

# EL TORBELLINO

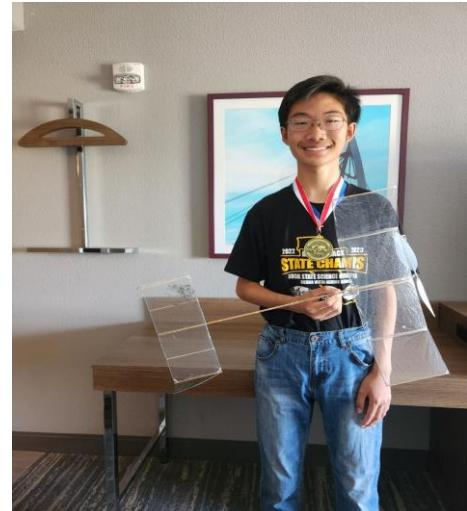
NEWSLETTER OF SAN DIEGO ORBITEERS FREE FLIGHT CLUB



JUNE 2023

## *Chairman's Corner – Mark Chomyn*

Our club has been home to several very accomplished flyers and designers who are well known on the national and international level. We now have another name to add to that list of notable designers and flyers. A young man named Daniel Guo, a junior member of the Orbiteers, won first place in the Division B Flight Event at the Science Olympiad National Tournament in Wichita Kansas. Note the gold medal hanging around his neck. Daniel achieved his win flying a custom-built plane of his own crafting. Daniel was also a member of the Sierra Vista Middle School team from Irvine CA that finished second overall out of sixty school teams in the national event. Want to congratulate Daniel? Just wander over to the “glider pen” area at a monthly Orbiteers contest in Perris. You’re likely to find him in conversation with glider notables like Tim Batiuk and Stan Buddenbohm discussing the finer points of launching, transitioning and gliding techniques. You might also hear his name being called at the end of a contest noting his placement in the winner’s circle. Kids these days..... not all are spending their time on Twitter. Congratulations Daniel. Thanks for bringing a youthful element into our somewhat graying free flight sport.



Tearing your hair out yet? I know. The schedule for our monthly contests has definitely been a moving target. The May contest was cancelled to allow the U.S. F3B National Glider Team to get in a practice session. To avoid a crowded field (and the potential impaling of any P-30s) we decided that the mission of the US team should go on without distractions. It seems with the bad weather in the first quarter of the year that cancelled events for the several clubs sharing the field, events started stacking up creating an increased demand for re-scheduling flying dates at the field. Our Contest Coordinator Mike Pykelny is doing his best to restore sanity to the event calendar if he hasn’t already lost his in the process. We do have a monthly contest scheduled for Sunday, June 18<sup>TH</sup> at Perris. Events are Old Time/Nostalgia Rubber, Glider (HL, CL or Tow) and power (electric and gas). Hopefully this will help us re-establish a return to a more even keel.

I was recently flipping through a copy of Flying Aces Club News when before my eyes appeared a picture of our own John Merrill holding a very nice Ryan Trainer from a PT Aviation kit. I mentioned in a previous column (with accompanying photo), that I had built the same model to fly in a Double Nickel contest. As I looked more closely at the photo of John’s model it seemed to have a more finished and realistic look than the plane I built. Looking again, I noticed the reason why. John’s model had the proper black anti-glare panel at the nose of the plane. It’s funny how a simple detail like that can make a model look so much more like the real plane. No wonder John is smiling in the photo. I’m now searching for some black tissue for the panel. Fortunately, the PT Aviation plan has a fuselage top view so making a pattern for the panel should be easy.

Hopefully you’re finding time to do a little building. I continue to work on the 54-inch span Comet Taylorcraft. Not a whole bunch of progress. I recently installed and then re-installed the landing gear wire. The first gear configuration came out a bit too long. So, I removed and re-bent the wire and re-installed. The

plane now looks a little less like it's on stilts. There's no landing gear configuration on the plan. The plan only shows a sheet landing gear strut with a common pin axle often used on other Comet models. I can't believe Joe Konefes, the Comet designer of Buzzard Bombshell fame, thought that a model this large could withstand landings with a gear of this configuration and certainly not on the firm soils we have a Perris. Guess that he had access to an accident forgiving legend, the "tall field of grass".

As I sit here wrapping up this diatribe, I'm staring at another day of June Gloom. Weather folks are saying that despite the overcast mild weather we're experiencing now on the west coast we need to watch out for an El Nino event that will dramatically increase summer temperatures. They cite as evidence a temperature of 104 degrees in London in July 2022. My wife and I are going on a trip to Norway and England in July. I hope going to a contest in Perris before the trip will help me acclimate to the forecaster's predictions. For once I really hope the weatherman's forecast is more than 50% wrong.

Have a great summer!

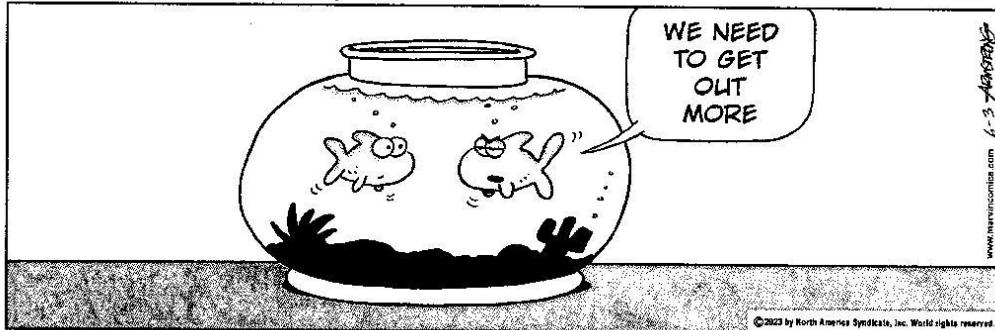
Mark

*"Because of its small size the model is tricky to adjust, but once its tendencies are learned it is a steady flier."* (Unfortunately no mention of what the tendencies are, truly a trial and error approach. MC)

Build a Minute Model of the Nieuport 161, Herbert K. Wiess, Model Airplane News 1938

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**Marvin** by Tom Armstrong



Lake Tahoe area flying field – A Mike Jester free-flight plane at rest.

## Daniel Guo Wins First Place in the Flight Event at the 2023 Science Olympiad Nationals

By Mike Jester



Daniel Guo, a junior member of the San Diego Orbiteers (SDO) free flight club, won first place in the Division B Flight event on May 20, 2023 at the Science Olympiad National Tournament in Wichita, Kansas. I have had the pleasure of coaching Daniel in this event since last December. Tim Batiuk recommended that Daniel contact me at that time. Tim said that Daniel is an amazing flyer in the hand-launched glider (HLG) event. I estimate that over the past six months Daniel easily spent over 200 hours building rubber powered Science Olympiad airplanes, practicing, and flying in five tournaments leading up to the National Tournament. Daniel is pictured below wearing his gold medal and holding his winning custom-built airplane.

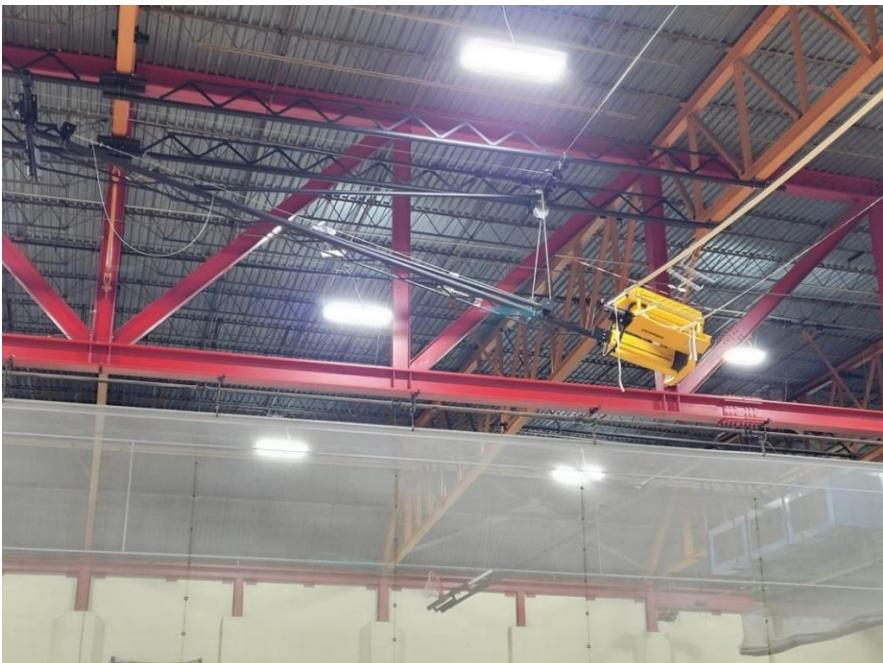


**Daniel Guo Wearing His Gold Medal**

Daniel was part of the Sierra Vista Middle School (MS) team from Irvine, California that finished second overall in the 20+ event 2023 National tournament. Sixty (60) teams representing most of the fifty states competed. Some states, like California, have two teams that go to the National tournament because they are so large in population. In the picture, Daniel is wearing his team shirt that shows his school was the 2023 SoCal state champion which enabled Daniel to compete at the National tournament. Daniel finished second in the Division B Flight event at the 2023 SoCal state tournament last month. The best overall team goes to Nationals, which usually includes the students who are accomplished flyers.

Daniel's winning time at the National tournament yesterday was 4:11 (251 seconds) flying an 8-gram airplane with a 2-gram rubber motor in about 30-33 feet of flyable height between dangerous truss-style beams and below fluorescent light fixtures. The second-place team at the National tournament from

Beckendorff MS in Texas flew 4:05 (245 seconds). The Flight event took place on the campus of Wichita State University in the Heskett Center. That facility is a large gym. It was divided into three sections with curtain walls about 50 feet apart. The available flying area of the section where the Flight event was held was about the size of a basketball court. The Science Olympiad Flight event allows for two official flights in a 10-minute Flight Period. The highest official flight time is used for scoring. On his first official flight at the National Tournament, Daniel carefully selected his launch point in the Heskett Center, taking into consideration the drift and his desire to fly between the lower red truss beams that extended longitudinally with respect to the basketball court and the upper brown truss beams that extended laterally with respect to the basketball court. His airplane was trimmed to fly in a relatively small circle that would safely fit between the two sets of beams taking into account the significant drift in the gym. A wider circle would have been more efficient, but would have sacrificed the chance to fly 4 - 6 feet higher. See the following picture of a portion of the Heskett Center below. During the competition, four airplanes landed on the raised volleyball net that is visible in the picture. The yellow motor apparently raises and lowers this volleyball net.



**Heskett Center Wichita State University**

Daniel's first official flight was going very well until his airplane collided head-on with the lower portion of one of the upper brown truss beams. His airplane did not merely skim the lower surface of the upper brown truss beam. Instead, the head-on collision completely stopped the forward motion of Daniel's airplane, causing it to tail slide, i.e., travel down rearwardly. As a result, Daniel's airplane lost 10 feet of altitude, very little of which was recovered. At this phase of the flight, the remaining torque of the rubber motor was insufficient to enable the airplane to climb very much, if at all. The official time on this first official flight was 3:48 (228 seconds). This was still a very good time and as it turns out, was probably long enough for second place. Again, you get two official flights in the Flight event and only the longer of the two flights counts for scoring.

I thought to myself at this point of the competition that if Daniel could put up another flight without a bad collision that resulted in a significant loss of altitude, he had a good chance of beating the team from Texas. He was only 17 seconds short of the Texas teams' flight time. The Texas team had a no-touch flight just barely below the upper brown truss beams of 4:05 (245 seconds). Of course, per the rules, there was no communication between me and my student at check-in and during the 10-minute Flight Period. On his second official flight, Daniel's plane avoided a bad collision, and climbed above the lower portion of the

upper brown truss beams. This time his airplane had the winning official flight of 4:11 (251 seconds). Clearly Daniel made the correct adjustment in launch point on his second official flight and properly wound the rubber motor for his successful second official flight. He beautifully executed what he had learned from hundreds of test flights and five tournaments. Here is link to a YouTube video of some Division B flights at the National Tournament last month. The 4:05 flight by Beckendorff MS and the 4:11 flight by Sierra Vista MS are shown in their entirety at the end of the 17-minute video if you want to skip ahead.  
<https://www.youtube.com/watch?v=hRR38s1yDhw>

It turned out that the first and second place teams took two very different strategies at the 2023 National Tournament. Beckendorff MS had the slowest flying airplane. It obviously had a very aft CG and a very large chord wing. It flew nose up and mushed around, but it did not stall. The advantage of this configuration is that it allows for a very low decalage, i.e., a very low difference in the angle of attack (AOA) between the wing and the stab. This reduces drag and maximizes flight efficiency. However, a far rearward CG location results in a model with a very low static stability margin (SSM). After the National Tournament, the Beckendorff MS team revealed that its model would lose 15-feet if it collided with a beam (or other obstruction) and thus it had to go for the highest no-touch flight possible. If its plane had collided with a beam, it would have recovered very little of the lost 15-feet of altitude because at that stage of the flight the diminished torque on the rubber motor would have been insufficient to allow the airplane to climb more than a couple of feet, if at all.

In contrast, Sierra Vista MS had an airplane with a more forward CG which flew in a relatively small circle. This required a higher decalage, but the airplane could recover reasonably quickly from collisions. Daniel's airplane had a wing with a smaller chord than the Beckendorff MS airplane. In theory a larger wing generates more lift than a smaller wing, but it also weighs more and generates more drag. Everything seems to involve a tradeoff in airplane design. The Beckendorff MS airplane climbed slower but the Sierra Vista MS airplane seemed to descend more slowly. On Daniel's winning 4:11 flight he carefully chose his launch point taking into consideration the collision and tail slide that had happened on his prior official flight. This time his airplane skimmed the bottom of one of the lower red truss beams and centered between two lower red truss beams. It then proceeded to climb between a pair of higher brown truss beams. Daniel's airplane eventually made three or four circles just below one of the fluorescent lights. There is an old adage in free flight glider competition that says "If I can get higher than you, I can beat you." The same is often true in indoor rubber powered free flight when it comes to duration stick models. Usually, you can be confident that a well-trimmed and properly wound rear CG model will win most contest with a high no-touch flight. However, at the highest level of competition, there is a risk that another good flyer with a model that recovers reasonably well will fly higher and beat you. Clearly, the configuration of Daniel's airplane was optimized for the Heskett Center and he had the skill and experience that led him to victory. On person suggested online that Daniel may have won by using May 99 Tan II rubber. He did not. Daniel's winning flight used a rubber motor made from the July 20, 2022 batch of Tan Super Sport rubber.

I am convinced that at the highest level of competition, the skill and experience of the flyer is the predominant factor in winning. The top five or six Division B fliers at Nationals all had well-trimmed model airplanes. The Freedom Flight Model instructions and many other readily available sources, including YouTube videos, show the technique for properly winding a rubber motor with a torque meter for the longest indoor duration flights. This technique has probably been around for at least 50 years. It was already very old when I first learned it from my mentors (John Hutchison and Cezar Banks) around 20 years ago.

Note in the picture of Daniel above you can see that his airplane used the standard non-flaring 24-cm Ikara prop. Based on my advice, Daniel made the strategic decision that he could win the Division B Flight event with this commercial plastic prop. This allowed him to devote the time that Daniel had available to practice flying, rather than building and testing custom balsa wood props. He also had to spend considerable time over the past six months building and practicing for the Roller Coaster and Storm the Castle events, in which he finished 2nd and 3rd, respectively, at the National tournament yesterday. Even more amazing is the

fact that Daniel won the national championship in the 2023 Flight event flying his backup No. 2 airplane! His No. 1 airplane got stuck on an obstruction during practice the morning of the National Tournament and was damaged during retrieval.

Daniel is an extremely talented and dedicated young man (only 14 years old). Daniel finished first in the Division B Electric Wright Stuff event at the 2022 National Tournament. He then finished first in the Division B Flight event at the 2023 National Tournament. I believe that Daniel is the first student in the nearly 40-year history of the Science Olympiad organization to win back-to-back National championships in the flying events. With Kang Lee's coaching, I have little doubt that he will make the USA Junior F1D team. Daniel will attend the 2023 AMA Indoor Nats at the Kibbie Dome in Moscow, Idaho at the end of June. I anticipate that he will fly HLG and F1D at that contest. I will also attend that contest and have the opportunity to see Daniel fly in a 100+ foot flying venue.



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## **San Diego Orbiteers**

### **Flying Schedule 2023**

#### **Taibi Field Perris, Ca**

<b>Primary Date</b>	<b>Rain Date</b>	<b>Event</b>	<b>CD</b>
<b>June 18</b>	June 25	<b>OT/NOS Rubber/Glider/ Power</b>	
July 16	July 23	P-30/Glider/Power	
August 20	Aug 27	Coupe/Glider/Power	
September	15,16,17	Free Flight Champions Lost Hills	
September 10	Sep 24	OT/NOS Rubber/Glider/Power	
October 15	October 22	P-30/Glider/Power	
November	10,11,12	Dual Club, Lost Hill, Ca.	
November 19	November 26	Coupe/Glider/Power	
December 17		Make-up	
MP 3/23			

## POWER IN THE 2020 NFFS POSTAL

The first time I tried it was at Perris Ca. That is nearly a 300 mile round trip. It was a good day but finding models in the tall wheat was time consuming and I only made 11 maxes before launching into down air. Some lessons learned though.

Finally a morning of calm was predicted for the Jacumba airstrip, 73 miles from home and bordered by Mexico on the south, highway 94 on the north, low mountains on the east, and lots of tumble weeds outside the area cleared for emergencies. After the early morning, when the wind picks up, it is usually well over 70mph so this effort would have to be done early and quickly.

Well prepared, all of my batteries were charged the day before. I would be using my Apachylon, just a pylon version of Apache36, an E36 model. Not the ultimate performer that the Apache36 is, but very good and easier to launch consistently.

No testing, no practice, no time for that. I had prepared to be efficient. The first 2 flights were easy but the third was not spot on in the climb, still okay for the 2 min max. Made a small adjustment but the next flight was also a bit off, and the next, but still maxing. What was going on? Found it! The motor was very loose. Had to take the mount off and tighten those two tiny screws that hold the motor to it. Next climb was back to seeming perfection.

The next 12 flights were uneventful except that the model had begun landing in the nearest tumbleweeds, that was slowing me down. My fault,

just was not launching from the right spot. Dang, spilled my coffee, almost on my charger, and lost my caffeine. Oh well, that part of the plan got dumped.

Around flight 20 I did not get enough right into it, luckily it still climbed and transitioned well. Getting tired. I was doing all of this at an ugly, rumbling jog. Must have been a sight with my obese body. The only rests were waiting for the model to glide for the 2 minutes while walking slowly after it. Still almost no drift so this part was fun. Wish I could have taken the time to let them glide to the ground.

Finally, not long after 9am, I let my tiredness defeat me. Instead of making sure of the air I just launched. It was a downer and the model scraped in at 97 seconds. So, 29 maxes. I hope this shows the need for the Deloach / Buddenbohm rule proposal which limits the number of regular maxes to 6 and then goes to a flyoff later in the day. I guess I pissed NFFS off, again, as they never sent the promised award T-Shirt.

P.S. I used the same model to win the E36 mass launch event at the 2023 Isaacson.



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El Torbellino is the official newsletter of the San Diego Orbiteers, an Academy of Model Aeronautics (AMA) Charter Club (#1113) and a California not for Profit Corporation. This newsletter is sent monthly to all paid members, selected exchange and magazine editors. Non-Members may subscribe at \$15.00 per year within the U.S.A., offshore price will be adjusted to reflect the postage required. Materials from El Torbellino may be reproduced on an unlimited basis by other publications, but proper credit is requested.

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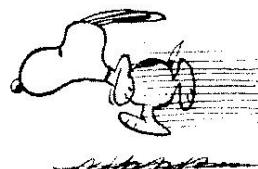
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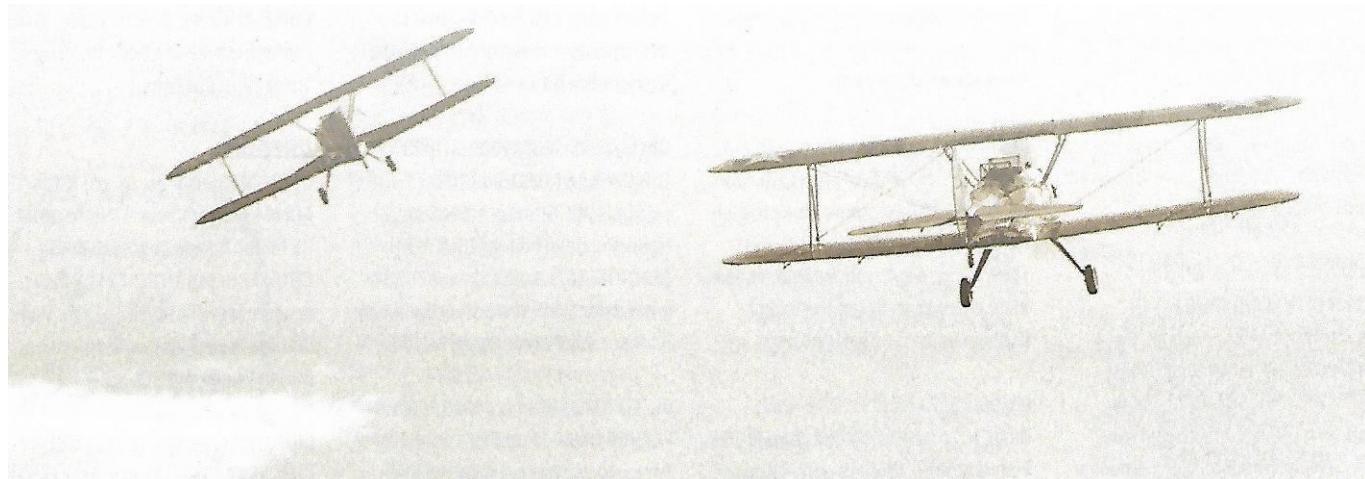


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## **WHAT'S HAPPENING - June 2023**

June 18 - San Diego Orbiteer Outdoor Monthly

Taibi Flying Field, Perris CA, 7:30 am

Events: OTS/NOS RUBBER / Glider / Power