



**NASA ACADEMY AT  
MARSHALL SPACE FLIGHT CENTER**

**PROFILE BOOK  
2007**





**Michael Griffin, NASA Administrator**

***"This is NASA's vision for the future. Our mandate is:***

- To improve life here,
- To extend life to there,
- To find life beyond

***So, how do we get to that impressive picture of the future? Part of the answer is by executing NASA's mission:***

- ***To understand and protect our home planet***
- ***To explore the Universe and search for life***
- ***To inspire the next generation of explorers ... as only NASA can."***





## *Table of Contents*

<b>PROGRAM DESCRIPTION</b> .....	<b>1</b>
<b>ELIGIBILITY, SELECTION CRITERIA, AND PLACEMENT</b> .....	<b>1</b>
<b>A BRIEF HISTORY OF THE NASA ACADEMY</b> .....	<b>2</b>
WREN CHAN .....	3
KRISTINA COLLADAY .....	5
JAMES DOEHRING .....	7
ANDREW FUTRELL .....	9
SHAWNA GARRISON .....	11
SAM HARDY .....	13
LEAH MCCARRICK .....	15
TRACIE PRATER .....	17
MARISSA ROSENBERG .....	19
RON TURBA .....	21
<b>STAFF</b> .....	<b>23</b>
PROGRAM DIRECTOR .....	23
PROGRAM MANAGER .....	23
OPERATIONS MANAGER .....	24
<b>LINKS</b> .....	<b>25</b>





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## ***Program Description***

The NASA Academy is an intensive resident summer program of higher learning for college undergraduate and graduate students interested in pursuing professional and leadership careers in space-related fields.

The NASA Academy program is designed to present a comprehensive package of information and experiences about the organization of the NASA agency, some of its most important current and planned science, engineering, education, and technology enterprises, as well as a number of non-technical areas of critical significance, such as management, budgeting, safety, personnel and career development, leadership, space law, international cooperation, etc. Besides attending lectures and workshops, students are involved in supervised research in MSFC laboratories, and participate in visits to other NASA Centers and facilities and a number of space-related academic laboratories and industries.



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## ***Eligibility, Selection Criteria, and Placement***

The participants in the Marshall NASA Academy have been selected based following criteria:

- academic rank (junior, senior, first, or second year graduate)
- academic performance (GPA higher than 3.0 or equivalent)
- demonstrated interest in the space program
- demonstrated leadership qualities
- research and/or project interest and experience
- maturity
- recommendation and references
- citizenship or permanent residence is required for US applicants

Both the selection process and placement of the Academy participants in Marshall's research groups were assisted by recommendations from faculty, administrators, academic supervisors, and co-workers, and the applicants' self-profiling essays.



## **A Brief History of the NASA Academy**

The NASA Academy was founded in 1993 (as the "NASA Space Academy") at the Goddard Space Flight Center by Gerald (Jerry) Soffen, former Mars Viking project scientist, architect of the NASA Astrobiology program, and first Director of the Goddard Office of University Programs. Jerry was an accomplished scientist and a dedicated educator. He took advantage of the unusual opportunities presented to him during his career and realized the importance of mentoring in the life of young professionals. In his vision, the Academy was intended to exceed in purpose and content all the other regular internships by familiarizing its participants with as many facets of the NASA agency as possible. With his dynamic personality and unique leadership, he opened many gateways and defined a new standard of excellence.

*"To give possible 'leaders' a view into how NASA, the university community, and the private sector function, set their priorities, and contribute to the success of the aerospace program."*



*Gerald Soffen, Founder  
(1926-2000)*

As the reputation of the Goddard Academy widened, new NASA Academy Programs were started at the Marshall Space Flight Center (1994), the Ames Research Center (1997), and the Dryden Flight Research Center (1997). In 2005 Goddard, Glenn, and Marshall will host their own Academy.

The name of the program changed from "NASA Space Academy" to "NASA Academy" at specific NASA Centers. A continuous effort is being made to establish or re-establish Academies at various NASA Centers, with different profiles and focus areas.

Jerry Soffen died on November 22, 2000. We honor his legacy by continuing the Academy program that he loved so well.

In 2002, the NASA Academy celebrated ten years of successful activity. So far, more than 450 students have graduated from the program, both domestic and international students.



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**Carnegie Mellon University**

Pittsburgh, Pennsylvania  
Materials Science and Engineering  
Bachelor of Science, May 2009

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**NASA Academy Research Project:**

*“Materials and Processing of Common Bulkhead for Upper Stage of Ares I”*

Principal Investigator: Sandeep Shah



**E-mail:**

wrenc@andrew.cmu.edu

**Academic and Research Experience**

- ***Carnegie Mellon University, Pittsburgh, PA, Spring 2007 - Present***

Gathered data from research papers on materials and processing of GHz (1-10 GHz) noise absorbers under Dr. Michael McHenry

- ***Long Island University, Brooklyn NY, Spring 04 – Spring 05***

Aided in producing samples and analyzing sol-gel processing of yttrium aluminum garnet from garnets with various low carbon chain alcohols under Dr. Edward Donahue.

**Work Experience**

- ***Lenix Hill Hospital – Volunteer, Summer 2002***

Completed tasks to help bring the hospital's occupational health files up to date.

- ***Red Cross – Volunteer, 2004 – 2005***

Assisted fellow volunteers in various projects such as preparing gifts for the needy during Christmas and preparing paperwork/filing/mailing to other volunteers.

**Memberships and Activities**

- Pittsburgh Go Association, President, Fall 2005 – present
- American Go Association, Spring 2003 – present
- Astronomy Club, Fall 2005 - present
- CMU Student Senate, Member-at-large, 2006
- Robotics Club, present
- Asian Christian Fellowship/Pittsburgh Chinese Church, Fall 2005 – Spring 2006

### **Skills and Certifications**

- Java, C, Unix, CompTIA A+ training, Cisco CCNA training
- Languages – Cantonese (spoken), Spanish (written and spoken)
- Research – Work with various instruments/equipment

### **Honors and Awards**

- Toshiba/NSTA Exploravision Honorable Mention Winner, 2003
- New York Science and Engineering Fair Semifinalist, Spring 2005
- Carnegie Mellon University Scholarship Program, merit scholarship

### **Hobbies and Interests**

Playing Go, randomly browsing Wikipedia, swimming, playing piano, robotics, spacecraft propulsion, future technology

### **Personal Statement**

I was born to parents who were first generation immigrants from Hong Kong via Columbia. In some ways perhaps affected by Confucian ethics passed through Chinese culture, I feel somewhat close to my family and by extension the Chinese people. Often it rouses my spirit and pride when learning about my own family history and the achievements of the Chinese. Having been raised in America and parents from Hong Kong, where East meets West, I am quite individualistic which conflicts with my collectivistic background. It seems this balance helps me see both sides of the argument no matter what but at the same time leaves me indecisive. Growing up from two near death experiences caused by my two siblings, fear overwhelmed early signs of boldness and fearlessness shaping me into a person more cautious and fearful than what my genetics probably had in mind for me. It is this indecisiveness that allows me to see things but at the same time prevents me from acting upon it. A trait that I possess, perhaps from my innate boldness wishing to exert itself, is my tendency to act on intuition giving me an edge when quick judgment is needed through it proves to be a great weakness bolstering my impatience. Perhaps this fear of death coming from near-death experiences left me motivated to shape myself and by extension shape the world around me.



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**Pennsylvania State University**

University Park, Pennsylvania  
Physics  
Bachelor of Science, May 2007



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**NASA Academy Research Project:**

*“Test of the Solar Energetic Particle  
Spectrometer Proto-type”*

Principal Investigator: Mark Christl

**E-mail:**

kcollada@phys.psu.edu

**Academic and Research Experience**

- ***The Pennsylvania State University, Department of Mathematics, Pritchard Fluid Mechanics Laboratory, University Park, Pennsylvania, 2006 – 2007***  
Studied mathematical properties of biodiesel reactions and the fluid dynamics of biodiesel. Currently experimenting with new possible biodiesel reactions, reaction rates, and product simulation.
- ***The Pennsylvania State University, Department of Physics, Davey Lab, University Park, Pennsylvania, 2006***  
Studied atomic, molecular, and optical physics. Built and designed bow-tie cavity for tunable 671 nm solid-state laser
- ***The Pennsylvania State University, Department of Physics, Pennsylvania, 2005***  
Studied in-depth Newtonian mechanics, Lagrangian and Hamiltonian dynamics, and quantum mechanics.

**Memberships and Activities**

- Association for Women in Science, 2006 – 2007
- Women in Science and Engineering, 2006 – 2007
- Physics and Astrophysics Women in Science, 2006 – 2007
- Society for Physics Students, 2006 - 2007

## **Skills and Certifications**

- Pennsylvania State University Certified for Machine Shop (Metal Working and Binding)
- Motorcycle license, boating license
- Red Cross Certified (First Aid)
- Capable of working with harmful chemicals

## **Honors and Awards**

- Society of Manufacturing Engineers Employee Scholarship
- Women in Mathematics – Research Funding Award, 2007
- Lockheed Martin WISE Scholarship, 2005 – 2006
- Physics Award, 2005
- Eberly College of Science Academic Award, 2005

## **Hobbies and Interests**

Environment protection (recycling, alternative fuels) and music (saxophone, flute, piano, composing)

## **Personal Statement**

As a twenty-one-year-old woman with many unusual and exceptional aspirations, my study of physics has above all become prominent. It is my ultimate professional goal to gain a broad knowledge in order to significantly contribute to the development of new, efficient methods of creating and distributing energy, thereby reducing pollution and unnecessary waste.

Before I realized my driving interest in physics, I pursued a devout education in music where I have received instruction in playing technique, music theory, and composition. Additionally, I have performed in many settings: from the State Regional Bands to the Performing Arts Institute of Wyoming Seminary.

Despite my love for music, my passion for the preservation of our environment has ultimately guided my life decisions. By experiencing the majesty of nature and cringing at its abuse, I have concluded that substantial, immediate changes are necessary in the way we consume resources and expel waste materials.

Inspiration, passion, and simple curiosity are my major drives. When something goes different than expected, I am happy to discover that it doesn't work. I tend to become excited, and continue to be patient during problems. Furthermore, I enjoy hands-on work and derivations.

I look forward to broadening my knowledge base and participating in the development of new technology that may not only better the quality of living for humans, but also improve the overall health of our planet for future generations.



## James Doehring

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### **Cornell University**

Ithaca, New York  
Mechanical and Aerospace Engineering  
Bachelors of Science, May 2008

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### **NASA Academy Research Project:**

*“Experimental Analysis of Materials in  
Specialized Loading Environments”*

Principal Investigator: Tina Malone



### **E-mail:**

jd268@cornell.edu

### **Work Experience**

- **Computer Lab Technical Support, Ithaca, NY, August 2004 – Present**  
Adminstrating computer labs, handling customer service.
- **Robert L. Koster Consulting,, Cedar Park, TX, May 2006 – August 2006**  
Intern in civil engineering.
- **Team Player, Texas Land and Cattle Restaurant, Austin, TX, March 2002 – November 2003**  
Hosting, bussing, table tending, prep cooking, and management assistance.

### **Memberships and Activities**

- ASME, Freshman Representative, freshman year
- AIAA

### **Skills and Certifications**

- Computer skills: Matlab, Word, Excel, PowerPoint, AutoCAD, Solidworks, Labview, ANSYS

### **Honors and Awards**

- Appointed Midshipman, United States Naval Academy, May 2003 – May 2004
- High School Aerospace Scholarships (in partnership with NASA), December 2002 – July 2003

### **Hobbies and Interests**

Model rocketry, auto mechanics, travel, fine dining, reading

### **Personal Statement**

I grew up in Austin, TX with my mother and grandparents in a broken family. With my mother a chronic alcoholic and my father living in another state, this forced an acceleration of my own maturity. Among other things, I developed a strong sense internal motivation and direction. Rather than closing off from the world, I focused on excelling academically and gaining independence.

I was always a math and science person and from an early age (around seventh grade) I gravitated toward the field of aerospace engineering. This led to hobbies in model rocketry and auto mechanics. It also led to my application and acceptance to NASA's High School Aerospace Scholars program, which confirmed my desire to study aerospace engineering and work on the space program. Gaining the technical competence to do so has been my primary focus at Cornell University.

Because of my independence and self-motivation, I consider one of my strengths determination. My proactive nature has clearly helped me reach various milestones in life and get me to my current position at Cornell. Complementing this autonomous, progress-oriented characteristic of mine, I believe teamwork is another one of my strengths. I've realized over the years that in the real world communication and the ability to work with others is as important as technical competence. A weakness of mine would be how I get bored with repetitive, tedious tasks that have no room for advancement.



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**North Carolina State University**

Raleigh, North Carolina  
Meteorology  
Bachelor of Science, May 2008

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**NASA Academy Research Project:**

*“An Overview of the Characteristics of Atlantic Hurricanes since 2005”*

Principal Investigator: Robbie Hood



**E-mail:**

abfutrel@ncsu.edu

**Work Experience**

- ***WXII Channel 12, Intern, Winston-Salem, NC, May 2006 – July 2006***

Worked with broadcast meteorologist behind the scenes. Updated graphics and helped forecast. Learned to use WSI and how to create graphics in a way that the general public has a basic understanding of what is occurring in the weather.

- ***Clark, Chair City Pharmacy, Thomasville, NC, June 2002 – July 2004, May 2005 – August 2005, May 2006 – August 2006***

Worked the register and answered phones. Performed duties that included organizing prescription orders, managing the daily income, and assisted customers with their orders in person and on the phone.

- ***SCAMS Representative, NCSU, Raleigh, NC, August 2005 – May 2006***

Informed and promoted Student Chapter AMS meetings to fellow classmates. Worked with fellow officers and representatives for ideas, activities, and fundraisers for the group.

**Memberships and Activities**

- Student AMS Chapter, Fall 2004 – Present, Class Representative, Fall 2005 – Spring 2006

**Skills and Certifications**

- Computer skills: Windows, Macintosh, Fortran, GARP, Linux, Unix, Microsoft Office, Maple, and Vpython

### **Honors and Awards**

- Dean's List, F04, S05, S06
- John Phillip Sousa Band Award, May 2004
- Arion Award, May 2003

### **Hobbies and Interests**

Music, disk golf, various weather related stuff, and church

### **Personal Statement**

I enjoy learning various studies in science. My strengths include working with others on the same topic, understanding how what I'm learning can be applied in the real world, and spending quality time with what it is I'm working on. As far as weaknesses, my most notable is not catching on with a new topic right away. It generally takes me more time to pick up on something compared to the average person, but once I've overcome the barrier I'm on the same page as everyone else. I find the general field of science to be interesting, especially when dealing with atmospheric science. I'm interested in how to create better and more accurate forecasts and to apply this in the real world by improving efficiency of electric power and resources.



## Shawna Garrison

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### Embry Riddle Aeronautical University

Prescott, Arizona  
Aero/Astronautics  
Bachelor of Science, December 2007



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### NASA Academy Research Project:

*"Polymer Composites Plural Functionalization"*

Principal Investigator: Ed Semmes

### E-mail:

Garri684@gmail.com

### Academic and Research Experience

- **Spacecraft Simulator, Arizona NASA Space Grant**  
Designing a simulator on an air bearing with momentum wheels to control spin. Project leader for designing the test momentum wheel. Testing smart motor and momentum wheel control system. Work ongoing.

### Work Experience

- **Boeing Commercial Aircraft, Everett, WA, May 2006 – August 2006**  
Structural Analysis Intern. Read engineering drawings to compare material properties on past Boeing airplane parts. Verified compliance of 787 doors with safety requirements. Reviewed stress calculations.
- **Department of Engineering, ERAU, Prescott, AZ, January 2006 – May 2006**  
Student grader. Graded homework and quizzes for dynamics classes.
- **Hastings Entertainment, Boise, ID, June 2003 – August 2004, May 2005 – August**  
Book Associate. Found products for customers; designed product displays; stocked product; helped with inventory control.

### Skills and Certifications

- Software: CATIA V6, SolidWorks, MATLAB, ANSYS, MAPLE V5, MS Word, Excel, Powerpoint, and Dreamweaver

### **Honors and Awards**

- Sigma Gamma Tau Treasurer, 2006 – Present
- Deans List, 2004 – Present
- ERAU Presidential Scholar, 2004 - Present

### **Hobbies and Interests**

Soccer, hiking, camping, sightseeing, space

### **Personal Statement**

I have excelled in Attitude Controls, Orbital Mechanics, and Space Systems courses taken in school. I am very organized and I pick up on foreign concepts quickly. I am a good team player and have had previous aerospace industry experience.

I am not very good at Electrical Engineering. The actual circuitry isn't a problem, but manipulating the circuit diagrams to simplify them did cause me some troubles during my course work. I also am weak in the topic of Aerodynamics for airfoils.

I find spacecraft fascinating and it is my dream to be involved with projects exploring space. NASA provides the best opportunity for me to choose different projects to be involved in. I know people who have worked in a NASA Space Center and they speak very highly of the experience as well as the employer. I would appreciate the opportunity to work for NASA and possibly prove that I fit in to that work environment.



## **Sam Hardy**

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### **Albertson College**

Caldwell, Idaho

Physics, Bachelor of Science, May 2009

Music, Bachelor of Art, May 2009

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### **NASA Academy Research Project:**

*“SUMI - Solar Ultraviolet Magnetograph  
Investigation Sounding Rocket Payload”*

Principal Investigator: Ed West



### **E-mail:**

shardy@albertson.edu

### **Work Experience**

- ***Rennison Engineering, Eagle, ID, June 2006 – August 2006***  
Intern. Various duties, including drafting, AutoCAD, editing, and surveying.

### **Memberships and Activities**

- Phi Eta Sigma Honor Society, Spring 2006 - Present
- Math Club, Fall 2006

### **Skills and Certifications**

- Computer skills
- Research skills

### **Honors and Awards**

- Outstanding Jazz Musician at 2006 Gladys Awards
- 6<sup>th</sup> Place in 1500 at Outdoor Conference, Spring 2006
- All-conference team for 2006 cross-country, Fall 2006
- Kathryn Albertson Scholar Days, Scholarship in Physics and Music, Winter 2004

### **Hobbies and Interests**

Music, running, snowboarding, outdoors, reading

### **Personal Statement**

I consider myself to be a diverse person. I have many interests, talents, and viewpoints. I am a quick learner in many different fields, and thus have pursued many interests and studied to obtain a well-rounded mind. Recently, I have begun to focus on a more specific field (physics), and while this required a little re-training, I've found that I can focus just as well as generalize: I am a double major of opposite sides of the brain, and I am pulling good grades in both areas. I also believe that I have a good work ethic, study hard to reap benefits later, and find enjoyment in learning new things. The educational process is not a passive one. My biggest strength comes from this balance I possess. In any given time or place, I am always able to take a step back (or forward or sideways) and see things from a different point of view. I also have my share of flaws and weaknesses. Sometimes I think I worry too much that I'm not using my time most effectively. Sometimes I have to remind myself that it's ok to watch a little TV, throw the Frisbee around, or go to a party on the weekend. Schoolwork does not consume me, but it is often in the back of my mind. I also have a war-room approach to homework. A noisy dorm doesn't bother me (indeed, this is a defining aspect of college), but in order to REALLY concentrate, I seal myself in the library, where even my cell phone doesn't work, and work until completion. I kind of wish my focus was more flexible. What motivates me most is not necessarily grades (though important!) or even learning so much as living up to my potential. I like to take the steps I need to take in order to live an enjoyable life.



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**Eastern University**

St. David's, Pennsylvania  
Mathematics  
Bachelor of Art, December 2007



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**NASA Academy Research Project:**

*“Observation and Study of the Repercussions of Lunar Impacts on the Dark Portions of the Moon”*

Principal Investigator: Bill Cooke

**E-mail:**

lemonpi2186@gmail.com

**Academic and Research Experience**

- ***US Navy, Department of Defense, Philadelphia, PA, Summer 2005***

Engineering Assistant. Two project proposals, “white papers,” and test plans on activated carbon research to be used for the U.S. Navy which were submitted for grant review.

**Work Experience**

- ***Eastern University, Instructional Technology Support Center, St. David's, PA, 2004 – 2007***

Office Assistant. Technical aide with computers, data video projectors, microphones, etc., worked with faculty and staff personnel, processed paper work.

- ***US Navy, Department of Defense, Philadelphia, PA, Summer 2004***

Engineering Assistant. Assist with heat exchanger calculations and computer model testing. Assist with fuel cell project: emails to clients, sponsors, making calls to business associates, faxed information, traveled with senior engineer to Washington for sponsor meetings, and attended conference in Colorado.

**Memberships and Activities**

- National Honors Society

**Skills and Certifications**

- General computer skills: Word, Excel, internet research, C++
- French

**Honors and Awards**

- Deans List, F05, S06, F06
- Merit List, F04, S05, S07
- Trustee's Scholarship, 2004-2007
- High School Salutatorian, 2004

### **Hobbies and Interests**

Reading, astronomy, science, hand crafts, mathematics, outside activities, Habitat for Humanity

### **Personal Statement**

My mother is a stay at home mom, who is rarely at home as she calls herself a "professional volunteer." My dad works for the US Navy, as a civilian chemical engineer, at the Naval Surface Warfare Center, Carderock Division. He also teaches part time at the small private, Christian high school I attended. It is probably from him that I get most of my scientific interest. I love God's majesty and splendor displayed in the heavens. Stars fascinate me. Being able to read the history of the world through the present state of the universe is amazing. I am the oldest of four. Being the oldest, I carry some of the "oldest sibling characteristics." I like perfection and being right. I can also be stubborn. I am slightly obsessive-compulsive, but mostly in a good way. I love asking the why questions, which sometimes causes a friendly rolling of the eyes from professors and those bearing the brunt of my questioning. I am however a bit of a procrastinator, although I do get everything done on time. I am a hard worker and take instructions and rules seriously.



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**Vanderbilt University**

Nashville, Tennessee  
Mechanical Engineering  
Masters of Science, May 2008  
Bachelor of Science in Engineering Physics,  
May 2006



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**NASA Academy Research Project:**

*“Development and Testing of a Sorbent-Based Atmosphere Revitalization System for the Crew Exploration Vehicle”*

Principal Investigator: Jim Knox

**E-mail:**

tracie.j.prater@vanderbilt.edu

**Academic and Research Experience**

- ***Vanderbilt University, Nashville, TN, August 2006 – Present***  
Research Assistant. Welding and Automations Lab, projects include Hydrogen generation through underwater Friction Stir Welding, welding of Metal Matrix Composites using diamond-coated Molybdenum tool, using acoustics emissions to detect tool wear.

**Work Experience**

- ***Eastern Kentucky University, Richmond, KY, August 2004 – May 2005***  
Physics Tutor. Tutored students in introductory physics courses.
- ***Eastern Kentucky University, Richmond, KY, August 2003 – May 2004***  
Teaching Assistant. Lab instructor for College Algebra. Duties included answering student questions during recitation, proctoring and grading assessments.
- ***Eastern Kentucky University, Richmond, KY, August 2003 – May 2004***  
Mathematics tutor. Tutored students in developmental math, college algebra, basic statistics, and first-semester calculus courses.

**Memberships and Activities**

- Sigma Phi Sigma Physics Honor Society
- Society of Physics Students
- Student Government Association, Executive Secretary, 2005-06
- Sigma Tau Delta English Honor Society
- Kappa Mu Epsilon Mathematics Honor Society

- Gamma Beta Phi Honor Society
- Golden Key Honor Society
- Phi Beta Lambda Honor Society

### **Skills and Certifications**

- Mathematica, FORTRAN, Excel, Science Workshop, MultiSim, Common LISP, NASTRAN/PATRAN (finite element analysis)

### **Honors and Awards**

- President's List (4.0 GPA), Fall 2002 – Spring 2006
- Award for Academic Excellence, Office of Student Life, 2006
- Dean's Award of Merit, College of Arts and Sciences, 2006
- Outstanding Senior in Physics, 2006
- English Department Award for Undergraduate Writing, 2006
- 1<sup>st</sup> Place Div I Kentucky Collegiate Quick Recall League, Tournament, 2005
- Vanderbilt University Space Grant Consortium Fellow, 2006

### **Hobbies and Interests**

Playing piano, reading, trivia, Disneyana

### **Personal Statement**

As a young girl growing up in the rural mountains of eastern Kentucky, I always dreamed of a career in the space program. I am now working toward realizing that dream thanks to the slew of educators who always believed in me and my abilities, even when I didn't. In elementary school, Ms. Anita Hamilton encouraged me to join the Young Astronauts club. Under her direction, we traveled every summer to a NASA facility and I officially caught the "space bug." In the years since, she has been a continual source of support, always reminding me that nothing is out of reach if you work hard enough. In high school, Mr. Tony Melton fostered my interest in mathematics and was the first person to suggest a career in engineering to me. I graduated summa cum laude from Eastern Kentucky University in 2006 with a degree in Engineering Physics and will complete my masters in Mechanical Engineering at Vanderbilt in 2008. I hope to complete my Ph.D. in Mechanical Engineering and pursue a career in research and development. Because I have had such positive educational experiences, particularly in the sciences, I always hope to be involved in some sort of educational outreach. I want to inspire children to develop an interest in space just as Ms. Hamilton inspired me all those years ago.



## Marissa Rosenberg

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### UCLA

Los Angeles, California  
Astrophysics  
Bachelors of Science, June 2009

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### NASA Academy Research Project:

*“Creating Software to Analyze Gamma Ray  
Burst time profiles from GLAST”*

Principal Investigator: Chip Meegan



### E-mail:

mrose87@ucla.edu

### Academic and Research Experience

- ***UCLA Astronomy and Physics Department, Los Angeles CA, 2006 – Present***

Research of HCG 16 using CIAO, ds9, Fits Viewer for spectrometry and data analysis for x-ray data from Chandra. Also performing data analysis and program writing in IDL on a UNIX system. Research done with Dr. Sarah Gallagher.

### Work Experience

- ***Sonoma Lavender Inc, Santa Rosa, CA, June 2006 – September 2006***

Customer Service Representative. Created an “order online” web page and did in depth analysis of sales.

- ***Sonoma Lavender Inc, Santa Rosa, CA, June 2004 – Present***

Sales Representative at International Gift Shows

### Memberships and Activities

- The National Society of Collegiate Scholars, December 2005 – Present
- Sigma Alpha Lambda National Leadership and Honors Organization, December 2005 – Present

### Skills and Certifications

- CIAO, ds9, Fits Viewer, Chandra x-ray data analysis

### Honors and Awards

- Dean’s List, September 2005 – March 2006
- Wilson Teaching Scholar 2006 – 2007 Academic Year

### Hobbies and Interests

Basketball, guitar/base, telescope observing, reading, jazz, going to the gym, surfing/snowboarding, cooking, Frisbee, Rubik's cubing, tutoring

### **Personal Statement**

It is 1991, space shuttle *Atlantis* explodes away from Kennedy Space Center and as it passes through Earth's atmosphere, I stand in my uncle's backyard, three feet tall with my eyes trailing a bright orange flame ball. Fast forward. *Columbia* disintegrated five months ago. I am unwinding in the shade of a space shuttle at NASA Space and Rocket Center In Huntsville, Alabama anticipating a lecture by Dr. von Braun. During this lecture, I realize my academic interests lie in astrophysics. I am crushed at the realization that astrophysics will not aid me in my quest to be an astronaut. I temporarily place my dream to the side. Fast forward. Sitting at my desk, I struggle through physics problems for three hours, envying those who finish more quickly. I am discouraged but the astronaut poster on my ceiling persistently motivates me. I excel and feel confident enough to tutor my peers. Fast forward. Dr. Sarah Gallagher asks me if I know IDL, or use Linux, or know the classification of galaxies, or how to layer an image in ds9 or analyze Chandra data. I do not. I momentarily doubt my capabilities. Then I remember what I do have, motivation and passion. This is what will allow me to succeed where others might fail. Although physics does not come naturally to me, I am willing to work hard. I long to go to space, to see the Earth from afar, to explore new places, and to succeed.



## Ron Turba

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### **Worcester Polytechnic Institute**

Worcester, Massachusetts  
Aero/Astronautics, Physics  
Bachelors of Science, June 2009

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### **NASA Academy Research Project:**

*"UV Camera Development for Imaging Upper Atmospheric Processes"*

Principal Investigator: Jim Spann



### **E-mail:**

rturba@wpi

### **Academic and Research Experience**

- ***Worcester Polytechnic Institute, Worcester, MA, December 2005***  
Research on JJ Thompson's Mass Spectrometer and PowerPoint presentation in front of 80 people.

### **Work Experience**

- ***Personal Trainers World, Cincinnati, OH, May 2006 – August 2006***  
Assisting certified personal trainers in providing athletes proper weight-training technique and agility skills.

### **Memberships and Activities**

- AIAA

### **Skills and Certifications**

- Certified Scuba Diver
- Significant knowledge in Microsoft Office
- Six years of studying Latin

### **Honors and Awards**

- Selected as a Charles O'Thompson scholar, May 2006
- Selected to represent Ohio in the ARML, May 2005

### **Hobbies and Interests**

Basketball, golf, working out, carpentry, building models, scuba diving.

### **Personal Statements and Interests**

Ever since I was a little kid, I always had a dream of acquiring a position at NASA. This program would grant me the opportunity to work for the most prestigious corporation in the aeronautics and space industry. When I am working on projects, my strengths are determination, leadership skills, and motivation. I also exhibit patience in group work because I understand that most projects do not go as planned and that patience is one of the key attributes in group projects. My biggest weakness is my tendency to do the job myself when the rest of the group gets frustrated. Sometimes I tend to not listen to my group as much as I should.



### **Program Director**

#### *Dr. Frank Six*

Frank Six is a scientist in the Space Science Office at MSFC. He joined Marshall in 1986 as Deputy Project Scientist for Hubble, then became assistant to the Director of the Space Science Laboratory and then deputy to the Chief Scientist. He directed the Marshall Academies in 1994, 1995 and 1996, and led all university programs from 1989 to 1996. Before coming to Marshall, Frank worked for Cornell University as assistant to the director of the Arecibo Observatory. Prior to that, he taught physics and astronomy at Western Kentucky University where he was Chairman of the Department for 17 years. Upon receiving the PhD in physics from the University of Florida, Frank joined Brown Engineering in Huntsville, Alabama working on Apollo. His research areas are radio astronomy and planetary magnetospheres. He is married with six children and eight grandchildren and loves to explore the coastal regions of the Gulf of Mexico.

### **Program Manager**

#### *Dr. Gerald R. Karr*

Dr. Karr is a Professor of Mechanical and Aerospace Engineering at UAH. Since 1992, Dr. Karr has also served as the UAH Campus Director of the ASGC. Dr. Karr also served as the Chair of the Mechanical and Aerospace Engineering Department at UAH from 1986 through 1999. Dr. Karr has, since 1978, been the University Director of the highly successful NASA Summer Faculty Research Opportunity (NSFRO) program. Dr. Karr has also been an active researcher in the areas of satellite drag, high-energy lasers, cryogenics, spacecraft thermal design and computational fluid mechanics. Dr. Karr earned his BS (1964), MS (1966), and PhD (1969) in Aeronautical and Astronautical Engineering at the University of Illinois at Champaign-Urbana. For recreation, Dr. Karr enjoys golf, running, sailing and visiting with his children and grandsons.

## ***Operations Manager***

*Andrew Herron*

Andrew is an alumnus of the 2006 NASA Academy at MSFC. He graduated in May 2007 from Florida Institute of Technology with a Bachelor of Science in Astronomy/Astrophysics and a Minor in Education. In August 2007 he will begin graduate studies at the Georgia Institute of Technology in Aerospace Engineering. His research background includes SEM studies and computational molecular modeling for the Olson Research Group in the Chemistry Department at Florida Tech and also gamma-ray burst study and classification for the NSSTC Gamma-Ray Astrophysics Team at the 2006 NASA Academy. In the future, Andrew hopes to pursue a career as rocket scientist and astronaut. Space activities aside, the greatest influences on Andrew are his faith, scouting, and music. Andrew enjoys playing clarinet, tenor saxophone, ukulele, and harmonica, running, canoeing, climbing, biking, swimming, hiking, backpacking, camping, skydiving, whitewater rafting, amateur astronomy, photography, history, and spending time with family and friends.



## Links

- **NASA Academy:**  
<http://www.nasa-academy.nasa.gov/>
- **NASA Academy Alumni Association:**  
<http://www.nasa-academy.org/>
- **NASA Agency:**  
<http://www.nasa.gov>
- **NASA Marshall Space Flight Center:**  
<http://www.msfc.nasa.gov/>
- **International Space University:**  
<http://www.isunet.edu>
- **The Soffen Memorial Fund:**  
<http://www.nasa-academy.org/soffen/donors.html>