

The Journal of *FAI Space Modelling*
The British Space Modelling Association

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Editorial Another season draws to a close...and *what* a season! We've seen World Cups from all over, many featuring the biggest entries ever, plus the 13th *European Space Modelling Championships*, hosted by Romania. We've had a novel World Cup, from a novel country...the 1st *Fenix Cup*, based in Vincovci, Croatia; 10 nations and a spectacular success. Then there was *GREECE*...for the very first time!

Naturally enough, this issue rounds off the 2011 World Cup season. Featured are the *Capitol Cup* ~ from Virginia, USA; *Baikonur Cup* and the *Cup of Korkyt Ata* ~ from Kosmodrom Baikonur. And a titchy one from that little place called Slovenia...can't remember its name!?!?

We are coming to the time when solid proposals need to be put in place for discussions at FAI. Once more I repeat the diktat that if WE do not take control of our destiny, others will and it will surely be worse. We are once again grateful to Geoff Seabrook and Jason Wentworth for contributions within. Both are related to the S7-Scale issue that is maturing nicely.

..And yes, we've interspace.. *Space Modeller of the Year* too..

Capitol Cup 2011 ~ 17-18

September – Great Meadow

Plains, VA – USA by Srdjan Pelagic

WELL DONE, Tony Reynolds and his Team for yet another super World Cup on the North American continent. But for sure, we need more than one World Cup event in the USA, for 2012 and later?!? Big questions and crucially we need... *Answers – Actions*, not words, from Tony, Pat, Taras and their associates. How can we increase foreign entrants too?!? Podiums:

S4A-Boost Glider World Cup (10 starters)

1 Rod SCHAFFER USA 69 77 75 = 221s
2 Chris FLANIGAN USA 0 77 113 = 190s
3 Dmitri AVRAMOV BUL 51 48 - = 99s

S6A-Streamer Duration World Cup (11 starters)

1 Pat BUTLER USA 68 71 67 = 206s
2 Steve KRISTAL USA 59 58 73 = 190s
3 Emma KRISTAL USA 69 36 63 = 168s

S9A-Gyrocopter D'tion World Cup (10 starters)

1 Rod SCHAFFER USA 134 97 126 = 375s
2 Kathleen HUMPHREY USA 111 0 149 = 260s
3 Trip BARBER USA 94 82 56 = 232s

S8E/P-RC Rocket Glider World Cup (7 starters)

1 John LANGFORD USA
952 1000 1000 + 860 = 3812pts
2 Scott BAIRD USA
1000 816 882 + 1000 = 3743pts
3 Kevin JOHNSON USA
1000 896 749 + 904 = 3549pts

The FAI Jury comprised Taras Tataryn (CAN), Ed Pearson (USA) and John Langford, with the RSO's duties being competently serviced by Jonathan Rains [remember him from Florida in '92?!? – Ed]. The whole World Cup was very professionally organised by Sports Director, Tony Reynolds and Secretary, Chris Kidwell.

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Baikonur Cup 2011 ~ 20-23
*September – Kocmodpom.. RUS-
KAZ*

ICONIC this one: 12th April 1961 saw the legendary Yuri Gagarin mount his Vostok and embark of the first ride into Space...50 YEARS AGO! interspace.. covered this and now reports the World Cup event that took place on the same venue. Kazakhstan, Russia, Ukraine, Uzbekistan and Belarus were the focal nations in what was a super World Cup.

S4A-Boost Glider World Cup (18 starters)

- | | | |
|-------------------|-----|--------------------|
| 1 Aleksandr LIPAI | BLR | 180 180 180 = 540s |
| 2 Igor SHMATOV | RUS | 180 157 140 = 477s |
| 3 Kiril EGOROV | RUS | 102 180 180 = 462s |

S6A-Streamer Duration World Cup (22 starters)

- | | | |
|--------------------------|-----|-------------------|
| 1 Konstantin BALAHONIKOV | UZB | 180 180 82 = 442s |
| 2 Dmitri KOROTIN | RUS | 180 180 61 = 421s |
| 3 Vladimirs KHOKHLOV | RUS | 119 180 83 = 382s |

S7-Scale World Cup (5 starters)

- | | | |
|----------------------|-----|---|
| 1 Vladimir MENSHIKOV | RUS | Soyuz TM-12
687 + 128 = 815pts |
| 2 Maksym LAVYRENKO | UKR | Trailblazer-11
534 + 183 = 717pts |
| 3 Aleksandr LIPAI | BLR | Soyuz
573 + 70 = 643pts |

S8E/P-RC Rocket Glider World Cup (8 starters)

- | | | |
|-------------------|-----|----------------------------------|
| 1 Alexei KORIAPIN | RUS | 1000 1000 1000 + 1000 = 4000 pts |
| 2 Yuri FILCHUKOV | KAZ | 1000 1000 542 + 582 = 3126pts |
| 3 Eduard YURK | KAZ | 610 DQ 1000 + 975 = 2596pts |

S9A-Gyrocopter D'tion World Cup (21 starters)

- | | | |
|---------------------|-----|--------------------|
| 1 Igor IBRAGIMOV | UZB | 180 180 139 = 499s |
| 2 Igor SHMATOV | RUS | 180 128 132 = 440s |
| 3 Vladimir KHOKHLOV | RUS | 180 92 148 = 420s |

BRILLIANT!! ..that's the standard of flying and the ambient conditions...just SUPER. The Organisers, International Space School of Baikonur and Federation of Russian Space Modelling Sports did a wonderful job on such an auspicious occasion. Well done, CD Evgeniy Proshaligin (KAZ) and Secretary Larisa Ivanova. FAI Jury comprised, Alexei Oxenenko (KAZ), Alexei Koriapin (RUS) & Aleksandr LIPAI (BLR). S7-Scale Judges were Olga Ibramimova, Aleksandr Levich (knows a bit about Soyuz..) and Sergei Parakine. Awesome event and an awesome anniversary too.

Cup of Korkyt Ata 2011 ~ 27-30
*September – Kocmodpom..
RUS-KAZ*

ANOTHER World Cup from the Steppes! ...another World Cup featuring stunning flying standards. Organisers included...*Association of Light Aircraft of Republic of Kazakhstan, Almaty Aeromodelling Club, Agency of Tourism & Sports of the Republic of Kazakhstan and the International Space School Baikonur (ISS)*. Had just a chance of being good then! Many of the personnel mimicked Baikonur – the two events of the same patch...at least by the standards of the region! Into the podiums we go.

S4A-Boost Glider World Cup (19 starters)

- | | | |
|-------------------|-----|------------------------|
| 1 Kiril EGOROV | RUS | 180 180 83 = 442s |
| 2 Aleksandr LIPAI | BLR | 128 180 112 = 420+111s |
| 3 Vlada IVANOVA | RUS | 60 180 180 = 420+ 0s |

S6A-Streamer Duration World Cup (23 starters)

- | | | |
|--------------------------|-----|-------------------|
| 1 Konstantin BALAHONIKOV | UZB | 81 180 180 = 441s |
| 2 Irina LOBANOVA | KAZ | 97 136 180 = 413s |
| 3 Olga IBRAGIMOV | UZB | 84 171 96 = 351s |

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S7-Scale World Cup (11 starters)

1 Vladimir MENSHIKOV	RUS	Soyuz TM-12
		672 + 1131 = 803pts
2 Aleksandr LIPAI	BLR	Soyuz
		576 + 114 = 690pts
3 Maksim LAVRYNENKO	UZB	Trailblazer-11
		523 + 164 = 687pts

S8E/P-RC Rocket Glider World Cup (8 starters)

1 Alexei KORIAPIN	RUS	
		951 1000 1000 + 1000 = 3951pts
2 Elena SHPAK	KAZ	
		1000 895 957 + 897 = 3749pts
3 Sergei PARAKHINEKAZ		
		830 967 983 + 955 = 3735pts

S9A-Gyrocopter D'tion World Cup (25 starters)

1 Igor IBRAGIMOV	UZB	155 180 172 = 507s
2 Vladimir MINKEVICH	BLR	140 168 166 = 474s
3 Aleksandr LIPAI	BLR	180 92 113 = 473s

Kazakhstan, Russia, Ukraine, Uzbekistan and Belarus were the nations in what was a marvelous event. Sports Director, Dmitri Shatalov and Secretary, Larisa Ivanova can reflect with pride on what was a super event. He was aided and abetted by the FAI Jury of Alexei Koriapin (RUS), Alexei Oxenenko (KAZ) and Igor Volkanov (UKR). Scale judges in a hall dotted with diversity were, Olga Ibragimov (UZB), Aleksandr 'Mr Soyuz..' Levikh (RUS) and Sergei Parakhine (KAZ)...super.

Sava River Tour part 3

~ Ljubljana..

33rd Ljubljana Cup ~ Kamnik – SLO. 7-9 October 2011

by the Editor

TOP OF THE TREE = 33 ..Ljubljana Cups ~ BINGO!! The latest followed the standard that is *de*

riguer...c'est magnifique! Ljubljana reposes near the source of the River Sava and the watercourse that passes through the city – the Ljubljanica – is a forked tributary that joins the longest river in the former-Yugoslavia. More geography, Bulgaria, Croatia, Czech Republic, United Kingdom, Germany, Poland, Russia, Serbia, Slovakia, Switzerland, Slovakia and Slovenia descended on the event headquarters at Terme Snovik, confident in their ability to catalyse a dynamic World Cup finale.

Naturally, the legendary *Astronavsko Raketarski Klub, Vladimir M Komarov*, under the stewardship of Joze Cuden and Tone Sijanec, would be running the show. Naturally, the weather was expected to be magic...except that Friday afternoon was 6 degrees Celsius and driving rain - S3A-Parachute Duration was rescheduled for Sunday pm! Naturally, Saturday and Sunday *were* blessed with warm sun and very light winds. Your reporter once more carded to judge S7-Scale models and hoping for a World Class entry and World Class flying too. Time for some podiums..

S4A-Boost Glider World Cup

Gennady Poltavets (RUS); Martina Prekopova, Denis Javoric (both-SVK); Jaromir Chalupa, Marek Pavka, Jan Sebesta, Alexander Kozlov (all-CZE) and Boris, Uros & Marjan Jenko, Alja Makuc (all-SLO). These just a few of the ingredients in the mixer to ensure a World Class event to round off 2011. Conditions were near-perfect on Saturday morning and the scoring utterly stunning. Plenty of hard luck stories along the way...drop below a big three-figure number and drop out of the top-10. Great Podium, well done Ceska!

1 Marek PAVKA	CZE	180 180 180 = 540s
2 Zoran KATANIC	SRB	176 180 180 = 536s
3 Jaromir CHALUPA	CZE	130 180 162 = 472s

S6A-Streamer Duration World Cup

You don't see startlists of less than fifty in S6A-Streamer at the Ljubljana Cup and this one no exception! There were more Big Players in the list

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than also rans, with the flyers on form looking like, Przemyslaw Zacharias, Antoni Biernacki, Jakub Jaros & Tadeus Kaprzycky (all-POL); Drago Perc, Simon Urbas and the Jenko Mafia (all-SLO); Jan Sebesta & Jaromir Chalupa (both-CZE); Peter Matuska, Milan Javorik & Jozef Prekop (all-SVK) and Michael Helmert & Jonas Buechl (both-GER). Scoring was massive and the standard across the spectrum was superb...very few Zero scores, although the one that caught Gennady Poltavets (RUS) was very expensive! But a real shock at the end, Mitja Zgajner (SLO) showed he can do more than twiddle the sticks on an RC transmitter and nailed an amazing Golden Dragon! This was a fantastic World Cup finale.

1 Mitja ZGAJNER SLO 178 119 110 = 407s
2 Vladimir CIPCIC SRB 139 124 132 = 395s
3 Przemyslaw ZACHARIAS POL 135 122 120 = 377s

S7-Scale World Cup

A really good mix in the hall, ranging from *Arianes*, *Bumper WACs*, sounding rockets in the shape of *Meteor-1* & *Sonda 1-2*, *Nike Apache*, plus a magic *Maxus 6*. Nikola Cvjeticanin (SRB), Matevz Dular and Stuart Lodge had their work cut out. But this one needed to be good, as the seemingly World Class halls your scribe had judged in 2011 had failed to come up to standard in the qualification flights. The top set was very tight, *Arianes* by Krzysztof Przybytek, Wojciech Krzywinski (both-POL) and Vladimir 'chirpy' Cipcic were only separated by some 30 points. Close?!? ..*Bumper WAC-B7s* of Zika Josipovic and Miodrag Cipcic (both-SRB) managed an identical 687 points in static.. Other interesting birds were the *Sonda 1-2* of Jan Sebesta (CZE), though this one was let down by inadequate documentation and Martina Prekopova's (SVK) *Meteor-1*, the latter very accurate and realistic, scoring surprisingly highly, in static. The *Maxus 6* of Michal Borrowski (POL), flattered to deceive, but once more, the flights would make or mar it.

Wojciech Krzywinski damaged his *Ariane 3* with the electronic control system, at the 1st Fenix Cup, in Croatia a few weeks earlier and flew its more basic predecessor...to yet another first round DQ! It later did enough for the Bronze Dragon and...=1st in the 2011

overall World Cup! Once more, several were looking at the podium, but it took a super two-stage flight by junior, Miodrag Cipcic (SRB) to set the standard for the rest. He was 'leader in the clubhouse' until compatriot Zika Josipovic fired a marginally straighter boost and one point better...Golden Dragon! Hard luck stories aplenty and young Jan Sebesta just might have been a bit unlucky with a DQ'd 'qualification' flight.

1 Ziva JOSIPOVIC SRB **Bumper WAC-B7**
687 + 121 = 808pt
2 Miodrag CIPCIC SRB **Bumper WAC-B7**
687 + 120 = 807pt
3 Wojciech KRZYWINSKI POL **Ariane 3**
696 + 80 = 776pt

S9A-Gyrocopter Duration World Cup

John Jacomb (GBR) wasn't going to fly S9A-Gyrocopter at Ljubljana.. The startlist just as intimidating as S6A-Streamer had been, earlier in the day. Always the hardest to pick, as flight failures are all too common, favourites looked like Radojica Katanic (SRB); Tomislava Cvitic, Maja Juric, Ivana Miskovic...Croatia's good ladies! ..backed up by Jozo Ivancic, Romano Suti & Tomislav Cvitic (all-CRO too..). Michael Helmert & Jonas Buechl (both-GER), unlikely to do badly. The scoring was mega, with a flyoff needed for first and second. Oh yes, John Jacomb was glad he bothered!?!

1 Jaromir CHALUPA CZE 177 180 111 = 500+148s
2 Marek PAVKA CZE 108 180 180 = 500+122s
3 John JACOMB GBR 96 180 152 = 428s

S8E/P-RC Rocket Glider Spot Landing World Cup

2011 deserved a good S8E/P-RC Rocket Glider World Cup, it'd been pretty mediocre thus far...apart from one protagonist. Mitja Zgajner (SLO) came to the World Cup finale leading the rankings by a country mile, even 'Chirpy' Cipcic (SRB) always having to give best. But others too, determined to spoil the party, Turi Hunziker, Martin Eichenberger, Daniel Studiger & Michael Lehmann (all-SUI) had the kit to do damage. Eduard 'Wow-wow' Wowry, Pawel Janisiewicz, Przemyslaw Zacharias & Szymon Byrtek (all-POL) very competent and the renaissance Bulgarians, Konstantin Ranov & Kancho Kanev looked to impress.

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The flying was brilliant, with the backdrop of snowy Julijana Alps stunning...the best World Cup of 2011 and the podium very predictable and well done, Mitja Zgajner..

1 Mitja ZGAJNER	SLO				
	1000	1000	1000 +	998 =	3998pt
2 Vladimir CIPCIC	SRB				
	1000	991	978 +	1000 =	3969pt
3 Peter MATUSKA	SVK				
	985	987	1000 +	882 =	3854pt

S3A-Parachute Duration

Re-carded from Friday and sure to be good... 'til the wind freshened, that is...recovery teams on steroids! The Jenko Mafia, Rok Spandl, Miha Rupnik, Rok Zunic, Simon Urbas and Drago Perc, looked good for the hosts; Jozo Ivancic, Ivana Miskovic, Romano Suti and Maja Juric (all-CRO); the Pavkas, Jan Sebesta & Alexander Kozlov (all-CZE), all looked capable. But who could tell, the wind deprived so many of kit to fly in round 3. The result was utterly brilliant for Jan Sebesta – a perfect score - after his disappointments in S7-Scale. Jozo Ivancic and Rok Zunic on the sidesteps.

1 Jan SEBESTA	CZE	300	300	300 =	900s
2 Jozo IVANCIC	CRO	262	300	300 =	862s
3 Rok ZUNIC	SLO	300	300	242 =	842s

Show Models...Oddrocs beware!

No one was betting on anyone else except John Jacomb. JJ's 'scale model' of *Westminster's Big Ben*, just astonishing. The use of an Serb Ultra E44-5 motor was inspired; the 'building' flew superbly and recovered perfectly. Golden Dragon!

1 John JACOMB	<i>Westminster's Big Ben</i>
2 Uros JENKO	<i>5th November on water..</i>

Ljubljana Love Affair...

Magic! ..but Ljubljana always is. Well done ARK Komarov, Contest Director Tone Sijanec; RSOs Marjan Cuden and Matevz Dular...fantastic. The FAI Jury comprised Srdjan Pelagic (SRB), Vera Pavkova (CZE) and Joze Cuden (SLO) and had little to do. Your Editor honoured to judge S7-Scale with Nikola Cvjeticanin and Matevz Dular. Ljubljana is what Space Modelling is all about.

FAI Awards ~ 12th

October 2011...

Belgrade, Serbia

FAI Communications Manager... Faustine Carrera

AVIATION Personalities were honoured at the 2011 FAI Awards Ceremony, held in Belgrade, Serbia, as part of the Opening Ceremony of the 105th FAI General Conference. Coming from all round the world, more than 20 recipients of FAI diplomas and medals were presented with their awards, by FAI President John Grubbström.

Honorary Group Diploma

This diploma is awarded to groups of people that have contributed significantly to the progress of Aeronautics or Astronautics.

Civil Aviation Directorate of the Republic of Serbia; Baló Club Mediterrani; Aeroklub Memorial Air Show Roudnice nad Labem; Ballonsportgruppe Stuttgart e.V.; Polish Air Navigation Services Agency – PANSA.

Paul Tissandier Diploma

This diploma is awarded to those who have served the cause of aviation in general and sporting aviation in particular, by their work or devotion.

Garry Georkov	Nikola Cvjeticanin
Pedro Cabañero Marimón	José María Lladó Costa
Beat Neuenschwander	Erdogan Menekse
Tahsin Tekin	David Pilkington
Jack Krine	Stanisa Petrovic
Antonio Dentini	Kjell Thore Olsen

Gold Rotorcraft Medal

This medal rewards a particularly remarkable achievement in rotorcraft including use as a sporting vehicle, or eminent

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services to the development of rotorcraft over an extended period of time.

Irina Grushina

Lilienthal Gliding Medal

The diploma is awarded for a particularly remarkable gliding performance, or eminent services to gliding, to a currently active glider pilot.

Reiner Rose

Nile Gold Medal

This Medal, established in 1972, is donated annually by the Aero Club of Egypt to the FAI. It is awarded to a person, group of persons or organization to reward distinguished work in the field of aerospace education, particularly during the year preceding the award.

Edgardo Rezzonico

Santos-Dumont Gold Airship Medal

This Medal, established in 1994, honours Alberto Santos-Dumont for his contributions to the developments and to the sport of flying airships, culminating in his historic flight around the Eiffel Tower in Paris, on October 19, 1901, thus winning the Deutsch Prize. 100 medals are contributed by the Virgin Islands Aero Club.

Leonid Tyukhtyaev

V. M. Komarov Diploma

This Diploma was established by the FAI in 1970 to honour the memory of Soviet Cosmonaut Komarov who participated in the world record space flight of Voskhod 1 in 1964, and who lost his life while serving on a cosmic flight. It may be awarded annually to astronauts, members of multi-seater crews, for outstanding achievements in the field of exploration of outer space in the previous year. The maximum number of crews to be recognized annually shall be three.

Crew of STS-Mission 130; ISS Ass'bly Mission 20A

In total, 85 aviation personalities and groups have received an FAI award this year.

Editor's note.. CONGRATULATIONS to all recipients!

Body Tubes for S7-Scale models... Geoff Seabrook gets rolling!?!

BODY TUBES are a key element of any Scale model and if Estes' catalogue doesn't have the diameter you need, well,...you need to do some work. Enough of me, let's go to Geoff..

"I've been making a Scud C using plans from.. <http://www.dpileggispicks.com/erictruax%27sscuds/scubc.html> "...the first couple of attempts to roll the body tubes were not successful so I decided to try the process in his instructions:"
"...Personally, I recommend the 'mandrel-heat' method by obtaining a pipe, such as PVC, or a dowel that is under 40mm in diameter, as that is the outer diameter of the SCUD model, and building it up, using cardstock, and regular paper to get the exact fit. Test wrap one of the sections around the Form/Mandrel. Do not worry about where the inner part of the wrap is, just worry about matching up the outside marks. You will see that the end is left green, whereas the inside has a darker line. The green end should cover this, except where there is also a dark line on the end, and the inside, then they should match up on top of each other."

"Pay close attention to where the hatches and other marks are, as you want as close a fit as possible for a good appearance, and especially so that they can be properly joined together. Remember, the more solid, tighter and smoother your mandrel is, the better the completed tube section will look".

"So you put heat activated glue on the inside section and let it dry. Wrap around the mandrel and then use an hot iron to activate the glue and create the tube. I've been pleasantly pleased by the quality of my early experiments and with practice I know even a ham fisted person like me can produce a decent model. I plan to modify the Black Knight to use the same process for the main body tubes."

Editor's note.. Super...and innovative too. There is more to Space Models' construction than cardboard tubes, or even bodies moulded from contemporary composites.

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Honest guv...*Honest John* as it should be...

Jason Wentworth becomes an Honest Broker?!?

MORE on the S7-Scale debate...yet more from Alaska's Jason Wentworth! The Editor has built a couple of *Honest Johns* in his time and had a problem of two accumulating sufficient data to improve on Estes' fine kit. Over to Jason..

"I found photographs of two "new" (and very colourful) paint schemes for the M50 Honest John. See:

www.oldrocketforum.com/showthread.php?p=129700#post129700

...the main source page--with photos and specifications for many different missiles and rockets, is here:

www.postwarv2.com/moreRockets.html

.. which could be incorporated into the new Estes Mini Honest John scale model rocket kit. See:

www.estesrockets.com/002246-mini-honest-john

"One of the two paint schemes is very easy to create using only simple masking. The M31 Honest John (in the other photographs on that web page) also used the simple two-colour (red and white) paint scheme that is shown on an M50 Honest John in the left - most attached photograph - in my above-linked 'Ye Olde Rocket Forum' posting. That basic but attractive paint job could be an "entry-level" masked paint scheme for beginning scale competitors".

More stuff to on a something completely different..the French *Onera Tactite* rocket.."

"Below is scale data on a French sounding rocket that would make a good beginners' scale model rocket. Its lack of compound curves (several of them flew with biconical nose cones, although the vehicle could also use a 3:1 tangent ogive nose cone from a related

vehicle) also makes it a good scale subject for a cardstock flying model rocket. The only missing information is the color data, although I'm pretty sure that the vehicles were red with yellow lettering (can any of your **interspace..** readers confirm or correct this?)."

"In the spirit of Peter Alway's book "Scale Bash" (which contained scale data, fin patterns, and body tube lengths for scale model rockets that could be built from various non-scale Estes kits), below are links to scale data on the French ONERA TACITE ("Tacitus" in Latin and English) sounding rocket. This single-stage, solid propellant vehicle could send a 200 kg payload to an altitude of 200 km. A scale model of it could use the BT-50 size 3:1 tangent ogive plastic nose cone that is found in the Estes Alpha kit, or (for a larger-scale TACITE model) the BT-60 size 3:1 tangent ogive plastic nose cone in Estes' StormCaster kit could be used." Also:

"The TACITE photographs on the several below-linked web pages show vehicles fitted with biconical nose cones, but the vehicles could also use 3:1 tangent ogive nose cones (from the related TITUS sounding rocket", see:

<http://www.probertencyclopaedia.com/cgi-bin/res.pl?keyword=ONERA&offset=0>

"..The biconical nose cone-equipped TACITE rounds would make good cardstock models (their faceted "wedge-section" clipped delta fins with blunt, square-cut trailing edges also lend themselves to cardstock construction). Below are seven links to material on the TACITE sounding rocket":

[1] http://publications.onera.fr/exl-doc/DOC89593_s1.pdf (has fin and payload details)

[2] <http://www.probertencyclopaedia.com/cgi-bin/res.pl?keyword=measurements§ion=.&offset=20>

[3] <http://www.astronautix.com/lvs/tacite.htm>

[4] <http://membres.multimania.fr/europespace/1965.html>

[5] (English translation of [4]):
<http://translate.google.com/translate?hl=en&sl=fr&u=http://membres.multimania.fr/europespace/1965.html&ei=>

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10%26hl%3Den%26sa%3DN%26biw%3D792%26bih
%3D377%26prmd%3Dimvns](http://www.flightglobal.com/pdfarchive/view/1965/1965%20-%201898.html)

[6]

<http://www.flightglobal.com/pdfarchive/view/1965/1965%20-%201898.html>

[7]

<http://www.flightglobal.com/pdfarchive/view/1968/1968%20-%200171.html>

More Geography! ...to Indonesia!

"Below is information on the Indonesian RX-200, RX-320, and RX-420 sounding rockets. "RX" stands for "Rocket eXperimental, and the number following the "RX" prefix denotes the rocket's diameter in millimeters; thus, the RX-320 is 320 millimeters in diameter. I have also included information on scaling models from photographs; the information is from "The Art of Scale Model Rocketry" by Peter Alway".

"The tsunami that swept across the Pacific a few years ago inspired Indonesia's amateur radio organization ORARI and LAPAN (Indonesia's space agency) to develop "suborbital communications satellites" that can relay signals from 2 meter band (145 MHz) hand-held amateur radio transceivers in order to direct search & rescue personnel and aid workers to disaster-affected areas. Their tests utilized small RX-200 sounding rockets (see page 6 of this LAPAN document ["PENGEBANGAN ROKET PENGORBIT SATELIT (RPS)]," ...see:

http://www.lapan.go.id/annual/file_pdf/bab_01.pdf

".. and this article ["LAPAN Sukses Uji Terbangkan Muatan Satelit LAPAN-ORARI," see: <http://nias-spaceport.blogspot.com/2010/06/lapan-sukses-uji-terbangkan-muatan.html>

"..which carried 2 meter band repeater payloads that descended slowly under parachutes."

"The same RPS report from LAPAN, Indonesia's space agency. see:

http://www.lapan.go.id/annual/file_pdf/bab_01.pdf

"..contains good close-up photographs of their RX-320 and RX-420 sounding rockets (as well as pictures of

other test vehicles). I am working on getting dimensioned drawings of the RX-200, RX-320, and RX-420 from LAPAN, but even if such scale data is not forthcoming, models of these rockets could be scaled directly from the photographs since the RX-320's and the RX-420's lengths as well as their diameters are known. (I have given them below--they are from "Indomil's Blog". see:

<http://indomil.wordpress.com/tag/rocket/>

"..which is in English.) [The RX-200's length could be determined from the photograph in this article: "LAPAN Sukses Uji Terbangkan Muatan Satelit LAPAN-ORARI," see: <http://nias-spaceport.blogspot.com/2010/06/lapan-sukses-uji-terbangkan-muatan.html>

"...Below the rockets' dimensions are links to other photographs of them and information on them. Scaling from photographs works as follows (this information is from "The Art of Scale Model Rocketry" by Peter Alway):

"The first step in working from such pictures is to establish a scaling factor. It may be wise to try two scales, horizontal and vertical. This corrects for foreshortening in photos and copying distortions in drawings."

"Fortunately, overall length and maximum diameter are easy to look up for most rockets...From this you can determine an overall length and diameter for your model. To find the picture scaling factors, measure diameter and length from the photo. For the vertical factor, divide the model length by the length on the picture. For the horizontal factor, divide the model diameter by the photo diameter."

"Now you can measure the details directly from the illustration, multiply by the appropriate scaling factor, and have the correct model dimension of the detail."

"Below are the RX-320 and RX-420 overall length and diameter, and at the bottom are links to more material on both vehicles":

RX-320 Length: 4736 mm
 Diameter: 320 mm

RX-420 Length: 6200 mm

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Diameter: 420 mm

“Here are links to more material on the RX-320 and the RX-420:

<http://www.globalsecurity.org/space/world/indonesia/rps.htm>

<http://space-tourism-indonesia.blogspot.com/2011/05/another-slv-rocket-from-lapan.html>

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

<http://indomil.wordpress.com/2009/07/02/indonesian-rocket-institute-successfully-launched-rx-420-rocket-this-morning-july-02-2009/>

<http://indomil.wordpress.com/tag/rocket/>

http://www.space-travel.com/reports/Indonesia_launches_rocket_into_space_999.html

<http://www.lapan.go.id/>

http://www.space-travel.com/reports/Indonesia_launches_rocket_into_space_999.html

<http://www.lapan.go.id/>

“I reckon that’s enough for this issue”.

2011 World Cup final rankings... *Srdjan Pelagic lines them up.*

SUPER World Cup season and I take the opportunity to thank all organisers, officials and competitors around the World. First of all, there are several notes on this competition season..

1. There were 22 events in 16 countries, across 3 continents: Europe, Asia and America. Organisers were: BLR, BUL, CRO, CZE, ESP, GBR, KAZ, LAT, POL, ROM, RUS, SLO, SRB, SVK, USA, UKR. Six countries have organized two World Cups. Welcome to Croatia who organised a World Cup for the first time in history!

2. In addition to sportsmen from the organising countries, there were also entrants from: CAN, GER, ITA, LIT, EST, MKD and... *GREECE!*

3. All events on the FAI SM Contest Calendar were successfully run as planned, with no cancellations! Only classes S7 and S8E/P in CZE, were not held because of bad weather conditions.

4. Some of the events were enriched with some SM non-WCup classes, as Open Internationals. These were S1B and S3A, plus Show Flights.

5. There was disproportionate participation, between duration and the more sophisticated classes S7-Scale and S8E/P-RC Rocket Glider. This needs examination.

6. There was also a big difference in participation between events held in Central Europe and in some other parts of the world. The range is ~4:1!! We must do our best to ensure much better participation in some events. Key focus... we need ALL EVENTS, IN ALL CLASSES, IN ALL COUNTRIES!!!

7. There are ties for the first time, after adding together the three best events - the fourth result was decisive in all classes, *except S7*. I marked three best results in different colours in the tables, for competitors holding first 10 places and the fourth result is marked Red. If this is repeated next year, we may need to think about a better method of points' allocation.

8. There was also a big difference in participation of sportsmen from different countries - from 2 in GBR to 11 in 33rd Ljubljana Cup (Slovenia) [Fenix fielded 10...not bad for a first attempt!?! -Ed]. the latter with ~60 sportsmen. This made the event a mini-European Space Modelling Championships! Should we think about awarding points also for the *number of participating countries* - not just for *the number of participants*? Let's hear from you.

Let's go to the Big Players' rankings..

S4A-Boost Glider

1 Zivan JOSIPOVIC	SRB	335pts
2 Radojica KATANIC	SRB	318pts
3 Aleksandr LIPAI	BLR	318pts
4 Jaromir CHALUPA	CZE	299pts
5 Marjan JENKO	SLO	280pts

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S6A-Streamer Duration

1 Radojica KATANIC	SRB	337pts
2 Zivan JOSIPOVIC	SRB	322pts
3 Plamen JORDANOV	BUL	314pts
4 Vladimir CIPCIC	SRB	313pts
5 Marjan JENKO	SLO	313pts

S7-Scale

1= Wojciech KRZYWINSKI	POL	331pts
1= Miroslav STANCEVIC	SRB	331pts
3 Vladimir MENSNIKOV	RUS	326pts
4 Bedrich PAVKA	CZE	307pts
5 Zika JOSIPOVIC	SRB	300pts

S8E/P-RC Rocket Glider

1 Mitija ZGAJNER	SLO	335pts
2 Alexei KORIAPIN	RUS	324pts
3 Vladimir CIPCIC	SRB	318pts
4 Gregoriy SERGEYNKO	RUS	312pts
5 Wojciech BOBROWSKI	POL	301pts

S9A-Gyrocopter Duration

1 Boris LEKOV	BUL	332pts
2 Vasil PAVLJUK	SVK	324pts
3 Jaroslav CHMELIK	CZE	312pts
4 Zoran KATANIC	SRB	310pts
5 Bedrich PAVKA	CZE	283pts

Editor's note.. FAIR enough, *the Kingdom is re-United*

READERS may be aware that there have been differences between the Editor and the *FAIRocketry Group* (FAIR), which coordinates FAI Space Modelling within the British Model Flying Association (BMFA), here in the UK. Some fairly robust, but ultimately very positive, discussions took place at the 33rd Ljubljana Cup. The outcome is that the Editor is now a member of FAIR and we are in a position to take Space Modelling forward in the UK and beyond. Please see the letter written the day

after the 33rd Ljubljana Cup by myself, to FAIR Chairman, Mike Francies..

Dear Mike,

SUPER meeting you and the rest of Team GB at the 33rd Ljubljana Cup, this weekend. We enjoyed some very positive discussions regarding my status, since you deleted me from BMFA's CIAM Experts/Judges' list. As you are aware, Slovenia adopted me into their fold and i have judges at World Cups during 2011.

Naturally, this position is untenable in the long-term and I would like to join the FAIR group forthwith. You are aware that I wish a reduced commitment to Space Modelling at the present time and do not wish a committee post of any kind. However, I look forward to making a positive contribution for the benefit of Space Modelling.

I would like you to consider replacing my name on the FAI-CIAM Experts/Judges' list from 2012 onwards. Playing a key role on FAI Juries and as a Scale Judge has proven to be a very satisfying experience and would like it to continue.

Certainly, should any of the above require clarification, please contact me and we can thrash out the key issues. I apologise for any traumas I may have caused you in the last couple of years. Our objectives are now as one...Best wishes.
Yours etc...

Subsequent domestic communications between FAIR and the Editor have been both positive and constructive. One point in the letter above does need clarification - *the Editor has now been reinstated on UK's FAI-CIAM Experts/Judges' list for 2012* and not suffering in the stressful limbo in which he found himself in 2011. This should conclude any conflict that has resulted. We go United...Onwards and Upwards.

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2012...already!!

International Rocketry

Challenge ~ Farnborough

International Airshow, 13th July '12

by **the Editor**

INTERNATIONAL Rocketry Challenge (IRC)

...Team America Rocketry Challenge

(TARC)...Farnborough International Airshow...

what's it all about then?!? The Editor has been offered the chance to assist in the running of the IRC at Farnborough, on 13th July 2012, with accomplished American TARC legend, John Hochheimer.

NAR's Trip Barber chips in..."TARC and IRC have nothing to do with FAI Space Modelling, but are a completely different form of rocketry contest. The *International Rocketry Challenge* uses similar flight rules, but with only one flight and with a presentation competition factored into the final score. This is our tenth year of operating this challenge in the US. We typically have about 700 teams enter and we take the top 100 at our national finals for a head-to-head flyoff, which will be in May 2012. See the event website..

www.rocketcontest.org

..for greater details and more resources".

"John Hochheimer runs the awards ceremony at the US finals - I am the overall event director - and is the NAR expert designated to assist AIA and manage the rocketry part of the international finals. He can better inform you concerning which international participants may be expected and how the event has been run previously in the UK and in France."

"Thanks Stuart, for being involved in this IRC event. We plan to propose a variant of it to Mr Srdjan Pelagic as a future FAI competition event, but we do not see the need of having FAI take a role in running our

International Rocketry Challenge for students. We think that its attraction for FAI may be that it is a *precision-performance event* (like S8E/P), which uses large, loud and crowd-appealing motors, coupled with original airframes. The combination of airframe and motors used, to achieve the precise performance required, is entirely at the discretion of the contestant." **Srdjan Pelagic** says..." I have received a very interesting proposal for a new FAI event by NAR President, Trip Barber, on behalf of USA Spacemodellers. It is called '***Class S2/P - Precision Fragile Payload Competition***'. It is based on the Egg Lofting competitions, well-known and popular in the USA for decades". Let's check it out...

"What is different in comparison to our standard FAI competitions? In S2/P there is a target altitude of 300 metres and the target flight time of 60 seconds. You load a fragile payload of ~45mm in diameter, weighing ~60g and launch it three times with one single-staged model, to try to achieve an altitude as close as possible to 300 metres and to make your flight in 60 seconds; payload..eggs, must be unbroken!"

"Scoring is simple - difference between your recorded flight and 300 metres (always *positive*) plus 3 times difference between duration of your flight and 60 seconds (always *positive*). The lowest total sum is the winner!"

"Everything else is *FREE* and *UNRESTRICTED*, allowing your imagination to design the model and to use any combination of engines. If accepted, this class will introduce completely new designs and open new horizons. Specifics - to be sure that only safe models are flown, they will be inspected *before* the first flight and marked/registered and contestants will be obliged to submit technical data on their model about the flight performance in relation with the *SC4 Volume SM paragraph 2.4.5*".

"What do we get with this class? New designs; different models in ONE class; fast action competitions and easy-to-understand rules, such that spectators may actively participate in this event. Let's hear your comments very soon"

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Tomorrow... and no time for *antidisestablishmentarianism!*

THINK... What if there was no Space Modelling?!? What if rocketry propellants and simple kits became available tomorrow?!? The World is a different place, with much more going on. Would G. Harry Stine have dreamed up an array even resembling the 'S-classes' we take for granted?!?

First up...I think we would have Altitude as a class, or classes. Anything to do with Rockets always gets people asking, "...How high do they go?" Naturally, there is no guarantee that we would end up with anything like S1 and S5. We might go for *Target Altitude* and score by percentage error. Scale models – it's likely we would wish to have an elite *scale models* event - always popular with spectators. Whether it would be as historically academic as contemporary S7-Scale is a matter for debate. Duration events – even more debate! Would we even think of copying F2-Free Flight Aeromodelling and conceive *duration* classes for parachutes, streamers and gyrocopters, supporting small and very light rockets?!? ..or might we go for '*Target Times*' instead. Gliders – just possible that the Space Shuttle might inspire some form of *Glider* class, definitely *radio controlled* and with *tasking* objectives in the scoring. However, it's likely that we'd be thinking bigger rockets, under greater specific impulses, across the spectrum.

Who says we can't be original and re-invent the wheel?!? In fact, the American 'Egg Loft' proposal sketched above, is not the only proposal coming to life from global sources viz.. CANADA - *Liviu Faciu*; CZECH REPUBLIC - *Vera & Bedrich Pavka*; GERMANY - *Gerhard Woebeking & Jonas Buecht*; FRANCE - *Guy Revel*; POLAND - *Leszek Szwed*; ROMANIA - *Ion Guzu & Gabi Constantinescu*; RUSSIA - *Vladimir Minakov*; SLOVENIA - *Marian Jenko*; SLOVAKIA - *Miodrag & Zoran Pelagic + Peter Matuska*; SERBIA - *Miodrag & Vladimir Cipcic*; UNITED KINGDOM - *Mike Francies + UK team* and obviously, USA - *Trip Barber, Tony Reynolds & Chris Flanigan*. Positively swamped!!

In more detail, the TARC & IRC event, is essentially sophisticated Egg Lofting, which remains very popular

in the United States. Remember, TARC is a tried and tested competition event now. But would it work at an FAI World Cup event, with ~50 coming to the *rampa*?!? It would need good contest management to supply/monitor the eggs, but timekeeping probably less of a challenge than now. Payloads – naturally, we are considering 2 chickens' eggs and boosting under a fairly 'meaty' specific impulse to ~300m.

A variation might be to substitute *Golf balls* for the eggs?!? Wot...available worldwide with a tightly controlled specification:

- Diameter 1.68" (42.67mm)

- Weight 1.62oz (45.93g)

OK...not a 'fragile payload', but might make life just a little easier for organisers. Just be assured that these words are meant as no criticism whatsoever of the brilliant NAR proposals. And just maybe...why *TWO* Eggs, or *Golf balls*?!? If we didn't want to go that big, ONE of each could be flown happily enough, under less motor impulse. A small 'downer' with egg lofting is the opportunity of switching damaged eggs, before returning to the rangehead for checking – cheating!. Another, on windy days, is for a perfect flight and parachute recovery to occur, with a gentle landing. But then, the rocket and egg is dragged ~100m downwind and regally scrambled!

We're trying to make Space Modelling more spectator-friendly, more understandable and more relevant to the present world. Just be aware though...how much do spectators contribute to us? ..how much do they tell their friends? ..how many of them will join us? Not a lot really?!? Remember too, if changes we choose to make reduce the numbers we expect to see at Major Champs and World Cups, then we have got it wrong. Also, do we think the Aero Modelling community in CIAM is taking steps as fundamental as we are considering? Big issues.

But keep those ideas flowing in...remember, *antidisestablishmentarianism** is not an option!

***Definition as follows: it was originally based on opposition to the dis-establishment of the Church of England, in the 19th Century. It is popularly cited as the longest word in the English language. Oh yes, now something you've all been waiting for...**

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interspace.. *Space Modeller of the Year*

..2011 and all that! by the Editor

THIS was really tough! In fact, it gets tougher every year! I even lost a bit of sleep thinking about this award, because there are so many in the mixer – just check out the World Cup top-5s – for this one. S8E/P-RC Rocket Glider has endured a mediocre season, on the back of a stellar 2010. The reasons are unclear, but one thing is beyond doubt, there has been one mega performer who starred wherever he has travelled, I will list his 2011 World Cup results below:

7 th Catalunya Cup	1 st S8E/P-RC Rocket Glider
11 th Sirmium Cup	1 st S8E/P-RC Rocket Glider
5 th Vega Cup	2 nd S8E/P-RC Rocket Glider
Zielona Gora Cup	1 st S8E/P-RC Rocket Glider
Liepaja Cup	1 st S8E/P-RC Rocket Glider
European Space Modelling Champs	
	Team Bronze S8E/P-RC Rocket Glider
1 st Fenix Cup	1 st S8E/P-RC Rocket Glider
33 rd Ljubljana Cup	1 st S8E/P-RC Rocket Glider
	1 st S6A-Streamer Duration..
FAI S8E/P-RC Rocket Glider ‘ overall World Cup	
	GOLD!!

Mitja Žgajner..

interspace.. *Space Modeller of 2011!!* Well done, my good Slovenian friend and best wishes for Christmas and 2012.

CONGRATULATIONS..

..Mitja is a member of the well-known *ARK Vega Club*, which is a veritable hotbed of Slovenia’s Space Modelling talent. In addition to flying S8E/P-RC Rocket Gliders, he is a fully qualified, full-size glider pilot! Other interests include classes F5J & F3K.

Mitja often shares airspace with brother Matjan, with father Miran frequently driving the ‘taxi’ to events and acting as manager to *ekipu Žgajner*. Once more, congratulations on a magic 2011...let’s hope you’ve inspired plenty of others to give you some competition!

Tailgate... *that’s all mate!*

THAT signs off 2011! 2012 will be with us all too soon and I for one can’t predict what it will be like. The first interspace.. of next year will contain the new season’s FAI Space Modelling Calendar, which is likely to be at least as impressive as this years has been. Will there be new events in the list? ...soon see!

STOP PRESS...

Space Day at Droitwich Library – UK

21st January 2012

Victoria Square ~ Droitwich ~ WR9 8DQ
‘Phone 011905 771058

Exhibitors confirmed so far:

1. British Rocketry Oral History Programme

<http://www.brohp.org.uk/>

2. Leicester Space School/Outreach

<http://www2.le.ac.uk/departments/physics/outreach>

<http://www2.le.ac.uk/departments/physics/outreach/space-school-uk>

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3. Black Knights

<http://www.blackknights.org.uk/>

4. Space Modelling - Stuart Lodge [wot...who?!? - Ed]

<http://shop.traplet.com/product.aspx?c=3314>

5. Bromsgrove Astronomy Society

<http://www.broms-astro.co.uk/>

6. Midland Spaceflight Society

<http://www.midspace.webspace.virginmedia.com/>

7. Gurbir Singh promoting his book, "Yuri Gagarin in London and Manchester"

<http://www.amazon.co.uk/Yuri-Gagarin-London-Manchester-ebook/dp/B0059IBK3E>

8. Spaceguard Centre

<http://www.spaceguarduk.com/>

9. Rocket Workshops Ltd

<http://www.rocket-workshops.co.uk/>

10. Astro Info Service

<http://www.astroinfoservice.co.uk/>

11. Spaceflight UK

<http://www.spaceflight-uk.com/>

12. Space Boosters

<http://www.space-boosters.co.uk/>

13. Summerfield Old Boys 60th Anniversary

Will provide a write up..

14. The British Interplanetary Society

<http://www.bis-space.com/>

15. Delta Vee Ltd

<http://www.marlow-horwood.supanet.com/>

...And now, before I sign off completely:

**HAPPY CHRISTMAS and a Prosperous
New Year to all readers!!**

*I look forward to seeing so
many of you, during 2012.*

ooooooooooooOoooooooooooo

interspace..