyfield School Team 3*

830m + 45s = 30 points

"Naturally, there were many hard luck stories along the way, including one team who managed a perfect flight, but damaged an egg removing it from the nose section!"

Back to the Editor – Good or wot?! Model Rockets-Space Models have always been excellent tool for teaching Sciences in schools. Crucially too, we had lots and lots of young people boosting birds in a very pleasant setting. Sponsors ADS Group Ltd, Rolls Royce and Chemring Group laid on £250 for 3rd; £500 for 2nd and £1,000 for 1st place at the event...Well Done. For the record, in the United States, TARC has seen ~60,000 young people involved in the last 6 years...amazing! There is a Future...and we're looking at it!

8th Catalunya Cup ~ Lleida,
Alfes Aerodrom-ESP : 7-8 April
'12...just to get us going!

OFF WE GO into the circus of 2012!
Podiums:

S4A-Boost Glider World Cup (22 starters)

1 Mitja ZGAJNER SLO 180 180 167 = 527s

2 John JACOMB GBR 160 180 138 = 478s

3 Boris JENKO SLO 123 180 100 = 403s

S6A-Streamer Duration World Cup (22 starters)4

1 Jordi ROURA FONT ESP 93 108 180 = 381s

2 Marjan JENKO SLO 180 78 122 = 377s

3 John JACOMB GBR 87 180 77 = 344s

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S9A-Gyrocopter Duration World Cup (8 starters)

1 Marjan JENKO	SLO	96	75	180	= 351s
2 Jordi ROURA FONT	ESP	58	102	121	= 281s
3 Liviu BOTUSAN	ROM	83	89	56	= 228s

S8E/P-RC Rocket Glider World Cup (3 starters)

1 Nigel BATHE	GBR
2 Mitja ZGAJNER	SLO
3 Liviu BOTUSAN	ROM

No scores available for publication

The FAI Jury comprised Carlos Aymat (ESP), Mama Neus Misse (ESP) & Ioan Botusan (ROM). RSO was Josip Mestres...pretty busy and Contest Director Hess Roura, who ran a good one.

Belarus Cup ~ Lida-BLR : 12-15 April '12 ...a good one

Sports Director Valery Kruglov cannot have been unhappy to see Belarus, Russia, Ukraine, Uzbekistan, Czech Republic and Lithuania come to Lida for what was a pretty high standard event in less than perfect conditions.

S4A-Boost Glider World Cup (21 starters)

1 Alexander KOZLOV	CZE	180	180	180	= 540s
2 Igor IBRAGIMOV	UZB	140	180	180	= 500s
3 Gintoras JUCEVICIUS	LTU	77	180	180	= 435s

S6A-Streamer Duration World Cup (24 starters)

1 Alexander KOZLOV	CZE	159	180	180	= 519s
2 Igor IBRAGIMOV	UZB	180	95	91	= 366s
3 Kiril STROKOV	RUS	76	145	99	= 303s

S9A-Gyrocopter Duration World Cup (21 starters)

1 Gintoras JUCEVICIUS	LTU	180	180	180	= 540s
2 Mykolas TREIKAUSKAS	LTU	180	180	140	= 500s
3 Valery HRABOUSKI	BLR	180	103	157	= 440s

S7-Scale World Cup (13 starters)

1 Olek'r ZAGORODNY	UKR	<i>Black Brant</i>	564+151	= 717pt
2 Jurgis STRAZDAZ	LTU	<i>Little Joe</i>	643+63	= 706pt
3 Elena KURKOVA	RUS	<i>Meteor-1</i>	596+87	= 683pt

S8E/P-RC Rocket Glider World Cup (5 starters)

1 Vladimir MINKEVICH	BLR	1000	983	798+1000	= 3781
2 Danietas GLIEBUS	LTU	465	825	842+848	= 2980
3 Andrej SCHEDOV	UKR	637	0	1000+878	= 2515

S1A-Altitude Juniors

1 Mykolas TREIKAUSKAS	LTU	262m
2 Danil SHARBROWSKI	BLR	138m
3 Andrey SURHINEVICH	BLR	134m

S1B-Altitude Seniors

1 Maksin TIMOFEEV	LTU	454m
2 Anson RYBKO	BLR	251m
3 Yevgeni CHASHEVIK	BLR	0m

The FAI Jury had little to rule on, so well done, Andrius Bukauskas (LTU), Vladimir Khokhlov (RUS) and Vladimir Minkevich (BLR). S7-Scale Judges Aleksandras Timofejvas (LTU), Yuriy Osinchenko (BLR) and Alexei Vasilev (BLR) did a good job in a very diverse hall. Nice one!

Korolev Cup ~ Mescherino-RUS : 20-23 April '12...a cracker, but we knew it would be!

ONE or two little issues regarding the actual venue...but Mescherino it was. Belarus, Russia, Uzbekistan, Czech Republic and Kazakhstan came to the rampa to slug it out in less than perfect conditions. But boy...was the flying standard good! Congratulations to Vladimir Khokhlov and his associates for the successful organisation of this traditional World Cup event. In addition, to Oleg Krasnov and Alexei Koriapin for successful promotion of Class S12A/P-Triathlon at the parallel *Veteranov Cup* event. Enough...let's see some podiums:..

S4A-Boost Glider World Cup (14 starters)

1 Konstantin GRINCHENKO	RUS	180	180	180	= 540s
2 Vladimir ZHUGDA	RUS	180	180	120	= 480s
3 Gennady POLTAVETS	RUS	180	114	180	= 474s

Juniors : 1.Vladimir ZHUGDA RUS ~ 2. Dmitri PILKIN RUS ~ 3. Nikita POLULYAH RUS

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S6A-Streamer Duration *World Cup* (27 starters)

1 Vladimir KISILEV RUS 88 161 107 = 356s
2 Vladimir MINKEVICH BLR 76 180 79 = 335+98s
3 Alexander KOZLOV CZE 124 92 119 = 335+0s
Juniors : 1. Kirill STROKOV RUS ~ Andrey CHCHEDROV
UKR ~ 3. Nikita POLULYAH RUS

S7-Scale *World Cup* (8 starters)

1 Andrey VISHNYANOV RUS *Cyklon-3* 668 + 182 = 850pt
 2 Roman KHOROSH RUS *T-Tomahawk* 607+96 = 703pt
 3 D. TKACHENKO RUS *T-Tomahawk* 588+96 = 684pt
Juniors : 1. Nikita POLULYAH RUS ~ 2. Dmitri KOROTIN
 RUS ~ Kirill STROKOV RUS

S8E/P-RC Rocket Glider *World Cup* (14 starters)

1 D. TKACHENKO RUS 760 1000 1000+995 = 3755pt
2 G. SERGIENKO RUS 1000 753 960+ 1000 =3713pt
3 Andrey EZHOV RUS 765 984 956+977 = 3682pt
Juniors : 1. Kirill STROKOV RUS ~ 2. Andrey
CHCHEDROV UKR ~ 3. Nikita POLULYAH RUS...and
Yes! ..they did fly S8E/P-ROC Rocket Glider Spot!?!)

S9A-Gyrocopter Duration *World Cup* (24 starters)

1 Vladimir MINKEVICH BLR 180 180 180 = 540s
2 A. ZEMLYANUHIN RUS 166 180 171 = 517s
3 Sergei ROMANJYK RUS 152 180 180 = 512s
Juniors : 1. Vladimir ZHUGDA RUS ~ 2. Nikita
POLULYAH RUS ~ 3. Dmitri KOROTIN RUS

RSO Vladimir Zherzdev and the FAI Jury comprising Alexei Koriapin (RUS), Aleksandr Lipai (BLR) and Vladimir Minakov did little wrong. S7-Scale Judges were Oleg Khorosh (RUS), Igor Ibragimov (UZB), Sergei Aparnev (RUS) and Sergei Parakhin (KAZ). In addition to the World Cup, a top juniors' event was fielded, which bodes well for the future. And in addition...*nearly* forgot:

Veteranov Cup...23rd April

S12A/P-Triathlon (12 starters)

1 Gennady POLTAVETS RUS

S9A-1000 S6A-513 S3A-700 = 2213pts

2 Elena KURKOVA RUS

S9A-0 S6A-1000 S3A-1000 = 2000pts

3 Vladimir MENSNIKOV RUS

S9A-1000 S6A-668 S3A-742 = 1844pts

1st Gemer Cup ~ Brzotin-SVK :
*4-6 May '12...Brilliant! ..well
done, Stefan Andoga*

SLOVAKIA is pretty good at hosting World cups and this one presented by Stefan Andoga and Model Klub ‘Hawks’ Brzotin & RMK Kosice was no exception. Just a great first attempt, with Slovakia, Czech Republic, Croatia, Poland and Russia in the mixer! The standard at times was magic and a credit to all concerned. Podiums:

S4A-Boost Glider *World Cup* (20 starters)

1 Krzysztof PRZYBYTEK	POL 180 180 180 = 540s
2 Sławomir LASOCHA	POL 180 110 180 = 470s
3 Szymon BYRTEK	POL 180 108 180 = 408s

S6A-Streamer Duration *World Cup* (22 starters)

1 Szymon BYRTEK	POL	117	124	180	= 421s
2 Krzysztof PRZYBYTEK	POL	97	127	180	= 402s
3 Radek NEMEC	SVK	166	93	138	= 397s

S9A-Gyrocopter Duration *World Cup* (20 starters)

1 Krzysztof PRZYBYTEK	POL 180 166 180 = 526s
2 Gennady POLTAVETS	RUS 180 165 180 = 525s
3 Jakub JAROS	POL 160 164 168 = 492s

S7-Scale *World Cup* (7 starters)

1 Stefan RACKO	SVK	<i>Ariane 1</i>	725+CE = 725pt
2 Barbora NEMCOVA	SVK	<i>Nike Cajun</i>	555+125 = 680pt
3 Radek NEMEC	SVK	<i>Nike Cajun</i>	540+115 = 655pt

S8E/P-RC Rocket Glider *World Cup* (4 starters)

1 Krzysztof PRZYBYTEK POL 950 993 1000+1000 =3943pt

2 Bedrich PAVKA CZE

908 413 642+ 622 =2586pt

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3 Eryk JASZKIM POL

997 1000 DQ+DQ = 1998pt

The FAI Jury comprised Vera Pavkova (CZE), Janka Kajanova (SVK) & Ewa Dudziak-Przybytek (POL). But no mistake, this one was super...Well Done!

Kaspichan Cup 2012 ~
Kaspichan-BUL : 11-13
May'12. Super, absolutely
super!

by Srdjan Pelagic

CONGRATULATIONS to Toshko Dragov, Plamen Stanev, Plamen Yordanov, Boris Lekov and their associates for a very successful organisation of this event. Congratulations go also to all winners and participants from Bulgaria, FRY Macedonia, Romania, Russia and Serbia for their sport successes and good sportsmanship.

But all of us were surprised and not a little concerned after arriving in Kaspichan...instead of greetings and handshakes with Toshko Dragov, we were given unhappy news: Toshko had endured a very complex heart operation that same day in Varna - Black Sea coast - 60 km from Kaspichan. The next day Toshko's wife brought us better news - the operation had been successful. Toshko was feeling good and sent his regards to all participants. The Closing Banquet was dedicated to Toshko and many good wishes and presents were sent to him. One was a T-shirt of the 2012 Kaspichan Cup with autographs of all participants. We all wished him a quick recovery and to join us for the World Championships in Slovakia this September.

12th Kaspichan Cup was also one of the preparatory competitions for the forthcoming European and World SM Championships 2013

and 2014 to be held in Kaspichan and very likely at the same flying field. The first impression of it was very positive. The field is large and flat with very good visibility. It is covered with short grass and its drainage is excellent, which was "tested" by an intensive downpour during the night...the field was dry the next day.

Space Modellers from Kaspichan have already shown their devotion to the activity and capable of organising successful international events. This time it was confirmed once more. They have reactivated some of the pioneers of SM in Bulgaria and also they trained a new young team for responsible tasks. Young Borislav Yordanov showed his IT skills by preparing and distributing results tables in record time. He is also fluent in English and that can resolve many problems that can appear during the FAI first class events. Kaspichan Cup 2012 satisfied everyone. Podiums:

S4A-Boost Glider World Cup (25 starters)

1 Zoka KATANIC	SRB	150 175 131 = 456s
2 Zika JOSPIOVIC	SRB	180 142 180 = 442s
3 Vlada CIPCIC	SRB	140 180 105 = 425s

S6A-Streamer Duration World Cup (34 starters)

1 Vlada CIPCIC	SRB	145 173 115 = 433s
2 Gligorcho CEYKOV	MKD	155 166 110 = 431s
3 Stefan VASILEV	BUL	108 180 120 = 408s

S9A-Gyrocopter Duration World Cup (29 starters)

1 Plamen JORDANOV	BUL	180 180 147 = 507s
2 Gennady POLTAVETS	RUS	180 144 141 = 465s
3 Boris LEKOV	BUL	180 144 73 = 399s

S7-Scale World Cup (8 starters)

1 Zika JOSIPOVIC	SRB	Saturn 1B 781+159 = 940pt
2 Valentin LAZAR	ROM	Ariane 1 673+161 = 834pt
3 Vlad CIPCIC	SRB	WAC Bumper 504+172 = 676pt

S8E/P-RC Rocket Glider World Cup (4 starters)

1 Valentin VALCHEV	BUL	857 1000 1000+1000 = 3857pt
2 Vlada CIPCIC	SRB	1000 967 950+ 925 = 3842pt
3 Mihail PROCOP	ROM	1000 759 1000+ 962 = 3721pt

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FAI Jury comprised Srdjan Pelagic (SRB), Rumunya Lekova (BUL) & Krastio Rakov (BUL). S7-Scale Judges, Marin Georgiev & Dimitar Dinitrov (BUL) did well in a diverse hall. RSO Georgi Georgieski (MKD) got all the calls right.

World Knauf Insulation Cup

~ *Krupka-CZE : 18-20 May*

'12.. *You little Beauty!!*

CONGRATULATIONS to Bedrich and Vera Pavka and their associates for a very successfully organised traditional World Cup event. Well done to all winners and participants for their good sportsmanship.

Here must be pointed out that we had 62 competitors from 9 nations and lots of juniors. Competing in all five World Cup classes is quite an achievement! It would be nice if all our events would have so many participants from different countries. Podiums...*what* Podiums they were!!!

S4A-Boost Glider World Cup (40 starters)

1 Michal ZITNAN	SVK 180 180 180 = 540+405s
2 Marek PAVKA	CZE 180 180 180 = 540+170s
3 Maksim TIMOFEJEV	LTU 180 180 180 = 540+152s
(4 Zdenek KOLAR	CZE 180 180 180 + 540 + 37s)

S6A-Streamer Duration World Cup (52 starters)

1 Marian KRAUSE	ROM 151 155 180 = 486s
2 Alexander KOZLOV	CZE 180 96 165 = 441s
3 Marek PAVKA	CZE 126 154 160 = 440s

S9A-Gyrocopter Duration World Cup (35 starters)

1 Leszek MALMYGA	POL 180 180 180 = 540s
2 Toni MAZZARACCHIO	ITA 180 179 120 = 479s
3 Gintaras JUCEVICIOUS	LTU 180 98 180 = 458s

S7-Scale World Cup (9 starters)

1 Zdenek KOLAR	CZE	Ariane 4 781+74 = 855pt
2 Martin PAVKA	CZE	Ariane 4 767+62 = 829pt
3 Jan SEBESTA	CZE	Sonda 636+135 = 717pt

S8E/P-RC Rocket Glider World Cup (27 starters!!)

1 Petr MATUSKA	SVK	1000 1000 1000 + 1000 = 4000pt
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2 Erik JASZKIM POL

851 1000 1000 + 795 = 3646pt

3 Leszek MALMYGA POL

1000 886 1000 + 667 = 3553pt

Editor's Note.. Good...this wasn't *Good*, it was just silly!! Fantastic! ...and did 27 really come to the rampa in S8E/P-RC Rocket Glider?!? Best World Cup of 2012 so far.

CIAM Summary...*Srdjan Pelagic* copies us in

THIS was always going to be a challenge, with all those Rules Changes proposals. Fortunately, on the run-in to the 2012 FAI-CIAM Plenary, most of the bones were picked out of the mix. Over to Srdjan..

“...I send you my greetings and short report from CIAM Meetings held in Lausanne:

A Yesterday was CIAM's celebration of the 50th Anniversary of FAI Space Modelling. There were addresses by Dr John Grubstrom, FAI President and Bob Skinner, CIAM President. It was a short presentation of SM and it was distributed printed edition of CIAM Flyer 2-2012 dedicated to the Golden Jubilee of SM. Special Jubilee Diplomas received 9 organisations and 11 individuals:

Organisations: NAR (USA) for establishment of SM, ZMOS (SVK) for first ever SM FAI international event 1966, VS Serbia (SRB) for first ever WSMCh 1972, ROU Modelling Federation (ROU) for organisation of greatest number of FAI 1st class SM events, Federation of Space Modelling Sports (RUS) for organisation of the greatest WSMCh 2006 in Baikonur, NAC Poland for 1st junior EuSMCh 1994, NAC Spain for organisation of the first EuSMCh 1979, NAC Kazakhstan for organisation of the first ever Open Asian SMCh 2007, ARK "Komarov" Ljubljana (SLO) for organisation of Ljubljana Cup continuously 34 years,

Individuals: Sandy Pimenoff (FIN) - former CIAM President; Max Bishop (SUI) - retired Secretary General of FAI; four SM SC Chairmen: G.H. Stine - USA (posthumously), H. Kuhn USA (posthumously), O. Saffek

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(CZE) and S. Pelagic (SRB); Marian Jorik (SVK), SM WCup coordinator for 15 years; Vernon and Gleda Estes (USA) - engine producers; Mihail Zanciu (ROU); men who organised 6 SM FAI events, Ioan Radu (ROU) first ever SM Champion and SM historian and G. Rancin (SRB) director of the first ever WSMCh in 1972.

CIAM awarded nominated persons with FAI prizes. Antonio Mazzaracchio (ITA) is recipient of the FAI *Alphonse Penaud Diploma*, the greatest award for sports achievements. Also were awarded medals and diplomas for SM WCup winners 2011.

B There was SM Technical meeting with participation of 16 men from 10 countries. There were considered 41 proposal for the rules changes and 26 are approved by the CIAM plenary. The most important are:

1. All modelling materials are allowed for building of SMs and are defined "substantial parts of a model".
2. Approved is proposal by Marian Jenko for boost gliders - what goes up must land in gliding path without separation of parts.
3. Introduced is a new class S2/P - Fragile payload based on the USA "egg-loft". It was presentation of the activity Team America with such models that attracted 60.000 high-school pupils to SM.
4. Approved are new rules for scale models where flyability of models is more favoured and relationship of static judging and flight characteristics are changed from 1:2,83 to approx. 1:2,3. SM TM decided to establish a Work Group of competent scale people to follow application of these rules and suggest potential corrections.
5. It is required all RC models (except S8E/P) to land to the landing area of 20x20 with bonus of 60 seconds. Landing out of this area leaves a competitor without this bonus.
6. There are appropriate changes in Annexes 1 and 2.
7. Deleted is *Minimum Horizontal Distance Method S1X* for altitude measurement as obsolete and are made improvements of the rules for electronic altimeters (eAltimeters) to sanction application of modern eAltimeters, like Adrel ALT-USB,
8. Withdrawn are all proposals on changes of dimensions of the models or deletion of subclasses and referred to the SM SC for further consideration.

Detailed report shall come to you after my return home, but not before beginning of May.

C. There were CIAM elections. New CIAM President is Antonis Papadopoulos (GRE) who was 2ndVP so far, Bob

Skinner (RSA) former CIAM president is elected Honorary President and Kevin Dodds (AUS) became 2nd VP. S. Pelagic is re-elected for period of two years (till 2014) for SM SC chairman.

D There were awarded organisations of future FAI SM Championships:

2014 - WSMCh awarded to Bulgaria, in competition with Poland.

2015 - EuSMCh - tentative offer from Turkey.

2016 and later - *offers invited*. And now..

Space Modelling's new rules in more detail..

All submitted proposals (41) were carefully considered by the SM Technical Meeting that was participated by 16 experts from 10 countries. There were among them: SM SC members - 6, CIAM Delegates - 6, CIAM VP - 1 and other competent people. A general principle of Space Models Technical Meeting how to deal with the great number of submitted proposal was:

- a) all proposals that are clarifications or which sanction the existing practice or technical specifications of the equipment were recommended for approval as they are;
- b) all proposals that change dimensions or weight of models and require more careful technical consideration including deletion of subclasses were withdrawn or referred to SM SC for further consideration;
- c) all obsolete rules, like those on S1X altitude measurement method were deleted from the rules;
- d) all proposals which indicated "time-consuming" discussion were also postponed for the next time like point allocation bonus based on number of participating countries in Annexes 3 and 4.

So, viewing all proposals like packages of proposals SM TM concluded its work very efficiently - 26 out of 41 submitted proposals were unanimously recommended for approval and approved by the Plenary.

I wish to point out here very cooperative work of all participants in SM TM and particularly that of Mike Francies (UK), Joze Cuden (SLO), Bedrich Pavka (CZE), Dr John Langford (USA) and Gerhard Wobbeking (1st CIAM VP as the GER delegate).

SM TM had a very big dilemma what to do with Class S2 and a new provisional class S2/P and also with pretty radical changes in static judging of S5 and S7. It unanimously decided to recommend these rules as they are proposed and to suggest a Work Group of experts to be established immediately to monitor application of these rules. SM TM considered a much better solution to approve new rules immediately and to monitor what is

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good and what needs to be improved, than waiting for next two years and doing nothing before some other proposals might be submitted.

Such a move was important because Class S2 was in "hibernation" for almost 30 years. Also, in scale classes the number of competitors - especially new entrants - is constantly decreasing, because of some rigid rules that are now radically changed and simplified so to attract new entrants. The USA's experience with S2/P includes the involvement of 60.000 high-school pupils in this activity in last 6 years. We firmly believe this class shall be a new impulse for our SM activities, too.

In scale models there were eliminated points that did not depend on modellers' knowledge, skill and work and also scale people is encouraged to improve flight characteristics of their models because S5 and S7 are primarily *FLYING* models not EXHIBITION ITEMS.

All rules described above were *APPROVED* by the CIAM Plenary Meeting and become effective from Jan 1, 2013. I ask you to understand this table as the first information. The exact text of the rules shall be distributed in the CIAM Plenary Meeting Minutes in a few days.
Special thanks are offered to Valentin Savov, alt. delegate of Bulgaria, for his great help in quickly preparing of SM Tech Meeting Minutes on his PC.

Jason on Scale... *our regular hack, Jason Wentworth, comes good once more*

MISSILES...Yet more Missiles!! One type of missile that has been around for some time but is relatively little-known is the *quasi-Ballistic* -also known as *semi-Ballistic* - missile. Because these missiles have rear-mounted fins and moderate fineness (length-to-diameter) ratios, they make good-performing and distinctive-looking scale models. As described on Wikipedia see:

<http://en.wikipedia.org/wiki/Semi-ballistic>

"A quasi ballistic missile (also called a semi ballistic missile) is a category of missile that has a

low trajectory and/or is largely ballistic but can perform maneuvers in flight or make unexpected changes in direction and range. At a lower trajectory than a ballistic missile, a quasi ballistic missile can maintain higher speed, thus allowing its target less time to react to the attack, at the cost of reduced range."

Perhaps the earliest quasi ballistic missile was the *Boeing AGM-69A SRAM I* (Short-Range Attack Missile) see:

<http://www.designation-systems.net/dusrm/m-69.html>

"This nuclear-armed missile was powered by a two-pulse solid propellant rocket motor which gave it a top speed of Mach 3.5 and a range of 35 to 105 statute miles (56 km - 169 km). Equipped with both an inertial navigation system and a radar altimeter, the *SRAM I* could fly either a terrain-following flight at low altitude (like the slower, jet-powered cruise missiles) or fly in a semi ballistic trajectory, which included an ability to reverse its course and attack targets that were behind it (sometimes referred to as an "over-the-shoulder" launch). It was carried by B-52, FB-111, and B-1B strategic bombers. The *SRAM I* was in service from 1972 until 1993. The *SRAM I*'s boat-tail gives scale models of it low drag, and the missile's narrow-diameter rocket motor exhaust nozzle (see the below-linked *SRAM I* photograph set) enables the motor mounts of scale *SRAM I* models to have high-fidelity scale appearance.

"In 1981, development work began on the *AGM-131A SRAM II* see:

<http://www.astronautix.com/lvs/sram2.htm>

"...which was intended to arm the B-1B and B-2 strategic bombers. A tactical variant called the *SRAM T* was planned for carriage by the F-15E, but both versions of the *SRAM II* were cancelled in 1991 just before flight tests were to begin.

"A current quasi ballistic missile is the Russian *9K720 Iskander*, whose NATO reporting name is *SS-26 Stone* see:

http://en.wikipedia.org/wiki/Iskander_missile

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"...It is produced by KB Mashynostroyeniya. This road-mobile theater semi ballistic missile has a range of up to 250 miles (400 km) and cruises at Mach 6 - 7. The single-stage, solid propellant missile can carry several different types of conventional warheads: a cluster munitions warhead, a fuel-air explosive warhead, a bunker busting Earth penetrator, or an electro-magnetic pulse device for anti-radar use. The highly maneuverable Iskander can attack mobile targets, and the missile can be re-targeted in flight.

"Below are links to information on the AGM-69A SRAM I, AGM-131A SRAM II and 9K720 Iskander quasi ballistic missiles. If anyone has dimensioned drawings of these missiles, they would make possible documentation for Scale models. These missiles' specifications and photographs are sufficient documentation for Sport Scale models:

AGM-69A SRAM I

<http://www.designation-systems.net/dusrm/m-69.html>

article has links to other SRAM I pieces

http://en.wikipedia.org/wiki/AGM-69_SRAM

<http://www.flickr.com/photos/63014123@N02/5762591051/>

SRAM I photograph set

<http://www.astronautix.com/fam/sram.htm#more>

<http://www.rocketryforum.com/showthread.php?t=21784>

SRAM I semi-scale model rocket [Reply #17 has some drawings]

<http://www.rocketryforum.com/showthread.php?t=23347>

SRAM I semi-scale model flight tests

<http://www.rocketryforum.com/showthread.php?t=24471>

SRAM I semi-scale model flight tests [more]

http://www.youtube.com/results?search_query=Short+Range+Attack+Missile

SRAM I videos list

AGM-131A SRAM II

<http://www.astronautix.com/lvs/sram2.htm>

<http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=1001>

http://en.wikipedia.org/wiki/AGM-131_SRAM_II

<http://www.designation-systems.net/dusrm/m-131.html>

<http://www.globalsecurity.org/wmd/systems/agm-131a.htm>

article contains links to other SRAM II articles

9K720 Iskander

http://en.wikipedia.org/wiki/Iskander_missile

article contains links to other Iskander articles

<http://www.astronautix.com/lvs/iskander.htm#more>

<http://www.military-today.com/missiles/iskander.htm>

<http://www.youtube.com/watch?v=EpoND183yQQ>

Iskander-E video

<http://www.youtube.com/watch?v=w3F8DbZ-3yc>

Iskander-M video

In addition..

Below are links to material on the joint Israeli/U.S. (Rafael/Raytheon) *Blue Sparrow*, *Black Sparrow* and *Silver Sparrow* air-launched ballistic targets. These target missiles are launched from F-15 fighter jets to simulate enemy ballistic missiles. They are used to test the *Arrow ABM* (Anti-Ballistic Missile) system.

Here are the links:

Blue Sparrow

http://www.rafael.co.il/marketing/SIP_STORAGE/FILES/9/519.pdf

www.rafael.co.il/marketing/SIP_STORAGE/FILES/2/622.pdf

<http://www.flightglobal.com/news/articles/israel-conducts-first-launch-of-blue-sparrow-ballistic-missile-target-223009/>

<http://www.flightglobal.com/news/articles/picture-israel-reveals-rafaels-blue-sparrow-target-215388/>

http://space.skyrocket.de/doc_lau/blue_sparrow.htm

Black Sparrow

http://space.skyrocket.de/doc_lau/black_sparrow.htm

www.rafael.co.il/marketing/SIP_STORAGE/FILES/2/622.pdf

<http://www.mod.gov.il/pages/homa/blackSp.htm>

Silver Sparrow

http://www.rafael.co.il/marketing/SIP_STORAGE/FILES/1/1171.pdf

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Hawaii is developing its own satellite launch vehicle, called *SPARK* (*Space-borne Payload Assist Rocket - Kauai*). The three-stage vehicle, which is derived from Sandia National Laboratories' *Strypi* sounding rocket, can inject a 250 kg payload into a 400 km Sun-synchronous orbit. It is being developed in a cooperative project between the University of Hawaii, Sandia National Laboratories, and Aerojet. Like the *Strypi*, it will lift off from a rail launcher, which is being built on Kauai. Also...

..The fin-equipped first stage provides un-guided spin stabilization for the vehicle during its burn, while the two upper stages have attitude control thrusters that are controlled by the guidance system. The maiden launch of *SPARK* is scheduled for 2012. Below are links to information on, and illustrations of, the *SPARK* SLV:

http://space.skyrocket.de/doc_lau/spark.htm

http://hsfl.hawaii.edu/HSFL_Overview_071910.pdf

<https://www.hawaii.edu/offices/op/innovation/taylor.pdf>

In addition..

Richard Morrow - e-mail address:

Rbmrocket@aol.com

..the author of "*Small Sounding Rockets*", see:

www.rocketryplanet.com/smallsoundingrockets.org/index.html

..may re-print his book if there is sufficient interest.

Photographs from it can be seen here. see:

www.rocketryplanet.com/smallsoundingrockets.org/photos.html

..and here are videos of sounding rockets that are covered in the book. see:

www.rocketryplanet.com/smallsoundingrockets.org/video.html

..The vast majority of the sounding rockets that are documented in Richard's book have never been depicted in scale model rocket form, so they are a fresh resource of inspiration for scale space modelers. Several of these vehicles would lend themselves to FAI S5-Scale Altitude. Also...if **interspace**.. readers are interested in getting a copy

of "*Small Sounding Rockets*" should contact Richard and express an interest, it may be re-published.

I found a few (partial) drawings of the *Cooper Development Corporation ASCAMP* (ASP first stage, "*Baby Sergeant*" second stage) sounding rocket that was flown in support of the 1958 Operation Hardtack nuclear weapon tests. I have included links to these and other data sources below. The ASCAMP is also depicted in "*Small Sounding Rockets*" by Richard Morrow. Here are the links:

"Small Sounding Rockets" ASCAMP photos:

<http://traxellabs.com/smallsoundingrockets.org/cdcsa/lyisland.jpg> and..

<http://traxellabs.com/smallsoundingrockets.org/ascamp1.jpg>

"Small Sounding Rockets" SCAMP test round video:

<http://traxellabs.com/smallsoundingrockets.org/video.html>

www.rocketryforum.com/showthread.php?t=13013

www.designation-systems.net/dusrm/app4/asp.html

http://space.skyrocket.de/doc_lau_det/ascamp.htm

www.astronautix.com/lvs/ascamp.htm

"Aircraft and Rocket Fallout". see:

www.hss.energy.gov/healthsafety/ihs/marshall/collect ion/data/ihp1c/1050_a.pdf

"Fallout Measurements by Aircraft and Rocket Sampling". see:

www.hss.energy.gov/healthsafety/ihs/marshall/collect ion/data/ihp1c/0998_a.pdf

NASM Herb Desind ASCAMP data:

http://www.nasm.si.edu/research/arch/findaids/pdf/Desind_Finding_Aid.pdf

"A Rocket System for Sampling Particulate Matter Contained in Nuclear Clouds," Cooper Development Corporation, Monrovia, California, 31 January 1959.

And something else too...

Steam Stabilised/Steered missiles...Being rather enamoured of ISRO's PSLV (Polar Satellite Launch Vehicle), especially the PSLV-CA "Core Alone" version, see:

http://en.wikipedia.org/wiki/Polar_Satellite_Launch_Vehicle

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...I wonder if the current state of the art would enable us to use SITVC (Secondary Injection Thrust Vector Control) systems in scale models of such finless rockets? A SITVC system using air-pressurized water could be installed in such finless models. Also:

Electronically-actuated valves could control the injection of jets of water into the motor exhaust plume just below the nozzle to steer the model - or a simpler system could simply continuously inject four jets of water - spaced 90 degrees apart - inward and downward. Given enough water, the jets could continue to steer - or simply stabilize - the model during its coasting phase of flight while the motor's delay charge burns down. And...

..with the jets of water being injected into the hot motor exhaust plume, the resulting expansion of the heated water might enable a scale-size nozzle extension to be affixed below the motor's nozzle, for a realistic-looking nozzle and a "scale-width" exhaust plume. The water jet nozzles could be moulded into - or investment-cast into - a phenolic scale nozzle extension.

I hope this information will be useful.

Paper 'planes and rockets too.. Yet another gem from Geoff Seabrook

DIFFERENT - although *most* modrocs are made of paper...thanks to Geoff Seabrook. This time, scale space models from folded paper. Hey, what about an Origami Space Models class in the FAI-CIAM Sporting Code?!? Over to Geoff..

The paper modellers have put up a *Zenit* model on this link:

<http://www.ariespapermodels.nl/menu-rst.htm>

This led to this post by a Russian space engineer.

"Thanks Erik! I was thinking the other day: what if Russia and Ukraine cooperated to cluster 5 Zenits together as the first stage of a Saturn V class launcher?!?"

"Well Stuart [wot... – Ed] we've had that already. In fact, Zenit's first stage was originally the booster stage of the Soviet Energia heavy lift launcher, that was used to lift the Soviet 'Shuttle', Buran. A thick LOX/LiqH2 driven core stage was surrounded by four of these boosters. But that program was soon cancelled, owing to cost, followed by the break-up of the Soviet Union, so Russia would have to buy the boosters of their launch vehicle from the Ukraine."

"These boosters were then developed further, into a launcher of its own, by adding a second stage, resulting in the Zenit-2 launcher. Another variant got even a third stage, resulting in the Zenit-3. A variant of this one is also used by the western company SeaLaunch."

"There were plans of a quasi modular launcher family and mock ups built eg. Ariane-5 class launcher, but with a smaller core, with two of the Zenit boosters and there were also versions planned - on paper - that had up to eight of these booster stages [reams of paper rockets then.. – Ed]. But none of them ever flew to orbit or beyond." ZiLi

R&D = Rock and Roll!?! ..and now for something completely different?!? by Alexander Mituriev

ONCE MORE, the prospect of change stimulates new ideas. Once more, we see that the 'new ideas' have already been tried out.

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Once more, because we don't talk to each other enough, nobody knew about it! Over to Alexander..

I have always admired the R&D [Research & Development – Ed] event, held annually during national US competitions, amongst other «flying» model categories. What IF...we extended this sort of spacemodeling activity into International/World level events, under CIAM patronage. Of course the R&D event not a sporting event and not totally competitive. Naturally too, there is no budget or time to include this event into current FAI international sport contests. However, R&D event could be held *virtually* – online – and be part of the FAI-CIAM website - or even done on a dedicated website. Let's focus on some specifics..

Once again, it is NOT A SPORTING event. However, this will:

- Extend CIAM activities beyond the limits of purely contest activities (World and Continental Championships, World Cups and World Records)
- Serve the goal of further popularization of Space Modelling as an educational tool around the globe;
- Introduce scientific aspects of Space Modelling to the public, developing their interest
- Discussion of the materials and results will serve as a tool for further bringing together of the "Space Modelling Brotherhood" across the World
- Will serve as a tool for further development of the Space Modeling contest classes around the Globe.

Of course, not everybody is willing to share their ideas and the results of their researches. But there are still modellers who WANT to share, even amongst their competing rivals. It is always a win-win situation when competitors' researches are presented at science conferences, workshops and through publications within any scientific communities in any field of knowledge and technology. You present your work to others and at the same time, receive in exchange an opinion from folks who probably are working on the similar problem and very often get fresh ideas.

Check out the experiences of USA's NAR R&D event?!? The value of it is beyond any sports results, but the benefits, especially for younger rocketeers, are immeasurable. Special rewards (eg. a Diploma) can be established for the best R&D report and name it after one or other of the theoreticians, such as Tsiolkowski, Goddard, Korolev, or ...choose any from the range?!?

I have already shared this idea with some rocketeers, including Edward Pearson (USA) and Stanislav Zhidkov (Russia). They both liked it, and expressed their opinion that with a proper implementation, this could be very productive and priceless for the future of Space Modelling.

Firkin Funny...something to get drunk about! by Alenka Cuden

WAITED a long time, but here's a Firkin Funny to get us tittering once more. Well done Alenka for making us laugh..

"I would like to share an experience with you, about drinking and driving. As you well know, some of us have been known to have had brushes with the authorities on our way home from the odd social session over the years."

"A couple of nights ago, I was out for a few drinks with some friends at the Black Lion and had a few too many beers and some rather nice red wine. Knowing full well I may have been slightly over the limit, I did something I have never done before...I took a bus home."

"Sure enough, I passed a police road block but as it was a bus, they waved it past. I arrived home safely without incident, which was a real surprise. I've never driven a bus before and not sure where I found it.."

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*From the Editor...So much happening,
but enough, enough is enough! Hope you
enjoy this issue, it's been a lot of work
putting it together. 2012...Olympic year
maybe, but it'll be remembered for its Space
Modelling too. Good luck to all competitors
throughout the season.*

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