# Altitude!

**South Jersey Area Rocketry Society Official Newsletter** **NAR Section # 593**

**VOLUME 5, NUMBER 2** **= $1.00 =** **MARCH / APRIL 2003**


## SoJARS Remembers Columbia Heros

**STS 107 "Columbia" Crew**

Front Row (left to right): Rick Husband, Kalpana Chawla, William McCool
Back Row: David Brown, Laurel Clark, Michael Anderson, Ilan Ramon
Undated AP Photo / NASA.

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***Altitude!*** is the Award Winning* Official Newsletter of SoJARS, the South Jersey Area Rocketry Society, NAR Section #593. ***Altitude!*** is published bimonthly for the benefit of SoJARS members. Information contained in ***Altitude!*** may be used by anyone as long as proper credit is given.
The **SoJARS website:** **http://www.sojars.org**
The **SoJARS Hotline:** 856-424-5905
Email address: **SoJARS@rocketryonline.com**

# Calendar of Events

## SoJARS Meetings

Unless otherwise specified, all meetings take place at the Woodbury Public Library, 33 Deleware Street, Woodbury, NJ, (856) 845-2611. Directions are available on our web site. For 2003, meetings will all be held the 4th Tuesday of the month, 7:00pm - 9:00pm, in the Board Room.

Tuesday, March 25, 2003.
Tuesday, April 22, 2003.

## SoJARS Launch Dates

Our launch area is at the Gloucester County College. Occasional special launches at Sorbello Farm. Directions are available on our web site.

Sunday, March 16, at Sorbello Farm.
Contest: B RG, B SD, C SuperRoc, Random Dur.
See Page for details.

## GSSS, NAR #439

Launches are usually held on Saturdays each month, 10am - 3pm: Mar 22, Apr 26, May 31, Jun 28, Jul 26, Aug 30, Sep 27, Oct 25, Nov 29, Dec 27, 2003.
Location: North Branch Park, near Somerville, NJ
GSSS Hotline: (908)-658-9417
Website: http://www.robnee.com/gsss/

## Garden State Tripoli, TRA #74

Next Launch: TBA.
Location: Cederville, NJ.
Website: http://www.njtripoli.com/

## METRA, TRA #94

Next Launches: Apr 5-6, May 3-4, Jun 7-8, Jul 5-6, Aug 2-3, Sep 6-7, Oct 4-5, Nov 1-2, 2003.
Location: Barron Farm, Wawayanda, NY.
Hotline: 973-694-5695
Web: http://www.metrarocketclub.org/

## PARA, NAR #520

Next Launches: Feb 2, Mar 16, 11:00a - 4:00p.
Location: a farm 9 miles north of Doylestown, PA
Phone: You may call Chuck Arkens (215) 855-5599 or David Stoetzer (215) 412-4348 the night before or the morning of the launch for verification.
Website: http://www.para520.org

* NAR's Best New Newsletter '99-'00; Honorable Mention '00-'01 and '01-'02.

## Calendar of Events
Continued

### SPAAR, NAR # 503
Next Launches: Mar 2, Apr 6, May 4, Jun 7-8, Jul 6, Aug 3, Sep 7, Oct 5, Nov 2, Dec 7, 2003.
Location: Cocalico High School in Denver, PA.
Website: http://www.spaar.org

### Deleware Tripoli, TRA #106
Next Launch: March 15-16, 2003.
Location: Harper Farm, Rhodesdale, DE
Website: http://www.detripoli.org/

### Maryland Tripoli, TRA #68
Next Launch: March 29-30, 2003.
Location: Higgs Dairy Farm, Price, MD
Website: http://www.mdtripoli.org/

### Team America Challenge
Around April 2003. Go to the NAR website for details: www.nar.org/Tachallenge.html
Specific dates and locations will vary by state, but we are hopeful that SoJARS will be called upon to host South Jersey's Fly-Offs.

### Altitude! Deadlines
Submissions for publication are accepted continuously by the editor. The Deadline for the May / June 2003 issue will be May 3.

## Editorial
By Joe Libby

What can I say. What can any of us say about the tragic loss of the seven Columbia astronauts on February 1st. We dedicate this issue to those pioneering, adventurous, brave souls who gave their lives so that mankind could learn, grow, experience a little bit more, a little bit beyond what is easy to grasp, a little bit further into the vast universe of which we are a tiny, yet self-aware and curious bit.

We do not want this issue to be about sadness, though. As Art reminds us, our's is a really fun hobby. One of exploration, education, creativity, and just plain hands on craftmanship.

As for this issues contents, take a look at the Masthead: notice our new Secretary, Ed Blair, and our new Webmaster, Bob Jonas. Thanks to both of you for "stepping up to the plate." All other officers remain trapped – I mean were reelected!

I did put a little of the ATF / legislation stuff in, trying to keep it informative more than emotional. Thanks to Izzy for his input and grassroots efforts.

We also have been added to the email list of a NASA outreach program specifically for Model Rocketry Clubs. They'll send me a monthly story which we can include in this newsletter in a new section: NASA Space Place (they even sent me a cool logo to use).

Finally, I decided to put a new section in entitiled "Correspondence." This issue is essentially my own correspondence, but I encourage you all to send me pertinant emails you've had that you'd like to see published for the club at large to read. I of course asked permission where I thought it necessary, and deleted out return email addresses, except my own. Let me know what you think, and keep those submissions flowing!

## Editorial Oversight & Apology

In our last issue on page 5 under the photo of our trailer I erroneously credited only Steve Bastow with re-building it. In reality Bob Jonas deserves some serious credit here. Steve Bastow brought to my attention that not only did both he and Bob work together on the trailer, it was in fact Bob's uncle who donated the trailer to SoJARS in the first place. I am embarrassed and really sorry I didn't credit Bob for his work on the trailer let alone for getting it for us.

Additionally, Bob, we all appreciate very much how you also supply you own personal (& expensive) weather station equipment so often at our launches, and how, even if you aren't launching, you either take pictures, work the RSO/LCO table, monitor winds, recover rockets, and just add to the spirit and morale of the launches. We also thank you for your role as our votemaster, and as I mention above, for taking over the reins of the website. Thank you.

## President's Report
By Art Treiman

Dear Sojarians,

Well, let's see. Snow, ice, snow, sleet. We haven't flown for months, and at the time I write this even our March launch is threatened. The hobby is threatened. I spend hours reading online about all the problems the hobby faces, not to mention the threats of war and terrorism, yada, yada. I also realized that as a result my past few president reports have been pretty negative, and, well, I'm actually burning out a little. When a hobby becomes more work than fun, you start to think. Then came Tuesday, February 25th.

Bob Ross had offered to have the meeting at his house for a change to show off his trains. Sure, I figured, sounds like a nice change of pace. I couldn't have been more wrong! For those that don't know Bob well, if you've been to one of our launches his rockets are the ones that turn your head. You know, the ones that look like museum pieces. The ones that, no matter how hard you tried, you'd never come close to approaching the quality of build and finish. The ones that Bob likes to strengthen a little so they don't get beat up (you know, scratch built quadruple balsa/epoxy/glass laminate triple primed with individual pinhead scale rivets built into the human-hair thickness steel reinforcing the hollowed out dowel escape tower that was built from scratch because the kit one didn't quite match the pictures he took of the original at the Smithsonian.although the model is probably better built than the real thing anyway!) More than a change of pace, seeing the masterpieces in Bob's rocket and train collection made me remember what the hobby was all about.

The less business-agenda and more fun-agenda made me remember why we have a rocket club. Picture a dozen idiots sitting in rapt silence watching the liftoff scene from Apollo 13 on Bob's monster TV set (is it a TV or an AMC Theater. I'm not sure which. Oh yeah, it had Ed Blair in the background; must be a TV!) Then we went to the basement for the meeting and enjoyed Bob's rocket garden. This area, previously known as a pool table, hosted Bob's best rockets, and as such was a sight to behold. We talked, ate, then checked out Bob's little train set.

Bob's rockets are only half his talent. I paid fifteen bucks in Lancaster, PA, last spring to tour a train museum/layout that only wishes it was done as nicely as Bob's. Beautiful mountains of Colorado (I think), the minining camp, and thousands of scale acres fill (literally) Bob's entire basement.and I had to leave before the electric race cars started running. But I didn't leave before I said goodbye to Mrs. Ross and, of course to Bob's home made/invented robot. Mr. Data pales by comparison to it!

Well, I guess the point is, seeing our hobby at its best made me forget all the "b.s." that we sometimes get wrapped up in. Despite all the issues we have, a la congress, ATF, insurance, field problems, weather problems, etc., .we still have a terrific group of folks and one cool hobby to enjoy! So, after you read this, go to your basement, garage, or wherever, and get a little balsa dust under your nails and some glue on your fingertips (not epoxy, though!), and we'll all watch it fly in a few weeks!

See you at the field,
Art

## Member's Forum

### Risk in Space is Worth it

Copied from Letters to the Editor
Philadelphia Inquirer
3 February 2003

On Feb. 1, we were all once again painfully reminded of the high price of human space exploration. In the wake of the Columbia tragedy, many people are once again questioning the value of manned space exploration. Is it worth it to risk human lives and spend billions of dollars in space when there are bigger problems to deal with here on Earth? The answer has never been clearer: absolutely yes.

Our history is filled with achievement and scientific advances. Most have come at a high cost in human lives.

It is human nature to explore the unknown. Why space? Not just because it is there, but because mankind's future is in space. Sooner or later we will outgrow the resources that the Earth provides. Today's small steps are laying the groundwork toward our eventual home in space.

The crew members of Columbia knew and accepted the risks they took. They are not the first space explorers to pay for discovery with their lives. They will not be the last. It is our duty to honor their memories by continuing to pursue manned space exploration, mankind's greatest adventure.

**Arthur Treiman**
President
South Jersey Area Rocketry Society
Cherry Hill

## Blue Sky Helicopter Services

By Ed Blair

On February 2nd our family went to Cross Keys Airport for some fun. That day was our son Phillip's birthday. I know he was born on Ground Hog Day and we named him Phil?! Well besides that for his birthday we bought him a Helicopter ride, and what a ride it was. I have never flown in my life so it was a first for me.


Our flight left at 11:00 Am we flew out to Phila and boy let me tell you it was great. Now I know how a rocket feels. Our pilot's name was Joe and he was great. We had some great turns and rises better then the biggest roller coaster I have ever been on. We where able to take three people with a weight limit of 500 lbs for 15 minutes. It was a little windy that day which made it more of a ride that words cannot describe. The cost of the trip was $125.00 for three people.

All I can say if you have never flown in a helicopter before you need to try it. You can learn all about it by a visit to their web site www.blueskyhelicopter.com

# Correspondence

## NASA's Space Place Q&A Line

**From:** Nancy J Leon
**Date:** Wed Mar 05, 2003 11:51:22 AM US/Eastern
**To:** rocketclubeditors@jpl.nasa.gov
**Subject:** Questions for Space Place Toll-Free Recorded Message?

Since you frequently work with kids and the lay public, you probably hear a recurring set of questions that these audiences want to know about space and space exploration. Our Space Place Toll-Free recorded message tries to answer one such question each month.

I wondered if you might like to participate in this NASA effort. Here's how it works: each month, one of organizations we work with submits a half dozen questions that they have been asked about space and space exploration. Misconception questions are fine too. Dr. Marc Rayman then chooses one of the

questions and prepares a recorded answer (in which he credits the organization which submitted it.) You can hear the current recording at (866) 575-6178.

Would you like to send me some questions for the Space Place recording? I would really appreciate receiving them. I am currently looking for the March topic.

Thanks very much,
Nancy Leon
NASA Space Place Program
NASA/JPL
4800 Oak Grove Drive, Mailstop 301-235
Pasadena, CA 91109

## Space Day & Astronomy Day

**From:** Russ M
**Date:** Sun Mar 02, 2003 02:44:53 PM US/Eastern
**To:** Joseph Libby <jlibby257113@comcast.net>
**Subject:** Re: Astronomy Day / Space Day Events

Space Day is May 1st, checkout www.spaceday.com

Astronomy Day is May 10th, checkout www.astroleague.org

Astronomy week is May 5th to the 11th
Russ Mozier

## Correspondence btw Art & Steve Flynn

Art,

I was so alarmed by your Presidents Message in this edition [*Jan / Feb 2003*] of your newsletter that I had to call Zeppelin Hobbies myself and talk to Lou. Either he changed his mind about his selling of some high power motors, whomever you get the word from was an HPR SNOB, or you were only half-informed. The truth is, Zeppelin will stop selling motors requiring a storage magazine. That EXCLUDES reloads up to and including J engines. I would say that H, I, and J reloads are HPR motors, don't you? Messages like you put in your bulletin could drive Zeppelin out of business. You may publish my reply to your Message.
Stephen E. Flynn
GSSS Launch Rack Editor
Part Time Sojars CD
NAR 23648
Level 1

In response to Stephen Flynn's email:

I have two sources to my statement:
My primary source is Joe Burger in a public post to rmr. In this post he states that:
Zeppelin has decided to "discontinue High Power at this time." Joe Burger is a representative of Aerotech, the manufacturer of the motors in question. I believe our misunderstanding is due to the fact that Mr. Burger's statement is conflicting. He states that Zeppelin will not carry high power due to storage issues, but will carry EZ Access loads. However, the BATF, in its August, 2002 "ATF Explosives Industry Newsletter," which is sent to all LEUP holders and posted to ATF's website (www.atf.treas.gov) states quite clearly that it intends to regulate motors based on assembled weight, not by the weight of the individual slugs. This means that EZ Access will require storage.
So, we are both correct. The post by Aerotech stated that Zeppelin was discontinuing high power. Your call to Zeppelin states they are carrying EZ Access loads. ATF states that EZ Access is defined by them as High Power and will be regulated (and require storage).
What does this mean? Simple...
***Donate to the NAR's legal fund to help fight this regulation! www.nar.org***
Finally, my message was published in the "Presidents Report" which is, in part, my opinion on events that affect our hobby and our club. The issue of EZ Access is highly controversial and I chose not to get into it in my report. The "take home message" of that part of my report was, and still is, that we as rocketeers face many hurdles to continue in our hobby. One of the latest is the fact that the storage regulations have become so burdensome that the one fine high power vendor in our state has stopped carrying some of his most popular products. Whether or not EZ Access continues to exist is only part of the issue.
So, both here and in the next newsletter I formally state the following clarifications to my Presidents report:
Facts (as reported by Aerotech): Zeppelin has stopped carrying larger high power motors due to storage issues, but will continue to carry consumer and EZ Access motors.
Opinions: Zeppelin is a superb vendor. I have dealt with them personally multiple times. They deserve our support any way we can, especially in these difficult times. Hopefully we can win the lawsuit so that Zeppelin can go back to carrying the full product line of high power rocketry items soon.
Art

Here is the original message from Aerotech:
From: Joe Burger
Subject: Zeppelin Hobbies Update
Newsgroups: rec.models.rockets
Date: 2003-01-08 10:11:00 PST

We just had a conversation with Lou at Zeppelin Hobbies.

He plans to continue carrying AeroTech consumer up through EZ Access products. He stated that 4 different agencies are hounding him about storage issues and that has forced him to make the

decision to discontinue High Power at this time. If the agencies lighten up on him then he would consider to carry High Power again in the future but until then he will not be stocking High Power. For consumer products and EZ Access in that area please consider using Zeppelin Hobbies.

If you require more information from Lou then please feel free to stop by his store. He does request that phone calls be kept at a minimum.
Joe Burger

Art

I still hold that:

It doesn't matter what legalities are, Zeppelin is still selling some kinds of high power engines. I'll also publish this "controversy" in the GSSS newsletter. That Aerotech rep. statement is a bit misleading.

By the way, in the way of "damage control" for Lou, he has also invested in quite a few Aerotech F's that could be fun. I think that, being such an exclusive vendor of motors, Zeppelin needs our support now more than ever.
Steve E. Flynn

## Updates from Izzy in NY

**From:** Ismaeel Abdur-Rasheed
**Date:** Thu Feb 27, 2003 09:00:40 AM US/Eastern
**To:** various
**Subject:** Rocketry Book Recommendation

Fellow flyers,

If you have an interest in, or have ever been curious about, High Power rocketry (G motors and up, or clustered F motors) read on.

I heartily recommend the recently released book "**Modern High Power Rocketry**," available for $29.95 (including shipping and handling) from http://www.modernhpr.com

It has over 400 photographs including an extensive spectrum of products and construction techniques.

I rate it a "definite buy" !
Ismaeel "Izzy" Abdur-Rasheed
TRA 09217 NAR 80381

**From:** Ismaeel Abdur-Rasheed
**Date:** Mon Mar 03, 2003 10:19:42 PM US/Eastern
**To:** Joseph Libby <jlibby257113@comcast.net>
**Subject:** Re: SoJARS Kudos

Hey, Joe!

I have to tell you what an impression you [*SoJARS*] made on me and my kids. I never met a friendlier bunch of folks as when we launched with you at SoJARS last year.

Since then we have also flown at GSSS and METRA (the HP guyz in Waywayanda, NY) and also belong to CATO and CTRA (HPR) clubs in CT we haven't even had a chance to fly with yet. I got so caught up in projects around the house, but we're getting ready to fly steadily this spring.

The kids and I have stocked up on 70 model kits to build, and I have 8 HPR kits to build myself. Before we're done we'll have built every type of kit available, and will be up to doing "scratch builts" from there on out. We're also planning to go to John Wickman's "Rocket Camp" in Casper, Wyoming next year - which is a different level entirely! I am living my childhood dream with my kids!!!

One of my projects has been the construction of a model / small HPR rocket shop. I have dremel drill press, routing, sanding and "freehand" stations, a combination belt and disk sander, a miniature lathe, scroll saw, grinder, dust collection system, and my pride a joy: a home built 4'W x 2'D x 3'H paint spray booth that'll meet OSHA specs for air exhaust quality. It is a downdraft table with paper, "tacky" and activated carbon filter statges! When complete, it will move 1500 cfm through it (variable speed, of course, or the paint would never reach the rocket!) so epoxy fumes never reach you and won't bother the neighbors.

In addition, we have a plethora of specialized tools that are perfect for the hand tooling of model rockets, from sanding jigs to blade holders that use surgical blades. When it's all done, we'll put up a website to share the ideas, products and suppliers we found.

I would love to write a book review, but can't commit to that as my time is so consumed with my "political activism" on behalf of the hobby. If I do find the time, I will certainly send it right off to you. (BTW, this March issue of Extreme Rocketry has a short review of the book I recommended at the back.)

Right now I'm helping preserve our right to fly. I'm very active on Rocketry Online, and disseminate information about the regulation crisis and what is happening with Senator Enzi's bill to 5 other rocketry forums like "The Rocketry Forum," "Nuclear Space," "space.com," "Wild Hobbies" and Compuserves "Sport Rocketry Forum." The more awareness that is created, the greater our political influence to get the exemption for hobby rocketry.

My immediate focus is speaking with the media, and managing an Internet-based media repository of all coverage of the issue, and where media organizations can do research effortlessly. I will let you know the URL when it is up. I would love if you could contribute same of those editing and layout skills you have that makes Altitude the model newletter it is!

I want you to know that I had read your letter previously, [*see below, my letter to our two US Senators from NJ*] and was inspired by it. In contrast

to the usual dry iteration of the issues, you imparted your personal experience and the stake you (and we all) have in our choice of hobby.

I am attaching my letter (in MS Word format) [*see below*]. You are at liberty to quote it, or use it in its entirety as you see fit in the interest of preserving our hobby, and our freedom to self-govern.

Good luck, stay in touch, and pass warm feelings and high regard to the SoJARians on behalf of myself and my kids!

Best regards,
-iz

For more info check out:
www.space-rockets.com/homeland
www.space-rockets.com/congress

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March 3, 2003

[*Sent to Senators Frank Lautenberg and John Corzine*]

Dear Senator …

I am writing to alert you to certain provisions within the Homeland Security Act that are adversely affecting the hobby of model rocketry. I do not believe this was Congress' intent when drafting and passing this important legislation.

As you may know, Senator Michael Enzi of Wyoming will soon be introducing legislation that provides a simple fix for this problem. The bill will not remove the rocket propellant from the ATF Explosives List. Instead it takes the same approach used by other hobby industries. For example, black powder is on the ATF Explosives List, but a person does not have to get an ATF permit if the black powder is used for antique firearms or devices. Under his legislation, rocketeers would be exempt from an ATF permit requirement when the chemicals/materials were used in consumer and hobby rocketry.

I have been flying model rockets since I was in Junior High School. It still excites me to see my own hand crafted model soar into the sky and return safely to Earth to fly again. But even more exciting to me is that look, that sense of awe, that obvious positive impact you see on the face of a child when he finishes his countdown and presses the launch button and watches, mouth invariably wide open, as his own handiwork flies into the stratosphere!

It is too often the case that our youth are diverted from studying science, mathematics, even history (yes, rocketry can be educational in history and politics) because it's dull, boring, of no practical use as far as the kids are concerned. They're just simply not nearly as fun as MTV or as exciting as Professional Wrestling. But I have yet to meet the child, boy or girl, whatever the age or walk-of-life, who didn't find it even a little fun to build their own rocket, let alone see it fly. Certainly some few will be motivated to study those boring subjects a little more. More importantly, those who already have an interest will be energized and reinforced that this stuff can be cool.

There are other important reasons why the hobby of model rocketry should be kept as fun as possible. It is, afterall, just a hobby. But there are businesses that depend on it, to greater or lesser degrees. From specialty rocketry hobby suppliers, to general hobby stores, to the US Postal Service and carriers like UPS.

Education, motivation, sparking and maintaining scientific interest in our youth, not to mention commerce, and just plain fun.

You will undoubtly receive many letters and calls about this issue. Many may go into detail about the specific restrictions the new lay creates for us hobbyists, and/or the specific recommendations of Senator Enzi. For these details I encourage you to contact Senator Mike Enzi or Candice Cotton (202 - 224 - 3424) on Senator Enzi's staff to further discuss this issue. I believe the spirit of the Homeland Security Act to protect us from terrorists, both domestic and foreign, will not be weakend a bit by providing the simple fix proposed by Senator Enzi. At the same time it will allow for easy access to a truely educational and wholesome hobby with nearly 5 decades of proven safety as well as value. Please support or co-sponsor this legislation that would exempt rocketry from the Safe Explosives Act.

Thank you in advance for your serious consideration of this issue.
Sincerely,
Joseph A. Libby, MD
Physician, Internal Medicine
Newsletter Editor, South Jersey Area Rocketry Society

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Dear Senator Clinton,

My three children are between the ages of nine and twelve. They and I are native New Yorkers, and my wife is a naturalized citizen who migrated from Guyana, South America more than fifteen years ago. I am fortunate to be able to provide for my children many things which I never enjoyed as a child. We are all proud and feel very privileged to live in a free society where we have never had a fear of government intrusion in our lives, and we all feel very sad that peoples of other countries cannot say the same.

In the aftermath of Sept. 11 we have been determined to carry on in defiance of those attackers who would destroy our way of life. A flag has been prominent in our front window, because our stand is that America is the example of what works. We

continuously looked for the positives in our lives as New Yorkers and planned, and continued to dream in confidence.

Hobby rocketry was a childhood dream of mine that could not go beyond the fantasizing over an Estes Model Rocketry catalog. It became a fulfillment for me when I could express my love of science and sport in hobby rocketry now that I have better means, and when I could give my children the opportunity that I didn't have. And so we embarked together in this pastime as family; one that is "quality time" for us all; one where there is curiosity that leads to learning, challenge that leads to skills building, and results that lead to self confidence and the acknowledgement of peers.

For my children and I (and my wife, when its not too cold!), taking our hand built rockets to the field where we fly at organized launches with rocketry clubs, this is a social activity. An occasion of meeting new friends with whom we instantly have a lot in common, where we get to "show off" our projects and admire theirs, and where we practice safety foremost above everything else.

You may be receiving letters from other New York rocketeers who will describe all the bullet points where regulation arising from the Safe Explosives Act have effectively suspended the practice of hobby rocketry. They may describe misclassified propellant materials, inaccessible supplies due to shipping restrictions, unfeasible storage requirements, or alarming procedures that invade our personal privacy and our homes.

All of the technical issues are available to you from Senator Enzi's office. They can describe the Senator's proposed bill to exempt hobby rocketry materials using exemptions long provided to other groups, like those who possess antique firearms. And you have an opportunity to co-sponsor the bill, or otherwise support it.

But what I want to communicate to you is the human side to the current regulations; regulations which I do not believe Congress had intended, but the subtleties of which nonetheless have had immediate and far reaching impacts.

There is the impact on the small businesses engaged in the manufacturer, distribution and sale of hobby rocketry materials. We spend an average of two thousand dollars a year on hobby rocketry related equipment and materials, and the current regulation of hobby rocketry will take the money spent by hobbyists state and nationwide out of the small business economy. As a result many of these businesses are expected to fail unless the issues are addressed.

There is the far-reaching impact of denying the opportunity for practical science education in mathematics, physics, materials, construction techniques, and testing that hobby rocketry provides. I understand that the Team America Rocketry Challenge involves thousands of students from over 400 participating High Schools nationwide, and that this science competition is at risk due to the inaccessibility of hobby rocket motors. Propellants that are far less dangerous than the propane containers under our backyard barbecue, but which have been deemed by the ATFE so dangerous as to require containment in ½inch thick steel boxes over 75 feet from any building or road.

And there is the personal impact of losing our experience of freedom and security. You know children are very astute, and when they learned that some government agency was making rules that would take away their rocketry hobby, they wondered if we are really as safe as we suppose. I have to explain why someone decided that their hobby was unsafe for America. So they are left with questions of what freedoms may be next, and with what confidence can they look forward, to plan their careers and to dream about their futures.

I have attached my children's own questions in letters they wished to write you. This has been an invaluable demonstration for them of the democratic process in action. Please take the time to look at them. And I respectfully ask that you contact Candice Cotton of Senator Enzi's office at 224-3424 and co-sponsor the proposed bill that will grant relief to this situation.

Sincerely,

Ismaeel Abdur-Rasheed (and family)


## Frisbees in Space

By Dr. Tony Phillips

When Pete Rossoni was a kid he loved to throw Frisbees. Most kids do-it's pure fun. But in Pete's case it was serious business. He didn't know it, but he was practicing for his future career in space exploration.

Grown-up Pete Rossoni is now an engineer at NASA's Goddard Space Flight Center. His main project there is figuring out how to hurl spacecraft into orbit Frisbee-style.

The spacecraft are small-about the size of birthday cakes. "This wouldn't work with big satellites or heavy space ships like the shuttle," notes Rossoni. But a cake-sized "nanosatellite" is just right.

Nanosatellites - nanosats for short - are an exciting new idea in space exploration. Ordinary satellites tend to be heavy and expensive to launch. The cost alone is a deterrent to space research. Nanosats, on the other hand, can travel on a budget. For example, a Delta 4 rocket delivering a

communications satellite to orbit could also carry a few nanosats piggyback-style with little extra effort or expense.

"Once the nanosats reach space, however, they have to separate from their ride," says Rossoni. And that's where Frisbee tossing comes in."

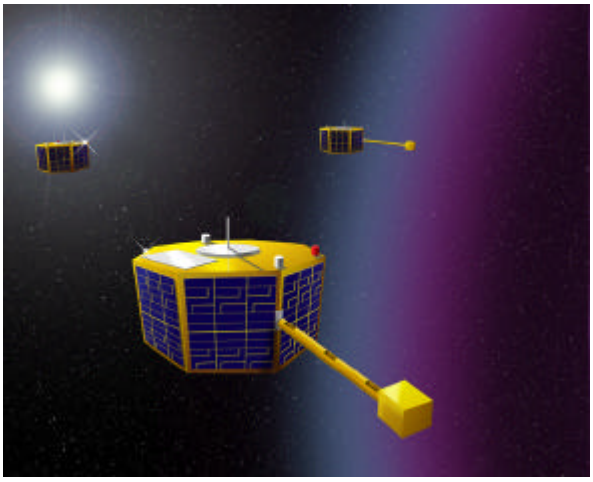
Rossoni has designed a device that can fling a nanosat off the back of its host rocket. "It's a lot like throwing a Frisbee," he explains. "The basic mechanics are the same. You need to impart the spin and release it cleanly-all in about a tenth of a second." (The spinning motion is important because it allows the science magnetometer to measure the surrounding field and lets sunlight to play across all of the nanosat's solar panels.)

"We haven't done anything like this before," says Rossoni. Soon, however, the concept will be tested. A trio of nanosats is slated for launch in 2004 on the back of a rocket yet to be determined. The name of the mission, which is managed by JPL's New Millennium Program, is Space Technology 5 (ST5).

The ST5 nanosats are designed to study Earth's magnetosphere-a magnetic bubble that surrounds our planet and protects us from the solar wind. But their primary goal, notes Rossoni, is to test the technology of miniature satellites.

Can groups of nanosats maintain formation as they fly through space? Will their internal systems-miniaturized versions of full-sized satellite components-satisfy the demands of both the harsh space environment and critical science measurements? Is Frisbee-tossing as much fun in orbit as it is on Earth? ST5 will provide the answers. Read about ST5 at at http://nmp.nasa.gov/st5 . Budding young astronomers can learn more at http://spaceplace.nasa.gov/st5/st5_tortillas1.htm

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



# Russ' Contest Corner

By Russ Mozier

We will be having a contest on March 16th at the Sorbello Farm. The contest flights will be flown along with the sport flights that day. The events are as follows:

B Rocket Glider duration
B Streamer duration
C Super Roc duration - Minimum length 125 cm, maximum 250 cm. The points earned for each flight is the total of the length in cm's times the time in seconds. The total of the two allowed flights are added for a total score.
Random Duration - The target time is decided on just before the meet starts by drawing cards or throwing dice or another random method. The time has to be between 30 and 120 seconds in a multiple of 5 seconds.

## Regional Meets

**Reach For The Sky XV**
May 3 – 4, 2003
Camp Lutherlyn (near Butler, PA)
Host section: PSC - www.psc473.org
Contact: Rod Schafer - cd@psc473.org
Events:
- A Helicopter duration
- 1/4A Boost Glider - multi round
- B Parachute duration
- C Egg Loft duration
- Open Spot Landing
- Random duration

**ECRM-30**
May 17 – 18, 2003
Middletown, MD (near Frederick, MD)
Host section: NARHAMS - www.narhams.org
Contact: Jim Filler - zog43@starpower.net
Picnic Sunday after awards
Events:
- Peanut Sport Scale
- 1/4A Boost Glider
- A Helicopter duration
- Set Altitude - 150 meters
- Random Altitude
- Open Spot Landing

**NOVAAR Regional**
June 21 – 22, 2003
The Plains, VA (about 30 miles west of DC)
Host section: NOVAAR – www.geocities.com/capecanaveral/8561/
Contact: Jim Brower - jbrower721@earthlink.net
Events:
- 1/4A Boost Glider

A Altitude
D Helicopter duration
C Egg Loft duration
1/4A Parachute duration - multi round

**NOTE:** The above is the best information I have to date. If you plan to compete or attend one of these events I suggest you verify all information on that section's web site. Pre-registration will most likley be required. All three regionals include 1/4A Boost Glider as one of the events. This event as well as several of the others are ones being flown at nationals, a great chance for test flights as well as to check out some of the competition.

## Meeting Minutes

### 28 January 2003

Submitted by Ed Blair

Present: A Treiman, B Berman, J Libby, E Riggins Sr, E Riggins Jr, J Riggins, R Mozier, E Romami, B Jonas, S Bastow, B Ross, E Blair, P Blair, P Mevans, D McGinnis, And J Powell.

1. Open Art Treiman.
Review and approve previous minutes.
2. Treasurers Report Art Treiman.
3. Future Launch Dates-Feb 16th/ Rain Date Feb 23rd - March 9th/ Rain Date March 16th. March 9th will be the contest launch date.
4. Launch Failure and Debriefing- N/A.
5. Newsletter-Joe Libby- One word "WOW" Great job Joe!!!!
6. Web Site Update-Bob Jonas will be working on it with Art.
7. Design of the Month- Went to J Powell for a scratch build rocket glider.
8. Update On Field Search- Keep your eyes open. Checking on use of Salem County Fair Grounds.
9. Outreach-N/A
10. Contest Committee Report- Russ talked about contest factors and reading the "Pink Book" from NAR. Contest date is March 9th with rain date of March 16th. Contest will include "B" Rocket Glider, "B" Streamer Duration, "C" Super Roc Duration, and Random Duration. There will be no entry fee.
11. Discussion of Franklin Institute Trip- Joe Libby, it was a great show everyone who went enjoyed the movie.
12. Elections-Bob Jonas counted the votes. All candidates where re-elected and one new member elected Ed Blair as Secretary. There were also some write ins.
13. Potential Field/RSO Table Design- Art is reviewing this design with Barry who drew up the new design.
14. Astronomy- Joe Libby gave a speech on Astronomy. In the discussion Joe spoke about the different types of telescope's that can be used in our area. He also talked about the different groups and clubs in our general area. This sounds like it could be a great addition to our rocket club and maybe members would like to get together for a night of stargazing.
15. ATF Update- Art talked about the tougher rules the ATF are trying to enforce on rocket motors. And the Low Expositive Permits. How we may have to start getting finger printed along with visits to our homes from the ATF Agents. Looks like it will get harder and more expensive to fly High Power Rockets.
16. There are plans and talk of a trip to the Air and Space Museum in Washington D.C. We are looking into cost of a bus trip and a group rate to go there. So watch your e-mail for updates and information on this trip. The trip is being planed for April.
Meeting Adjourn.

### 25 February 2003

Submitted by Ed Blair

Present: A Treiman, J Libby, B Jonas, S Bastow, E Blair, E Romani,
M Dulak, R Will, B Canio, B Ross.

1. Open-Art Trieman
2. Review and approve minutes
3. Treasures Report-Art Treiman, We have money in the account and waiting to spend it on Porta John's.
4. Future Launch Dates-March 9th with a rain date of March 16th. Remember March 9th is Contest day.
5. Launch Failure and Debriefing-No Launch
6. Newsletter-Joe Libby, Deadline for the Newsletter is March 1st. Joe sent the letter to NASA and received a reply from them. Thanking us for the letter. NASA also informed Joe that they have an Outreach Program and will allow us to be part of it. Along with use of the Logo.

7. Web Site Update-Bob Jonas, Bob has taken over the Webmaster Duties and is doing a great job. Bob is looking for any suggestions or ideas.
8. Design of the Month-And the Award goes to Bob Ross and his Rocket Garden. As a note a motion was made and approved to have a model of the year award. Each winner from the design of the month will be entered. And a winner will be chosen from those members.

9. Update on Field Search-Keep looking. We will lose the farm field as of March 16th.

10. Outreach-Art Treiman, The weather has hurt the northern part of The Team America. There where hopes of a local team out of Williamstown area to launch with SOJARS at our February Launch. The Hobby Show is March 22nd anyone that can help out please contact Art.
11. Contest Committee Report-Russ is working with Steve Flynn for March Contest. Hopefully the weather will be with us. The Events are "B" Rocket Glider, "B" Streamer Duration, "C" Super Roc Duration, and Random Duration.
12. Field/RSO Table-Barry and Art are still reviewing plans for a new design.
13. Astronomy-Joe Libby, Joe reviewed the talk he gave last meeting and talked more about the letters wrote too NASA.
14. ATF Update-Art Treiman, Art gave a very informative talk on what is going on. Please watch for e-mails for updates and write or fax you local Senator. UPS will no longer ship motors. At this point you will need a permit and storage just to store a level 1 motor.

15. Adjourn-Bob Ross, First we all would like to thank Bob for hosting the meeting at his house. (the Prime Rib was great) I am sure most of us know Bob for his excellent skills and building rockets. Well folks you should see his basement. Bob invited us to his basement to see his trains. WOW!!!! I never did get a chance to ask Bob how many hours he has put into his set up but looks to me it could be a couple of years. Bob showed us how he made the mountains and the terrain. It was a great way to end a meeting. There where some of us who could have spent the night in Bobs Train Heaven.

# NY Times Pieces Re: Columbia

## A Failed Mission

By Paul Krugman

Some commentators have suggested that the Columbia disaster is more than a setback — that it marks the end of the whole space shuttle program. Let's hope they're right.

I say this with regret. Like millions of other Americans, I dream of a day when humanity expands beyond Earth, and I'm still a sucker for well-told space travel stories — I was furious when Fox canceled "Firefly." I also understand that many people feel we shouldn't retreat in the face of adversity. But the shuttle program didn't suddenly go wrong last weekend; in terms of its original mission, it was a failure from the get-go. Indeed, manned space flight in general has turned out to be a bust.

The key word here is "manned." Space flight has been a huge boon to mankind. It has advanced the cause of science: for example, cosmology, and with it our understanding of basic physics, has made huge strides through space-based observation. Space flight has also done a lot to improve life here on Earth, as space-based systems help us track storms, communicate with one another, even find out where we are. This column traveled 45,000 miles on its way to The New York Times: I access the Internet via satellite.

Yet almost all the payoff from space travel, scientific and practical, has come from unmanned vehicles and satellites. Yes, astronauts fitted the Hubble telescope with new eyeglasses; but that aside, we have basically sent people into space to show that we can. In the 1960's, manned space travel was an extension of the cold war. After the Soviet Union dropped out of the space race, we stopped visiting the moon. But why do we still send people into orbit?

In space, you see, people are a nuisance. They're heavy; they need to breathe; trickiest of all, as we have so tragically learned, they need to get back to Earth.

One result is that manned space travel is extremely expensive. The space shuttle was supposed to bring those costs down, by making the vehicles reusable — hence the deliberately unglamorous name, suggesting a utilitarian bus that takes astronauts back and forth. But the shuttle never delivered significant cost savings — nor could it really have been expected to. Manned space travel will remain prohibitively expensive until there is a breakthrough in propulsion — until chemical rockets are replaced with something better.

And even then, will there be any reason to send people, rather than our ever more sophisticated machines, into space?

I had an epiphany a few months ago while reading George Dyson's "Project Orion," which tells the true story of America's efforts to build a nuclear-powered spacecraft. The project was eventually canceled, in part because the proposed propulsion system — a series of small nuclear explosions — would have run afoul of the test-ban treaty. But if the project had proceeded, manned spacecraft might have visited much of the solar system by now.

Faced with the thought that manned space travel — the real thing, not the show NASA puts on to keep the public entertained — could already have happened if history had played out a bit differently, I was forced to confront my youthful dreams of space flight with the question, So what? I found myself trying to think of wonderful things people might have done in space these past 30 years — and came up blank. Scientific observation? Machines can do that. Mining the asteroids? A dubious idea — but even if it makes sense, machines can do that too. (A parallel: Remember all those predictions of undersea cities? Sure enough, we now extract lots of valuable resources from the ocean floor — but nobody wants to live there, or even visit in person.)

The sad truth is that for many years NASA has struggled to invent reasons to put people into space — sort of the way the Bush administration struggles to invent reasons to… but let's not get into that today. It's an open secret that the only real purpose of the International Space Station is to give us a reason to keep flying space shuttles.

Does that mean people should never again go into space? Of course not. Technology marches on: someday we will have a cost-effective way to get people into orbit and back again. At that point it will be worth rethinking the uses of space. I'm not giving up on the dream of space colonization. But our current approach — using hugely expensive rockets to launch a handful of people into space, where they have nothing much to do — is a dead end.

## Shuttle Program: Fly or Shut Down?

**To the Editor:**

Re "A Failed Mission," by Paul Krugman (column, Feb. 4):

Aside from a handful of scientists, nobody remembers today where they were exactly when the Hubble telescope lifted off. They remember, instead, where they were when Neil Armstrong stepped on the Moon. It is adventurous astronauts, not machines, who have captured the imaginations of two generations — and that's reason enough to keep sending shuttles up.

Calling for the end to space shuttle missions only three days after the Columbia tragedy is not only callous and insulting to the seven intrepid explorers who perished, it's insulting to anyone who has ever

looked up at the sky with wonder. Humans are explorers; any history book will confirm that.

There were countless fruitless expeditions into the sea and lost ships over thousands of years before a Magellan or a Columbus came along. To abandon the space shuttle program because of a lack of results after 113 flights in 22 years is to abandon human progress as a whole.

Arthur Guray
Boston, Feb. 4, 2003

**To the Editor:**

Bravo to Paul Krugman for suggesting that NASA should shut down the space shuttle (column, Feb. 4).

He's right on the mark in perceiving the International Space Station as a giant boondoggle. The scientific results of manned missions, including the moon landings, are negligible compared with the wealth of information gathered by unmanned probes, at much lower cost. Manned missions are not worth the cost in human lives and billions of dollars.

The shuttles are Rube Goldberg contraptions, more than 20 years old. Let's retire them.

William Boggs
Pittsburgh, Feb. 4, 2003

**To the Editor:**

Paul Krugman is correct that the human exploration of space has been a failure, but only in a limited sense (column, Feb. 4). The world mourned the deaths of those seven people because spaceflight exalts human potential. Yuri Gagarin, by briefly visiting space, accomplished something unique not only in humanity's history but also Earth's.

The scientists and pilots who have followed him show their earthbound peers what heights individual excellence can take us to.

Joshua Rosenau
Lawrence, Kan., Feb. 4, 2003

## Op-Ed Submission to New York Times

Op-Ed pieces like Paul Krugman's ("A Failed Mission," Feb. 4) that "manned space flight in general has turned out to be a bust," are depressingly shortsighted.

When Krugman asks, "why do we still send people into orbit?" he misses the whole point. We send people into orbit because orbit is the first step to getting anywhere -- and everywhere -- else. And that, as every schoolkid knows, is the true purpose of spaceflight: to send people elsewhere, to have people living and working in space, to create new homes for humanity.

Why is that important?

History teaches, over and over, that societies that have pushed their frontiers have prospered; those that have not have withered. Space is the next frontier, of both geography and technology. No society has ever gone wrong betting on the frontier. This nation was invigorated spiritually, and prospered economically, by challenging and finding new uses for one frontier after another. Our massive subsidies of roads, railroads, air travel, and other technology in order to exploit them were amply rewarded.

In the process of settling space we will learn, among other things, to manage and sustain closed ecosystems. That knowledge alone could eventually transform and maintain the Earth as a natural habitat for all species, with an indefinitely sustainable economy based on complete recycling of products and renewable energy resources.

Eventually off-world settlements will also provide a reservoir of civilization and terrestrial life, including vital food plant species and varieties, that no single planet-wide catastrophe can destroy, whether of natural origin as asteroid strikes or volcanic upheavals or pestilence, or of human miscalculation as nuclear or biological war or experimentation.

A more nationalistic reason: leadership in Space does translate to influence on Earth. First with Sputnik and then with the U.S. Echo balloon and the Soviet Mir space station, we learned how much Earthbound watchers developed awe, respect and then deference to the nation whose tangible symbol flashed by overhead. There is good reason why the shuttle has been a worldwide symbol of America.

Krugman argues that manned space travel is prohibitively expensive and thus should be curtailed until there is "a breakthrough in propulsion" or "a cost-effective way to get people into orbit." His fallacy is that science develops mostly by increments, not by breakthroughs. We could not have developed the DC-3 without first making bi-planes, and we could not have developed 747s without first building DC-3s. Centuries ago Krugman's predecessors would have told people not to cross the Atlantic in those tiny, fragile wooden caravels, but to wait until steam ocean liners were developed, and besides, there's no use is there in traveling all that rsiky way to a new continent that was only wilderness.

Krugman argues that, even if we did not intend to settle space, machines can do everything in space that humans can. Not so.

The true legacy of the human space program has been the thousands of engineers, scientists, and technicians who were inspired to stay in school and achieve. These are the high-tech dynamos that have driven our technology economy. So, too, will the challenge of space continue to inspire and drive the next generation. Meeting these challenges will force us to stretch our technology, prove our talent, advance our science, and, as with every frontier, evolve new

ways of thinking and living together. No other focused effort promises so much benefit.

Robots lack flexibility, and people are needed to build, maintain, fix the machinery (from Hubble-like telescopes to the small experiments) -- and to tinker on the spot to make the next logical developments. We haven't yet created fully automated, self-repairing machines; we surely will need people on the spot in space.

What we have learned about then human body in space -- where physical disabilities of aging, bone and muscle deterioration occur quickly -- promises to benefit every human on Earth. We can't learn more without having people up there for long periods.

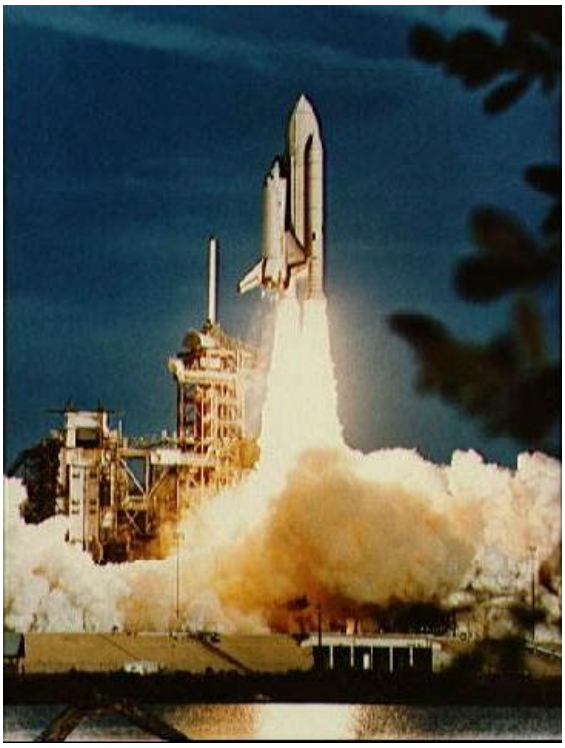
Space also provides a locale for conducting potentially hazardous technological and biological research, helping protect the Earth and its biosphere.

Krugman also argues erroneously that "almost all the payoff from space travel … has come from unmanned vehicles and satellites." The fact is that most of the advanced technology would not have been developed except to preserve priceless human cargo. Then, after building these manned spaceships, scientists and engineers looked at the thousands of specialized small parts they created and then found new on-Earth uses for them, creating hundreds of new industries that would not have existed but for the focused goal of manned space exploration.

In summary, the ultimate purpose of going into Space is to live and work there -- just as the ultimate purpose of exploring the New World was colonization -- and not merely to sit back on Earth and cogitate about what automated spacecraft report back. We do not send our cameras to the Grand Canyon; we go ourselves. We sent Lewis and Clark not just to describe the American West, but to learn where and how people could live there. America grew by sending out seeds in different places and then filling in the spaces with trade and industry and new ideas. People have always found ways to prosper from their environments, however harsh, and we will do so on other worlds. We cannot begin to live and work in Space without first going there. And, it is human destiny to escape the cradle of our planet of birth.

Whatever his original motives, Pres. John F. Kennedy ultimately will be most remembered for setting this nation on the road to Space. That vision was his legacy to the following generations. We should be building on that legacy by re-launching America's space program with bold ventures to send many more humans to orbit -- and beyond. We need a space program that goes somewhere!

Jeffrey G. Liss
Senior Vice President
National Space Society



The First Launch of Shuttle Columbia, STS-1 Mission, 12 April 1981…

…and the Last Launch of Shuttle Columbia, STS-107, 16 January 2003. This was Columbia's 28th flight, and the 113th overall flight of NASA's shuttle fleet. STS-107 was a multidiscipline microgravity and Earth science research mission involving over 80 international experiments performed by the crew of seven astronauts on its 16 day mission.

Photos courtesy of NASA.gov

# SoJARS Letter to NASA

4 February 2003

To All It May Concern at NASA:

The members, families, and friends of the South Jersey Area Rocketry Society extend our most sincere condolences to the colleagues, families, and friends of the seven Columbia astronauts who lost their lives while returning home from an otherwise successful mission into space.

We are a small group of rocketry and space exploration enthusiasts in southern New Jersey, formally organized as "SoJARS," the South Jersey Area Rocketry Society. We are Section #593 of the National Association of Rocketry. We know our sadness at the loss of those seven incredibly intelligent, talented human beings must be a fraction of what you all at NASA are feeling. We are very much aware of how difficult it is to safely power against the force of Earth's gravity to climb high enough and move fast enough to achieve a stable orbit, then decelerate against and into an increasingly dense sea of air to return safely to the Earth's surface. Yet, even we can sometimes fall prey to the illusion of it being a "routine" mission. But we know you all, and especially the astronauts, are always aware of the incredible risks involved. The thousands, even millions of components involved in what must be the worlds most complex machinery must each work perfectly to achieve a safe and successful mission. You are always aware that no mission is ever "routine."

We also wish to take a moment to thank you, all of you at NASA, astronauts, engineers, designers, managers, support staff, sub-contractors, everyone, for the hundreds of safe and successful missions that have been humanity's first steps into space. So much has been learned from these first steps. We have so much more to learn. We want to learn, need to learn, need to explore beyond the next horizon. It is exactly this drive to learn, this need to understand, to explore, that makes us human, that has allowed our species to begin to control our destiny and perhaps even the fate of our planet. NASA missions, both human and robotic, have expanded our horizons tremendously. We have come to realize that the cosmos is vast beyond our comprehension, and Earth is a tiny speck floating in the sparse suburbs of a galaxy that is one of billions. All exploration, on Earth, under it, in the sea, or in space, is inherantly dangerous. But in taking great risks we reap great rewards. This risk taking is not for the timid. Not everyone is able to do what you and the astronauts do. But because of what you do, and the risks you take, we all benefit. We understand our selves and our universe far better today than even a few years ago. For this, we are endebted to you. As Konstantin Tsiolkovsky said at the turn of the 20th century: "The Earth is the cradle of humanity, but mankind cannot stay in the cradle forever." Thank you for taking the responsibility, and the risks for the rest of us humans, to help us begin to crawl "out of the cradle."

Sincerely,

The members, families, and friends of the South Jersey Area Rocketry Society

PS: We know NASA needs our support now more than ever. Some people say there's nothing practical coming from what they are doing up there. But that's like saying it was totally impractical for Magellan to sail around the world or for Columbus to sail East to get to Asia - and he even mistook where he landed for India! I'm sure many uncountable and forgotten people died along the way, too.
Exploration costs - in money & lives. I personally probably don't have the 'right stuff' to do what great explorers do, and I bet neither do most of the nay-sayers; but I like to think I recognize the value of exploration - even if the rewards are far off in the future. I guess I just really admire what NASA does, what it's there for - our future.