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JANUARY/FEBRUARY 2009



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The 17th World
SPACEMODELING
CHAMPIONSHIPS

Reported by Colin S. Harris, NAR 79492
 Photos by John Langford and George Gassaway

Lleida, Spain

There were two Olympics in the summer of 2008. While most of the world watched the events in Beijing, China, a group of several hundred rocketeers from all across the globe gathered in Lleida, Spain, for the 17th World Spacemodeling Championships (WSMC). These were, both in form and substance, the rocket Olympics. Teams from twenty-one nations, each clad in their national uniforms, participated. The event officially began with an opening ceremony in which each team paraded into a local arena with cameras flashing and local citizens (and team supporters) cheering.

The WSMC events are flown according to a set of rules different from NAR com-

petitions, promulgated by the Federation Aeronautique Internationale (FAI). The guidelines for these contests encourage the construction of rockets made of ultra light, very thin plastic or fiberglass tubing. For the past two years, members of the United States Spacemodeling Team had been perfecting this building technique, and with dreams of gold medals on their minds, the team members assembled in Barcelona on August 22.

After a two-hour bus ride, the team arrived at the hotel in Lleida. Located a block from the San Miguel brewery, it was one of three hotels in which contestants were housed for the week. Later in the afternoon, team check-in and motor testing be-

The 2008 U.S. Space Modeling Team.
 First row: Bill Stine, Craig Vinyard, Ben Reynolds, Philip Rangitsch, George Reynolds. Second row: Keith Vinyard, Sally Vinyard, Colin Harris, Magda Moses, Mike Humphrey, Katherine Humphrey, Esther Clark. Third row: Matthew Berk, Mike Rangitsch, Ward Poole, Jennifer Ash-Poole, John Langford, Greg Stewart. Fourth row: Pat Butler, Dawnn Reynolds, Nick Riviuccio, Trip Barber, Genni Lavin, Ellis Langford. Top row: Carl Butler, Matthew Rangitsch, Tony Reynolds, Steve Humphrey, Kevin Kuczek, Kevin Johnson, James Duffy, John Hochheimer, George Gassaway.

gan in the lobby and parking lot, respectively. U.S. Team Manager John Langford and Senior Team member Tony Reynolds had arranged to purchase Ultra motors from Serbia and Delta motors from the Czech Republic. Unfortunately, the Ultra motors were found to produce too much total impulse and were disqualified from competition. The evening ended with dinner and team meetings. Fliers had to be ready for a 7:30 A.M. bus to the field the next morning, so sleep was hard to come by in the hotel.

Saturday, August 23

In the morning, the U.S. team trekked out to the field, an airfield built for use by Republican forces during the Spanish Civil War of 1936-1939. The day was for practice flights only, and many team members took this opportunity to iron out any remaining problems with their

rockets. Junior Team Coach Bill Stine worked closely with each of the junior team members (as he did each day of the competition) to help them get ready. That evening, buses took all the contestants to a basketball arena in downtown Lleida for the opening



An American model lifts off the Junior pad.



Pat Butler hooks up his streamer model.



George Gassaway prepares to launch his winning S9 helicopter duration model. George placed third in the event.

ceremony.

The opening ceremony was a sight to behold. After each of the twenty-one teams in attendance marched into the packed stadium carrying their flags, they sat in the front rows by country and watched a series of performances highlighting traditional Catalan culture. The entire audience was held spellbound for the better part of an hour. As the ceremony ended, the audience moved outdoors to see a troupe of stuntmen wielding large and loud fireworks on bicycles. After the final explosions had subsided, all the contestants were treated to a banquet of paella and sangria that did not end until well after midnight. The next morning the contest would begin.

Sunday, August 24

S9A

The S9A helicopter duration event was flown in the morning by seniors and in the afternoon by juniors. Unlike helicopter models seen at NAR competitions, the vast majority of these rockets have internal rotors that are ejected from the nose like a traditional parachute. Also, FAI rules re-

quire that the rocket body be at least 40 mm in diameter and have a total length of at least 500 mm. The model must rotate freely during descent in order to qualify, so a tangle with the shock cord can be catastrophic. Like all FAI spacemodeling events, S9A is flown in three rounds. Each contestant must make three flights, each one within a round lasting 90 minutes. The U.S. Team was represented in this event by juniors Colin Harris, Katherine Humphrey, and Magda Moses, and by seniors Trip Barber, George Gassaway, and Keith Vinyard. All nine of the juniors' flights were qualified and each rocket flew high and true. Sadly, a lack of useful thermals prevented any of the three from medaling. The junior gold medal went to Constantinescu Mihai of Romania, the silver to Barbora Pakostova of the Czech Republic, and the bronze to Toni Stanev of Bulgaria, while the Czech Republic won the team gold medal.

In the senior division, the American contestants found better air. George Gassaway excited the entire team by walking off with the bronze medal. The senior gold medal was won by Maksim Timofejev of Lithuania, the silver medal was won by Przybytek Krzysztof of Poland, and the team gold medal went to China.



U.S. timer Kevin Johnson follows a model with binoculars.



Tony Reynolds readies his S6 streamer model.

S6A

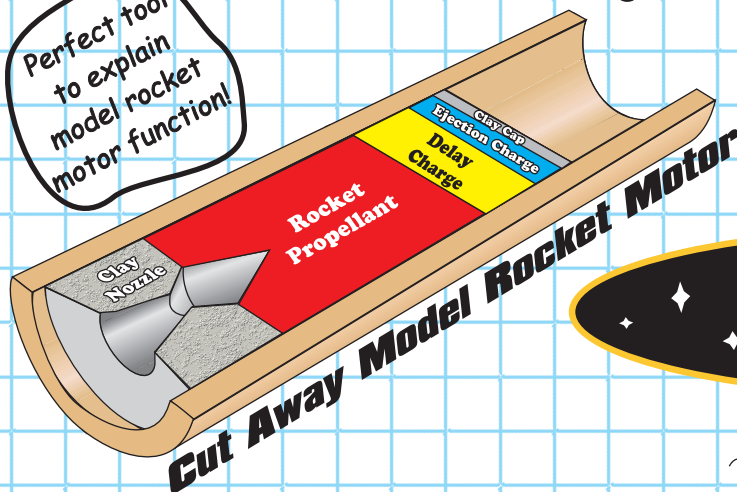
The S6A streamer duration event was flown in the morning by juniors and in the afternoon by seniors. Although the FAI rules require the same large dimensions for the rockets as in S9A, the strategy for this event is similar to that of the NAR streamer duration competition. Emphasis is placed on lightweight models and innovative ways to fold the streamers for maximum drag. The streamers are enormous, typically 5" x 50" and cut from a difficult-to-find grade of Mylar referred to by those trying to find it as "unobtainium." Juniors Esther

Clark, Colin Harris, and George Reynolds represented the U.S. team. Again all nine flights were qualified in this event, but again little good air was found and none of the three medaled. The junior gold medal went to Marko Djurkovic of Serbia, the silver to Arasimowicz Szymon of Poland, and the bronze to Vadim Krasovskiy of Russia. Poland won the team gold in the junior division.

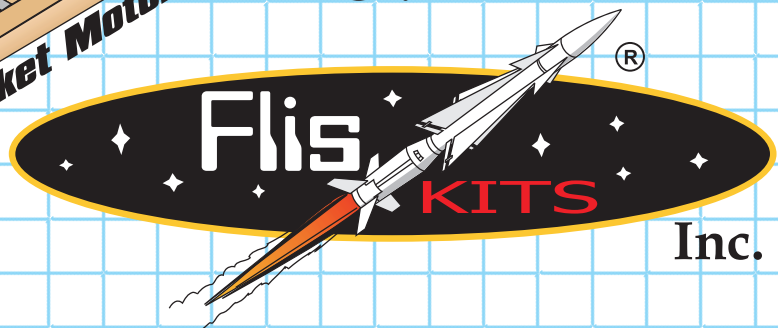
The American seniors Patrick Butler, John Hochheimer, and Tony Reynolds experienced similar bad luck with thermals, with none qualifying for medals. The gold medal in the senior division went to Jonas Buechl of Germany, the silver went to Bedrich Pavko of the Czech Republic, and the bronze went to Uladzimir Minkevich of Belarus. Russia won the team gold medal.

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The Reliable Rocket and Mr. Backup

by Magda Moses

This was my first FAI WSMC. I made the junior team in S9 at the 2007 Michigan fly-offs even though my first qualification flight was my first gyrocopter rocket flight—ever! My dad and I had met Tony Reynolds the evening before and he inspired us to try out for the team with a simple Art Rose design fit into a Venus Rocketry 40mm airframe.

Preparing for Spain was hard, but it was fun. Between reading gyro-recovery write-ups by George Gassaway and Tim Van Milligan, a building session with Trip Barber (with monthly critiques of our progress at the NOVAAR launches), and breakthrough discussions with Herb (aka Keith) Vineyard, we got an immense amount of help. I caught my first thermal with a gyrocopter at the Vikings Rocket Society ECRM competition in Richmond, Virginia, this spring and was feeling pretty good about being ready for Spain.

The good feeling did not last because our gyrocopter rockets had a harsh July with either poor performances or outright failures at the Capitol Cup, NARAM, and individual

practice. Our supply of airframes and rotors was decimated and our confidence went the same way. We kept on working at making new airframes and rotors, incorporating everything we had learned along the way. By the time we got to Lleida, my dad was advising me to use the heaviest airframe we brought just to ensure I got rotation when the gyrocopter deployed. I really did want to avoid any possibility of a DQ that would bring down the U.S. team score for S9 juniors.



On the practice day before the start of the WSMC, I flew the heaviest rocket as Dad advised. It caught a fast moving thermal and had a great flight. However, it went so far down range we spent the rest of the practice session trying to find it. We finally gave up on finding my rocket and returned to the launch site—dirty, dehydrated, and exhausted. Then we discovered some other team had found my rocket, brought it back to the launch site, and left it in the U.S. tent! Thus, the clunkiest rocket I brought to Spain became The Reliable Rocket.

Since you are allowed two rockets for the three rounds of competition making up an event, we needed to choose a backup for The Reliable Rocket. While my dad talked me out of using the lightest airframe we brought, my backup rocket was still no more than three quarters the weight of The Reliable Rocket. In my first S9 junior round, it took too long to get permission from the RSO to launch, and The Reliable mostly ended up in the down flow following the thermal I was advised to shoot for by our fantastic junior team manager, Bill Stine. The upside of a flight with only a 90-second duration is you get your rocket back with plenty of time to prepare it for the next round. However, my backup rocket was already prepped and just sitting there, waiting for an opportunity to do its part. It just did not seem right to fly The Reliable again and not give Mr. Backup a chance. So, when Dad started talking up flying The Reliable in round 2—as I knew he would—I just said it was time to fly Mr. Backup.

With the help of our timers for the second round I was able to launch shortly after getting the word a booming thermal was passing over us. The way Mr. Backup caught the up flow was magic. Instead of descending after the recovery device deployed like every rocket I had ever flown before, this one started going up! After three minutes, our timers called it a maximum duration flight. Since I was not following the rocket with binoculars, I could not see it as I heard the U.S. team recovery crew downrange continue to call in its progress. When the deepest recovery station asked if we could let it go because it was at about 1000 feet and still climbing, what else could I say? The Reliable Rocket had demonstrated its ability to thermal the day before and it was sitting in the preparation tent, ready to go again. I began to get worried something was wrong because my dad was looking really weird and he kept hugging me when I left the launch lane. But it all turned out OK. The Reliable Rocket caught a good thermal in the third round (although our third round timer lost sight of it before the three minutes needed for another max had elapsed). I can't believe we have to wait two years before we can do this again!

Monday, August 25

S8D

The S8D RC rocket glider event flown on Monday morning was only for juniors. The size and power of the D motors combined with the grace of the soaring gliders make this event just plain fun to watch. The U.S. was represented by an uncommonly skilled set of juniors: Matthew Berk, Mike Humphrey, and Craig Vinyard. Eight of the nine flights were qualified and team members seemed well on their way to the first U.S. junior medals until disaster struck in the third round. Berk had already made two perfect “max-time” flights and a medal was well within reach. Unfortunately, due to the confusion that envelops a rocket range during a competition, Berk's flight was launched out of order; the U.S. team was in the queue but not approved to fly yet. This resulted in the disqualification of what would otherwise have been Berk's third max-time flight. If the flight had counted, Berk would have certainly received at least a silver medal and the U.S.



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Mike Humphrey waits to check in his S8D model.

would have received the bronze team medal. To make matters worse, the Slovak team made the same mistake, but refused to join the U.S. in protesting the disqualifications. With only one country complaining, the protest was denied. Even with the disqualification, the U.S. junior team finished fourth. The gold and silver medals went to Guo Zhuoheng and Li Zhuoheng, both of China, netting their country the gold team medal as well. Jan Chmelik of the Czech Republic won the bronze medal.

S8E/P

The S8E/P RC rocket glider event for seniors, flown on Monday afternoon, was more than just a powered-up version of the junior event earlier that day. It contained a precision-landing component, in which contestants earned points for landing their glider inside a prescribed area of the field. George Gassaway, Kevin Kuczek, and Greg Stewart flew for the U.S. In a dramatic late-evening fly-off, Gassaway netted the silver medal, his second time on the victors' podium in two days. He won his medal by making a brilliant last-minute strategic decision. By the third round, the wind conditions were so bad that contestants were having an impossible time winning any

precision points, and were losing duration points in the failed attempts to make precision landings. Gassaway decided to abandon the attempt for a precision landing and, instead, decided to seek the maximum duration points by keeping his model in the air as long as possible. His analysis was perfect. Peter Matuska of Slovakia won the gold medal, while Aleksandrs Ojavers of Latvia won the bronze. Ojavers and his teammates won the gold team medal.

RC model on final approach



Greg Stewart's glider with spoilers deployed.



Kevin Kuczek checks his S8E glider before launch.

S3A

The recovery-intensive S3A parachute duration event was flown in the afternoon for juniors and in the morning for seniors. The strategy used by nearly all countries' teams was to pack the biggest Mylar parachute possible into the 40 mm x 500 mm body. Juniors Katherine Humphrey, Philip Rangitsch, and Ben Reynolds flew the event for the U.S. team. Their rockets were beautifully constructed and the thermal situation was generally favorable, so Humphrey and Reynolds were able to score two maxes each. Unfortunately, a couple of faulty deployments in the third round resulted in disqualifications that prevented either of them from reaching the fly-off. Spain won the gold team medal in the junior division with a one-two finish by Jesus Moran and Francisco Palomar. The bronze medal went



Ben Reynolds (left) and Michael Rangitsch launch parachute duration models. Mike's model under its 'chute (above).

to Gao Peng of China.

In the senior division, the U.S. was represented by Jennifer Ash-Poole, Michael Rangitsch, and Nicholas Riviccio. Rangitsch qualified all three flights, and the team had a couple of maxes. But once again a few disqualifications kept the U.S. team from medaling. The senior gold medal went to Zhang Li of China, and the silver and bronze medals went to Alexey Reshetnikov and Sergey Karpushov of Russia. Poland won the team gold medal for the event.

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John Hochheimer preps his S4 glider for launch.

Tuesday, August 26

S4A

The S4A boost glider event had more diversity in design than any other. Walking through the range, one saw a dizzying array of t-tails, v-tails, swing-wings, flop-wings, and swinging flop-wings. The event was flown by U.S. juniors Matthew Berk, Ben Reynolds, and Craig Vinyard. Flight reliability proved to be a serious problem, and only four out of their nine flights qualified, leaving the U.S. team far from the fly-off. Tomas Jankech of Slovakia netted both the individual junior gold and team gold medals, while Vitaliy Batalov of Russia won the silver medal, and Lu Hongjie of China won the bronze.

The senior division was a disaster for the U.S. team, whose rockets seemed to have some kind of design flaw that caused them to veer a bit too far off course during flight, at least when used with the Czech motors used by the U.S. team for the first time. The RSO was ruling that in order for a flight to qualify, the rocket must remain within 30 degrees of perpendicular at every moment of its powered flight. Despite valiant efforts by Trip Barber, John Hochheimer, and Keith Vinyard, eight out of their nine flights were disqualified, though some of the disqualification calls had team members scratching their heads. Hoch-

Teamwork

by Trip Barber, NAR 4322

The biggest difference between flying in U.S. rocketry competition and flying in a World Spacemodeling Championships (WSMC) is teamwork. At a WSMC, the whole team supports their three teammates who are flying in any given event. Whether it is helping at the pad, helping pick thermals, or helping recover the rockets that are placed into those thermals, everyone pitches in for the good of the U.S. team. Nowhere is this more evident than in recovery, and nowhere was this better demonstrated than when George Gassaway deliberately let his complex, expensive radio-controlled rocket glider drift far downwind and out of sight in order to get maximum flight points in the last round of the S8E/P event and win the FAI Silver Medal for the U.S.

Normally in FAI competition radio-controlled gliders are landed at the precision landing spot and long-range recovery is not required, but as Colin explained in his article, weather conditions for the last round of S8 made a very different flying strategy the right one. So with no advance warning, George Gassaway had to let his glider fly away and just trust his teammates to go find it. In other duration events, the U.S. had deployed a big recovery team with radios and binoculars far downwind, but since this fly-away was unexpected we were caught with only two people downrange: Steve Humphrey and Ward Poole. Fortunately, as George's glider reached the outer limits of the FAI timers' visibility through binoculars right before it landed, Team Manager John Langford had the presence of mind to mark an accurate line of bearing from the launch area on his GPS-equipped FRS radio. So we had one part of the puzzle. And Steve Humphrey, a half-mile downrange, said he saw the glider going down "in front of a brick house" out in the miles of irrigated pear orchards and beyond the irrigation canal that was far downwind, so we had a clue on the maximum range it had gone.

Five U.S. team members in the launch area immediately formed a search team, grabbed radios (including another one with GPS), jumped into the van that James Duffy had generously rented to help support the team in situations just like this, and sped off into the deepening shadows of the early evening. We were determined that our teammate George was not going to lose his valuable model and its radio gear as a result of his bold flying strategy. Meanwhile George had to forget this model and focus on flying his backup model in the flyoff round for the medal, while trusting his teammates to succeed in the search.

Finding a model rocket in miles of closely-spaced rows of pear trees on hilly terrain is not exactly easy. When we got downrange and saw where the glider had disappeared, in fact it looked just about impossible. And it turned out that while Steve's sighting of the glider near a brick house had seemed like a great clue on how deeply into the orchards the glider had landed, there were *lots* of brick houses scattered through the maze of trees. Jumping out of the van at a dirt road used by farm vehicles to access the orchards, our team plunged into the trees and wandered for over an hour, coordinating efforts on radios and trying to reconstruct exactly which house was which, while watching the sun slowly set. We eventually decided which brick house it had been, and of course (as Ward discovered) this was the one with the large, ill-tempered dog chained outside it!

Once we identified the right house to set the outer limit of range to which the glider drifted, John Langford watched our GPS radio moving and reporting back its position, and coached us on to the GPS line of bearing he had taken from the launch area, which was well over a mile away. The sun had already set and darkness was beginning to fall, so every minute counted. I drew on some long-ago military training to organize us all in a line abreast perpendicular to the GPS bearing, starting at the brick house (beyond the dog's leash limit), and spaced far enough apart to cover two degrees on either side of the bearing. We had time for one search sweep inward a few hundred yards down the line of bearing through the trees before dark. Five minutes into the sweep, the team's youngest member, Matthew Berk, shouted out "I've got it" and there the glider was between two rows of trees! The team quickly gathered back together and we realized that re-locating the car before dark was our next challenge. Fortunately, we had left Mike Humphrey at the car with a radio, so Mike honked the horn periodically to serve as a homing beacon from a half-mile away, and we found it just as dark settled in. All of us felt proud of what our mixture of American technology and teamwork had let us achieve in support of the U.S. Team. Teamwork is what makes flying at a WSMC special.

Keith Vinyard preps his S4 boost gliders.



heimer had the one qualified flight, but the U.S. team was never in contention. Gabriel Constantinescu of Romania won the senior gold medal, Nigel Bathe of the United

Kingdom won the silver medal, and the bronze medal went to Jozef Jasso of Slovakia, who helped net the gold team medal for his country.

S7: A World Cup Event

Although not a part of the World Spacemodeling Championships, the S7 Scale event was flown as a World Cup, which is FAI parlance for any non-WSMC international competition. Only senior James Duffy entered this contest for the U.S. team, building an immaculate model of NASA's Little Joe I, a rocket used for testing the Mercury spacecraft launch abort system. The rocket had a picture perfect flight. Unfortunately, nobody beats Eastern Europeans at scale modeling, so the gold medal went to Bedrich Pavko of the Czech Republic. Wojcieck Krzyniowski of Poland won the silver medal and Vladimir Tarasov of Russia won the bronze medal.

James Duffy (right) with his Little Joe Scale model.



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Wednesday, August 27

On Wednesday, the organizers arranged for all the contestants to visit Port Aventura, an amusement park and water park outside the city of Tarragona. Although very crowded throughout the day, Port Aventura offered a number of exciting roller coasters and other rides. The park is divided into several areas, each representing a different part of the world. One area is called the Far East, one is called Mexico, one is called Polynesia, etc. The rides in each area have a common theme. One can ride the Dragon Khan in Far East and then walk over to the Miner's Train in Mexico.

Thoughts on Deep Recovery

by Michael Rangitsch

One of the primary differences between NAR and FAI competition is in the recovery of the models. In the NAR you are basically on your own—either individually or with your club—to recover your models. In FAI competition you recover models as a team. Since you have to make three flights with only two models, getting one back is critical. Nearly everyone on the team was out on recovery at one time or another.

In Lleida the flying field was a small airstrip located in the middle of a wide area of plowed fields. Most of the fields had been relatively recently plowed, and their consistency was close to flour—you stepped in the dirt and it went over your ankles. The land generally sloped up to a large ridge east of the flying area—this ridge area is what we called “deep-deep.”

We gave our deep locations colorful names: “The Reservoir,” “The High Orchard,” “Hadrian’s Wall,” “The Cisterns,” “The Bridge,” and “Next to the Naked Guys.” Most of the deep-deep recovery locations were about one and a half miles downwind of the launch area—for some of the models that was not nearly far enough.

Deep recovery consists of a lot of waiting. In each flying round, the U.S. team launches a maximum of six flights—three for the seniors and three for the juniors. There are about 60 rockets launched by all of the teams in a round, so identifying the correct model is often difficult. If a good thermal came by the range head, three or four rockets might end up in it. Our strategy was to position the crew in a layered pattern. Normally there were at least four layers: close-in (the ridge), observation hill (the control location), deep (by a road about one mile from the launch site), and deep-deep (up on the ridge to the east of the field). We kept in constant touch with FRS radios. The key to recovery is to locate the correct rocket and then “pass off” the identification to the next-farther-out observer. A nice pair of binoculars and a steady hand often allowed the deep-deep observers to locate the model from far away.

For the senior S9 (helicopter) and junior S3 (streamer) events on Sunday, I was in the deep recovery layer along with a large contingent from our hotel-mates, the Japanese team. They took the only shade tree in the area, so I was out there, alone in the field. Ward Poole had the deep-deep recovery by the reservoir, with Tony Reynolds on the observation hill and others scattered around. I was able to recover our team’s first max of the contest, Trip Barber’s nice flight in S9, but we all watched in awe as Magda Moses thermalled her S9 model away. It was a wave flight—wave goodbye.

I flew S3 on Monday morning, so I wasn’t out on recovery. Jennifer Ash-Poole’s first flight caught a nice thermal, and after a max time (5 minutes), the deep recovery team (Ellis Langford and James Duffy) tried to find it for an hour, but failed. I managed to get a max and a fly-away on my third flight, but no better than that. The juniors flew S3 on Monday afternoon, and I was out deep again. Katherine Humphrey caught a big thermal on her first round flight and took off. The deep recovery crew chased it, but they were unable to bring it back. On Katherine’s second flight, it was a must-return situation. I had been moved around to the south of the range, on a rocky hill with a couple of the British juniors. We watched their Catherine’s second flight go right over our heads, moving toward the freeway on the south side of the field. The Brits took off to follow it and got it back to Catherine’s father for a return relay (he was desperate for water when he got to my hill, so I helped out). Our Katherine’s second flight caught the same air that the British Catherine’s did. I didn’t have a firm fix on which model was Katherine’s until the closer-in people began to describe the motion of her rocket. I focused in on the one that was doing what they said, and watched it land about 100 yards from me. I went over and recognized her candy-striped model, picked it up and gave it to James Duffy in his car—about the simplest recovery possible.

The Spanish team showed everyone the advantages of flying on their home field. They knew every road, trail, dip, and hill on the field. They also knew the need for dethermalizers. On multiple occasions we thought the model was going to fly away, only to have the dethermalizer collapse the parachute and drop the rocket—usually very close to where their recovery people were working. It was impressive. For the juniors they got nine max times for their competitors, eventually getting individual gold and silver with the Spanish team getting gold.

Recovery was one of the most fun and team building parts of our time in Spain.



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After a long day at the park, everyone rode the buses back to the hotel to prepare for the closing ceremony.

The closing ceremony was held in Lleida at an upscale hotel with entirely white furnishings. The medals were presented to the victors and the loudspeakers played the winning countries' national anthems. Following the awards, all the contestants and officials attended a closing banquet with fantastic food and local Catalonian wine. The U.S. Senior Team offered a round of

toasts to its double-medal winner, George Gassaway. Junior Team member Colin Harris offered a toast on behalf of the junior team to its hard-working coach, Bill Stine, and presented him with a team hat signed by each junior team member. FAI President Srdjan Pelagic and contest organizer Esther Roura each made closing speeches, and everyone socialized with their fellow rocketeers from around the globe until the wee hours of the morning. Contestants also spent much time swapping team hats,



John Langford and Ed Pearson at the closing banquet.

shirts, headbands, pins, and other paraphernalia. U.S. gear was in great demand.

The next morning, the U.S. team members said goodbye to their friends from other countries and got on a bus to the Barcelona airport. From there, they returned to their homes across the United States, from Virginia to Colorado, all having enjoyed a very special week of spacemodeling and international friendship.



A Day In The Life...

by Patrick J. Butler

This was my first time being on the U.S. Spacemodeling Team. Hundreds of hours of practice and far too many expenses preceded this fantastic experience. All that effort culminated in getting the opportunity to make three flights during a four and a half hour period. I flew S6A, which is a streamer duration contest. I had just recently switched my construction technique from a fiberglass airframe to a tracing paper one. That allowed me to almost double my flight durations. I could only hope for no rain, as tracing paper body tubes don't hold up too well in wet conditions.

Fortunately it was dry during the day our team flew S6A. My first flight was of a typical duration and my second flight was accompanied with a defective motor that blew out its nozzle and made my rocket crash. I was allowed to redo that flight but my rocket was severely damaged. I had brought my aluminum mandrel to Spain but left it in the hotel. I had never considered the possibility of having to make a substantial repair to my rocket at the field. I could have easily rebuilt my rocket to "like-new" condition if I had only brought my mandrel to the field. I'll know better next time. I think that's what they call experience.

The Spanish countryside was beautiful and many of us spent our afternoons basking in the hot sun while doing recovery duty. The majority of my time was spent sitting in the sandy soil about one and a half miles downrange assisting with deep recovery efforts. I could barely see the range head through my binoculars. I think my forehead is still recuperating from having the binoculars pressed tightly against it while I carefully tracked dozens of flights.

The first day of recovery was a little rough as we were still finding our way around the rolling hills and trying to figure out where the few rural roads went. Tony Reynolds turned our group into the best recovery team by the second day with his organizational efforts. We were equally spread out around the rangehead for miles and had perfected the ability to hand off a rocket as it flew overhead. I had thrown my backpack in my suitcase as a last minute decision prior to departing to Spain. It ended up coming in really handy for hauling everything needed for recovery work—a good pair of binoculars, a GPS receiver, an FRS radio, a hat and bandana, and about a gallon of water for the day.

A few of the German team members felt that the only attire needed for recovery work was a pair of tight Speedo swimming trunks ...and, oh yeah...a pair of sandals. More than a few of us got a shocking glimpse through our binoculars as we scanned the horizon looking for our teammates. It was unmistakable who was a teammate—our people had all their clothes on!

The camaraderie among the group of us who went was one of the best parts of the trip. At the end of the day those of us doing recovery would have to hike back to the range head. I have fond memories of hiking through the rolling hillsides and seeing some of my teammates seemingly popping out of nowhere as they appeared above a ridgeline. The final effort of the day was the half-mile walk from the team tent to the waiting buses. I looked forward to sinking into the comfortable bus seat at the end of each day while the air conditioning gently blew across my face.

Dinner was at the hotel, usually very late in the evening. There was plenty of good food and conversation followed by the chance to maybe get five or six hours of sleep prior to "doing it all over again" the next day.



Philip Rangitsch hooks up his parachute model.

The most fun of the world championships was the chance to see a different country. Spain was hot, but not as hot as when we lived in Baton Rouge. We figured out that Catalan was not Spanish—what I knew of Spanish didn't work. Even though I didn't do well in the S3A parachute duration event, the competition was fun. At least I didn't finish dead last. Recovery got really boring—Katherine and I didn't get to recover any rockets. We saw the Chinese team members, and they were helping us (sort of). On glider day (S4) a glider landed right in the middle of the reservoir, and a Chinese guy had to swim out to get it. At the final dinner, I traded for a Spanish shirt. It was a lot of fun and I'm looking forward to trying out for the team next summer.

—Philip Rangitsch

I didn't compete, but I did help on recovery. It was hot and dry. A lot of people didn't have enough water. I'm a Boy Scout from down South, so I knew better. It was fun to see how different rockets were better than others. The British guys and gals were the easiest people to hang out with. Our British gal (Jeanie) was...well, Jeanie. I made some good friends. Even though we didn't win anything it was fun to watch other people do really, really well. The Spanish S3A junior team was awesome! I hope I can make the team for Serbia.

—Matthew Rangitsch



John Langford and Greg Stewart after an afternoon of S8 flying on the contest field.

As this was my first opportunity to really meet people from outside the country, I thought it was amazing to meet all the different people at the competition. Everyone was nice, especially the Brits and the Poles. Getting to sample the special foods of Spain was awesome, even if some of the seafood dishes turned people's stomachs! It was also fun to work on recovery, even though I got to do short recovery and mostly just had to pass the rockets off to the deeper people or carry them into the tents. I didn't get the chance to compete this time, but maybe I can make it in the tryouts for Serbia! I hope to be able to see everyone there!

—Andrew Rangitsch



Esther Clark, competing at her third World Championships, preps her Streamer Duration model.

Barcelona, Teamwork, and Friends

by Nick Riviuccio, NAR 27687

The 17th World Spacemodeling Championships was my second WSMC. As I reflect on the trip, three highlights come to mind: Barcelona and Spain in general, U.S. S8E/P teamwork, and new and renewed U.S. and international friendships.

The visit to Spain started with a two-night stay in Barcelona. Visiting the Cathedral, walks along Las Ramblas, and reaching the monument to Christopher Columbus gave an introduction to the city's well known tourist sites. One evening, a group of U.S. Team members enjoying snacks and beverages at a nearby Tapas bar served as a team-building activity. Multiple visits to El Corte Ingles (a Spanish department store) and other stores to get various items, and getting ice cream late at night, provided a glimpse of life in Barcelona. These activities left me wanting to see more—a desire that was not sufficiently met by the one additional night in Barcelona after the conclusion of the WSMC, although traveling on the Metro and a visit to the new Cathedral that is under construction, La Sagrada Familia, were notable additions to the earlier experiences.

The WSMC itself was held in the city of Lleida, about 100 miles from Barcelona. As before, participating in the WSMC was an awesome experience. I think a highlight for me was supporting the S8E/P team in preparing for and competing in the event. It was great assisting Kevin Kuczek and Greg Stewart with hi-start practice flights, and helping the team during the competition itself—and it was fun! Following the scores and the developing strategies during the event was exciting—at times it was like riding a roller coaster! It was great to see the efforts culminate with our teammate, George Gassaway, making the flyoff round and winning the silver medal.

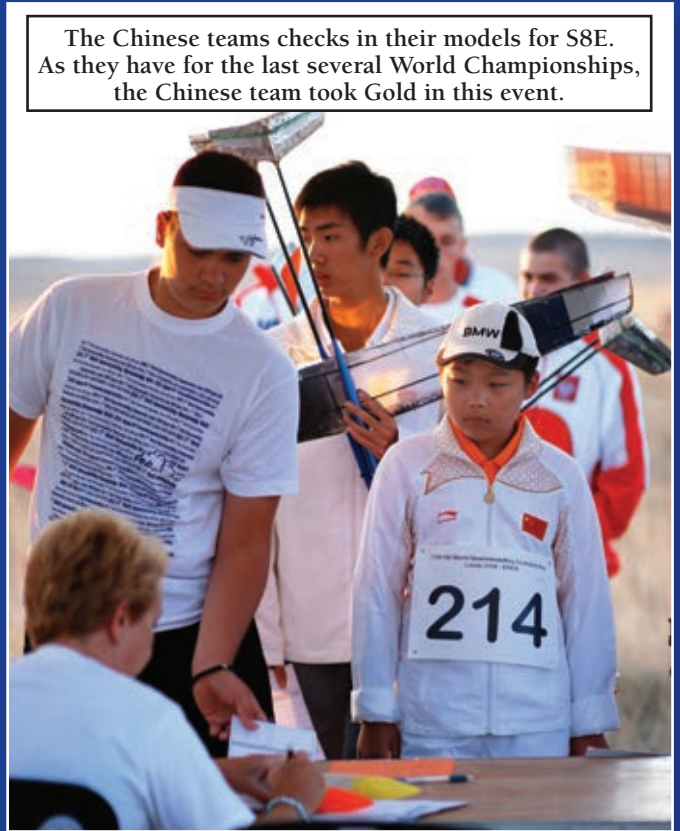
Ultimately perhaps, the best things about the 17th WSMC were the new and renewed friendships that resulted. It was great spending time with the members of this year's U.S. Team, some of whom I have known for many years, but others who I had the pleasure of getting better acquainted with during this trip. It was also great catching up again with Antonio Mazzaracchio of Italy, getting reacquainted with the British and Spanish team members, and meeting people from the other countries that were represented.

Visiting Spain and participating in the 17th WSMC was a great experience. Visiting Barcelona was so much so that I could have easily spent a few more days there! Perhaps that's the bottom line regarding this year's WSMC in general.

George Gassaway receiving the Bronze medal for S9 helicopter duration.



The Chinese teams checks in their models for S8E. As they have for the last several World Championships, the Chinese team took Gold in this event.



Bill Stine radios the recovery crew as James Duffy's Little Joe I Scale model lifts off.



Colin Harris preps his S4 boost-glide model.

John Hochheimer glues fins onto a duration model.



Magda Moses launches her S9 Helicopter Duration model.



The Chinese team.



Matthew Berk with his S8D model at check-in.



Bill Stine points out a descending model to Philip Rangitsch.



The Russian team flew Ariane Scale models.



George Gassaway holds his silver and bronze medal-winning models.

