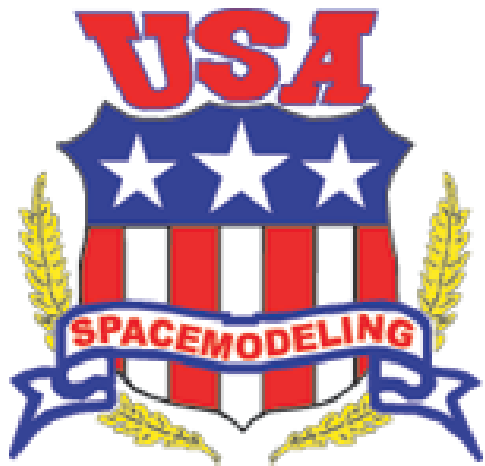


The U.S. Team in the 2014 World Spacemodeling Championships



World Spacemodeling Championships

- Sponsored and sanctioned every 2 years by the F.A.I.
 - Always the same 8 events, run under F.A.I. international rocketry rules
 - Ceremonies and protocols closer to Olympics than to NAR competition
 - Two championships/teams: one for Seniors (19 and up), another for Juniors
- Hosted based on voluntary bids from one of ~25 participating countries
 - Normally in Eastern Europe at the end of August, on very big flying sites
 - Typically 350 participants: Senior and Junior teams and supporters
 - Largest national teams are normally USA, China, and Russia – 22 total this time
- Held in 2014 in Kaspichan, Bulgaria – 50 miles west of Varna (Black Sea)
 - Hotel in nearby city of Shumen
 - Bulgaria's 3rd time hosting WSMC (1978, 1985) and their best



**2014 FAI WORLD
CHAMPIONSHIPS
for SPACE MODELS**
20th for SENIORS
11th for JUNIORS
22-30 august 2014
Kaspichan Bulgaria



сЪС СЪДЕЙСТВОТО НА



U.S. International Spacemodeling Team

- Sponsored by the NAR, working through AMA
 - NAR and Aurora each provide \$14K of support (uniforms, motors, bus, fees)
 - Team members/supporters pay own airfare/lodging costs (~\$3500) with Junior competitors getting a partial subsidy from NAR/Aurora
- Selected by competitive flyoff at NARAM one year in advance
 - Next team will be selected at NARAM-57 in Tucson
 - 2016 WSMC is supposed to be held in the Ukraine
- 2014 US Team was 10 Juniors, 18 Seniors, 16 supporters/managers
- Going overseas to fly rockets in competition is an adventure!
 - Highest level of craftsmanship, teamwork, and flying skill demanded
 - Luggage, support equipment, motors, schedule, food, language all challenges
 - But good teammates become friends for life



Event Schedule

- Friday, 22 August
 - Arrival at Shumen, Scale turn-in
- Saturday, 23 August
 - Test-flying, engine testing on field
 - Evening opening ceremony at Pliska
- Sunday, 24 August
 - S2P (TARC-like) demonstration event
 - Junior S1A (Altitude), Senior S6A (SD)
- Monday, 25 August
 - Junior & Senior S3A (PD)
 - Senior S1B (Altitude), Junior S9A (HD)
- Tuesday, 26 August
 - Senior S4B (RG), S5C (Scale Alt)
 - Junior S5B (Scale Alt), S8D (R/C RG)
- Wednesday, 27 August
 - Senior S9A (HD), S8E/P (R/C RG)
 - Junior S4A (RG), S6A (SD)
- Thursday, 28 August
 - Junior & Senior S7 (Scale)
- Friday, 29 August
 - Tours of Shumen or Varna
 - Closing Banquet at Hotel Shumen

Flying days began with 7 AM bus out, ended with 8:30 PM bus back



The “Hotel Shumen Grand” – 4 Bulgarian stars



Downtown Shumen is marked by monuments and marred by an abandoned partly-built hotel



There were several local transportation options; we preferred the bus



A WSMC range is large, elaborate, and well-staffed – more like TARC than NARAM



Bucolic scenes from downrange in the recovery area;
unfortunately sunflowers are a major Bulgarian crop



Olympic-like opening ceremony at site of Pliska, Bulgaria's first capital (681 AD)



This time no team had more or better motor choices than Team USA, thanks to Matt Steele and Steve Kristal





Team USA flew S2P (the FAI version of TARC) as a demonstration event and got lots of interested observers – but no one else joined us in flying it



Timers at a WSMC are normally a mix of local high school kids and people provided to the timer pool by some national teams.

Flying into thermals is the goal for all duration events, so sensing them is important.



The US S3A (PD) team put a flier (Kevin Johnson) into a 12-person first-round flyoff for the first time ever in this event.

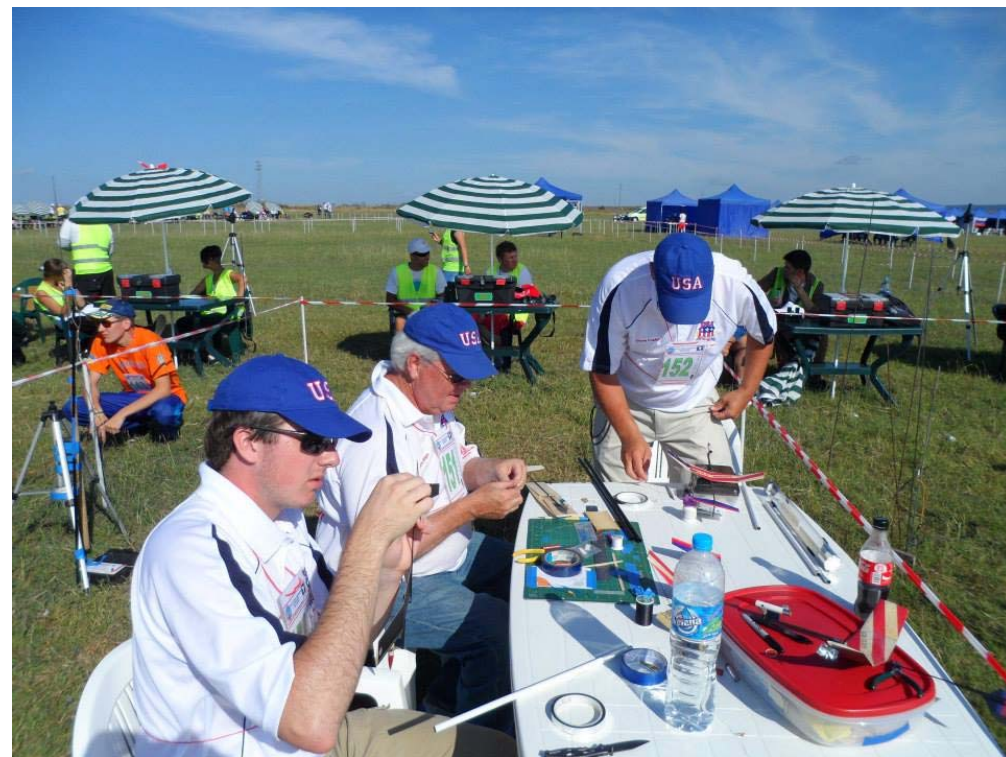




Altitude (S1B for Seniors, S1A for Juniors) is always flown with 2-stage models with tiny upper stages. The S1B medalists all went over 2000 feet!



Rocket-glide (S4A) is normally flown with swing-flop wing designs, although two of the US Senior team used slide-wings.



Events are flown by 3-person teams who develop models together, work together, and fly in the same lane in each round. Here are the Junior S1A (Altitude) and Senior S4A (RG) teams at work in the competition.



The awards ceremony at the end of each day's flying was elaborate and Olympic-like, including presentation of trophies and FAI medals, raising of national flags for the three medalists, and playing of the national anthem of the gold medal winner – often after dark, by headlights



Stoil Avramov brought Team USA its first 2014 medal, a silver in Junior S4A – won in front of his Bulgarian friends and family in their native country!



Scale Altitude (S5B Junior, S5C Senior) has strange dimension rules and is dominated by Bumper-WAC models. The Aurora “Space Grant” prototype flown by Alyssa Stenberg was an unusual approach.



Alyssa Stenberg's gold medal in Junior S5B (Scale Altitude) was the first individual US gold since 2004.



First US Senior individual medal since 2008: Trip Barber won bronze in S9A after a 5-person flyoff round.





The Junior S8D (R/C) Rocket-Glide team won an individual silver medal (Alyssa) and a team silver (with Zack Stenberg and Brendan O'Bryan)



The US Senior S8E/P R/C RG team flew well, but did not medal.



The Scale judges had a lot of work to do measuring and judging this collection!



The 3 US Senior S7 (Scale) entries included Mike Nowak's Little Joe



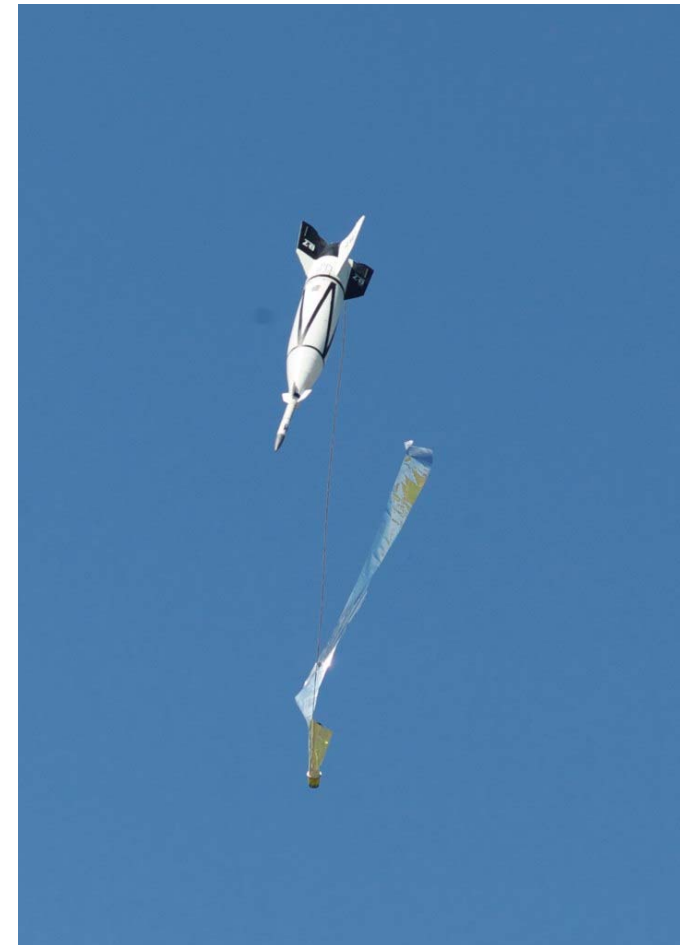
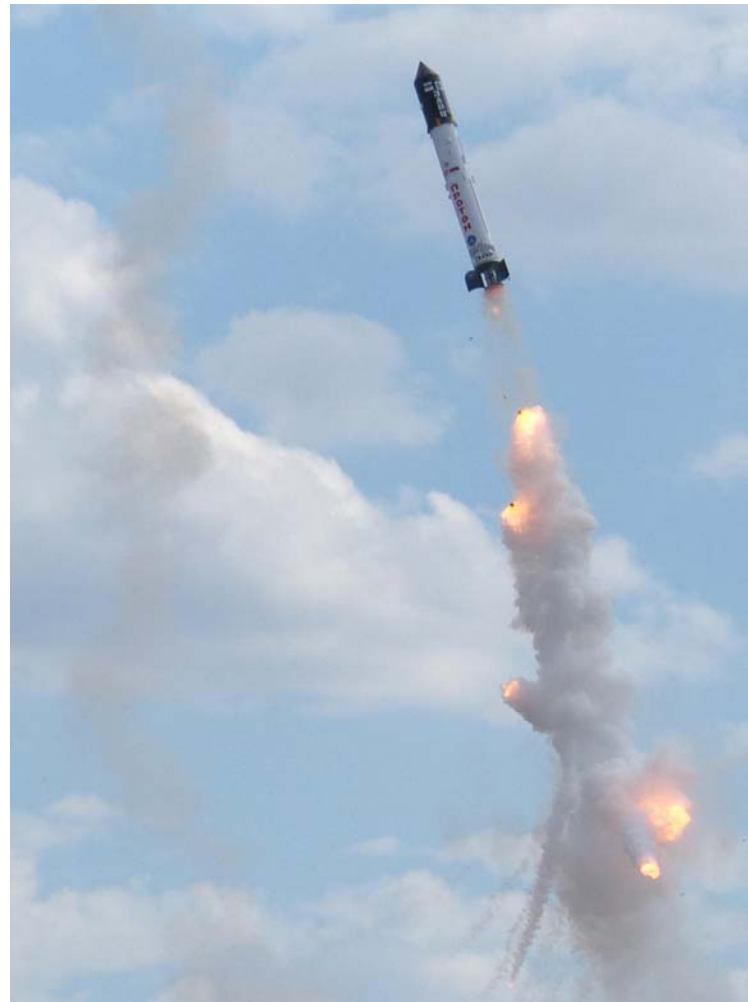
Marc McReynolds entered a Spartan, which needed some repair after its first flight but flew great the 2nd time



Chris Flanigan flew a beautiful staged Saturn 1B in Senior S7 and Allison VanMilligan flew a Saturn 1B in Junior. Daniel Kelton flew a Bumper-WAC as the second US Junior entry.



The Proton, Soyuz, and Long March are popular S7 choices with other nations – always with staging and clustering.



Some flights of these complex scale models are less than “nominal”!



Friday was tour day – lots of the US Team went to the Black Sea beach and the military museum at Varna



The mountain above Shumen is the site of this monument to the founders of Bulgaria (7th-9th Centuries AD) – including the first, King Asparuh





Friday night was the closing banquet – and the Juniors cut loose to the deafening sounds of East European rock

Event Results I

S1 (Altitude): S1A Juniors, S1B Seniors

	Score	Place		Score	Place
Juniors: Gold was 367 meters			Seniors: Gold was 694 meters		
Emma Kristal	292	12 of 33	Trip Barber	611	7 of 48
Allison VanMilligan	232	23	Matt Steele	531	16
Ashley VanMilligan	0		Steve Kristal	0	
Junior Team	524	8 of 11	Senior Team	1142	7 of 14

S3A (Parachute Duration)

	Score	Place		Score	Place
Juniors: Gold was 1320 sec			Seniors: Gold was 1610 sec		
Daniel Kelton	759	12 of 38	Kevin Johnson	1055	9 of 54
Emma Kristal	740	16	Steve Kristal	600	42
Rachel Nowak	300	35	Terrill Willard	300	52
Junior Team	1799	8 of 12	Senior Team	1800	13 of 17

S4A (Rocket-Glider Duration)

	Score	Place		Score	Place
Juniors: Gold was 540 sec			Seniors: Gold was 840 sec		
Stoil Avramov [Silver Medal]	527	2 of 37	Brock Hampton	412	20 of 53
Zack Stenberg	401	12	Steve Foster	303	31
Brendan O'Bryan	168	32	Chris Flanigan	220	39
Junior Team	1096	5 of 13	Senior Team	935	10 of 17

Event Results II

S6A (Streamer Duration)

Juniors: Gold was 540 sec

	Score	Place
Ashley VanMilligan	250	26 of 37
Rachel Clark	122	36
Rachel Nowak	42	37
Junior Team	414	12 of 13

Seniors: Gold was 515 sec

	Score	Place
Terrill Willard	329	24 of 53
Steve Humphrey	304	28
Jay Marsh	95	51
Senior Team	728	13 of 17

S8 (R/C RG): S8D Jr, S8E/P Seniors

Juniors: Gold was 1228 pts

	Score	Place
Alyssa Stenberg [Silver Medal]	1178	2 of 25
Zack Stenberg	1055	10
Brendan O'Bryan	953	12
Junior Team [Silver Medal]	3186	2 of 7

Seniors: Gold was 3993 pts

	Score	Place
Matthew Berk	2640	11 of 38
Keith Vinyard	2179	24
George Gassaway	1684	31
Senior Team	6503	9 of 14

S9A (Autogyro/Helicopter Duration)

Juniors: Gold was 733 sec

	Score	Place
Alyssa Stenberg	429	15 of 37
Allison VanMilligan	236	31
Stoil Avramov	188	33
Junior Team	853	10 of 12

Seniors: Gold was 840 sec

	Score	Place
Trip Barber [Bronze]	747	3 of 54
Katherine Humphrey	239	42
Steve Humphrey	228	44
Senior Team	1007	13 of 19

Event Results III

S5 (Scale Altitude): S5B Jr, S5C Sr							
	Score	Place	Prototype		Score	Place	Prototype
Juniors: Gold was 956 pts				Seniors: Gold was 1371 pts			
Alyssa Stenberg [Gold Medal]	956	1 of 30	Space Grant	Jim Filler	1021	10 of 33	Bumper-WAC
Rachel Clark	726	9	Bumper-WAC	James Duffy	1018	11	Bumper-WAC
Daniel Kelton	348	24	Bumper-WAC	Matt Steele	407	24	Bumper-WAC
Junior Team	2030	5 of 10		Senior Team	2446	4 of 10	
S7 (Scale)							
	Score	Place	Prototype	Score	Place	Prototype	
Juniors: Gold was 728 pts				Seniors: Gold was 753 pts			
Allison VanMilligan	542	15 of 26	Saturn 1B	Chris Flanigan	644	14 of 32	Saturn 1B
Daniel Kelton	420	20	Bumper-WAC	Mike Nowak	473	20	Little Joe
				Marc McReynolds	0*		Spartan
Junior Team 962		7 of 9		Senior Team	1117	7 of 11	
				* Appears to be an error as Marc had a qualified 2nd flight			

Summary

- The US Team in 2014 did better than any in recent years, but we still have a long way to go to match how well the best teams fly
- But to quote the Chinese team's best R/C RG pilot: "I feel your entire U.S. team are very good, cohesive unity, mutual assistance and harmony and love . I admire you !"
 - US Junior Team won the WSMC "Best Sportsmanship" award
- With continued information and technology sharing through the NAR FAI Spacemodeling web pages, and better year-long practice by every member after team selection, we can reach the top

