

THE 2001 GSFC ACADEMY



STUDENT HANDBOOK



Welcome to NASA Academy! Since your appointment to the Academy, we're sure many of you are pondering what exactly you are getting yourselves into. Our first goal is to make sure you understand that all of you are full participating members of the Academy. This is your Academy. Participation comes with advantages and responsibilities. We will be looking to each of you to participate fully in discussions and decisions that affect your summer experience. This Handbook is an excellent example of what we mean; we hope it will help you get an early start on your summer.

While the Handbook is mainly filled with logistical concerns about housing, food, and living; we want to make sure that you understand that this summer could be one of the most exciting of your life. As you must know, NASA—along with the rest of the federal government—is evolving. This summer, you will be interacting with the very people who are making the changes happen: the “movers and shakers” in America’s Space Program. You may even get to be a part of these changes. By taking an active role in this summer’s Academy, you will make your experience all the more meaningful.

We look forward to hearing from you in the coming months via e-mail, phone, and any other means of communication you choose.

Dave Rosage,

David Lamb,

Erin Roye,

Program Manager

Operations Manager

Logistics Manager

WHAT YOU REALLY NEED TO KNOW

Before you try reading this entire handbook, you might just want to be aware of those sections that will help prepare you to arrive. The following sections should answer most of your questions:

- Section 4 (all) – ***Working at Goddard***
- Sections 5.1-5.2 – ***The House and Getting Mail***
- Section 5.4 – ***Living in Greenbelt and College Park***
- Section 6 (all) – ***Group Opportunities***
- Sections 8.1-8.5 – ***Meal Arrangements***
- Section 9 (all) – ***Before You Arrive at GSFC***

LIST OF ACRONYMS

| | |
|------|--|
| ARC | Ames Research Center |
| BWI | Baltimore/Washington International Airport |
| DC | Washington, DC. (District of Columbia) |
| DFRC | Dryden Flight Research Center |
| DDF | Director's Discretionary Fund |
| GEWA | Goddard Employee Welfare Association |
| GISS | Goddard Institute for Space Studies, New York City |
| GSFC | Goddard Space Flight Center |
| JPL | Jet Propulsion Laboratory |
| JSC | Jorge Scientific Corporation |
| KSC | Kennedy Space Center |
| LOC | Library of Congress |
| MD | Maryland |
| MSFC | Marshall Space Flight Center |
| NASA | National Aeronautics and Space Administration |
| NASM | National Air and Space Museum |
| PI | Principal Investigator |
| RA | Research Associate |
| UMBC | University of Maryland Baltimore County |
| UMCP | University of Maryland at College Park |
| WFF | Wallops Flight Facility |

1.0 INTRODUCTION

Welcome to the NASA Academy at the Goddard Space Flight Center (hereinafter, Academy). This will surely be an experience that you will remember for the rest of your life on Earth (or possibly the Moon or Mars, we hope). You—one of the new Research Associates (RAs)—will have many opportunities that few others (even in NASA itself!) are privileged to experience. Remember to make the most of your time here.

This handbook is designed to help orient new members of the NASA Academy at Goddard Space Flight Center. It should be made clear that the contents of this book are guidelines, not immutable rules. The purpose of these guidelines are to assist in an efficient transition period from arrival at Goddard to the formation of a more cohesive and orderly working group.

This handbook will be divided into several major sections. It is open to modification and addition in later years by you and other members of the Academy when you reach Alumni status.

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| (2.0) NASA Academy History | A brief recount of how it began. |
| (3.0) Academy Structure | What is your role in Academy? Who is in charge? Who does what? |
| (4.0) Working at Goddard | What is your role at Goddard? |
| (5.0) Living at the University of MD | Relevant info about your new home. |
| (6.0) Group Opportunities | Academy activities outside lab work at Goddard; field trips, rap sessions, group projects, guest speakers. |
| (7.0) Other Activities | After work Academy activities, recreation, major attractions around DC. |
| (8.0) Logistics | Meals and restaurants, paperwork, expenses. |
| (9.0) Things to Know Before You Arrive | Stuff to bring, paperwork, e-mail. |
| (10.0) Miscellaneous Collected Wisdom | The unofficial part of the handbook, general tips, do's and don'ts. |

Figure 1 – Brief Chapter Synopsis

Remember that this handbook is only a set of guidelines to help acclimate you to your new environment. An important part of the Academy experience is interaction with the other RAs in running the Academy. This is your Academy, your experience; it is up to all of you to make the best of it.

2.0 NASA ACADEMY HISTORY

The NASA Academy was started as the "NASA Space Academy" in 1993 at Goddard Space Flight Center by Dr. Gerald Soffen, former Director of the Office of University Programs. Simply put, the Academy was intended to be "something more" than the usual student internship at NASA. The students of the Academy would be a small group of the best and brightest, recruited from across the country. They would be given many opportunities others could only imagine (these will be fully spelled out in Sections 4 and 6). At the end of their 10-week term with the Academy, these students would have been exposed to as many facets of NASA and other areas of the space program as possible.

In 1993, the first Space Academy (SA I) was formed of 20 undergraduate and graduate students. It was a success, but it was also a lot of hard work for Dr. Soffen, as there was no Academy Staff yet. In 1994, the second Space Academy (SA II) was formed of 24 students. A small staff was set up exclusively for the Academy to help with the mountain of work required in running this unique program. Jim Brice came to the Academy to take the post of General Manager, and Rob Bayt, an SA I alum, took the post of Director of Student Affairs. The new Staff greatly increased the efficiency and success of the Academy, enhancing the resolve to maintain this program in the future. Jim has since left, and the position of GM is filled each year by someone in the University Program's office.

Word of the Academy at GSFC was spreading to other NASA centers. In 1994, another Academy was started at Marshall Space Flight Center. It is intended that more Academy posts at different NASA centers will allow more students to attend the Academy, enabling students to pick a NASA center that is best aligned with their own scientific interests. The spread of the Academy system required a name standardization to prevent confusion and to reflect the diverse interests of the NASA mission. Each individual Academy is specifically referred to as "NASA Academy at Goddard Space Flight Center" or the "NASA Academy at Marshall Space Flight Center." In 1997, the Academy was expanded to the west coast at both the Ames Research Center and the Dryden Flight Research Facility. In 1998, the Marshall Academy was discontinued.

Dr. Soffen passed on November 22, 2000. As the founder and creator of the NASA Academy, Dr. Soffen will be missed, especially during the Academy session for 2001. His dynamic vision and unique leadership opened

many gateways, and we will honor his vision with a continuance of the Program he loved so well.

This summer the Dryden Academy is not running, leaving only the GSFC and the Ames Academies. There are already plans in the making for GSFC and Ames to get together this summer to share each Academy's special experiences.

David Lamb (ARC 99') and Erin Roye (GSFC 00') are working as the GSFC Staff for the summer session of NA IV. Dave Rosage is the Program Manager. Meanwhile all the alumni from GSFC, Marshall, Dryden, and Ames Academies maintain contact through the NASA Academy Alumni Association (NAAA).

"The NASA Academy was a refreshing change after years of classroom and textbook learning. It was all about leadership and learning through interaction. The Academy gave me a renewed sense of enthusiasm for the space program and reminded me about all of the reasons why I chose this field in the first place!" - Robin S. '94



Figure 2 – The 1994 GSFC (Space) Academy

3.0 ACADEMY STRUCTURE

The Academy is designed to be run as a joint effort of the Academy Staff and the RAs. There are many more RAs than staff, and it is generally expected that the RAs will handle as much of the workload as possible to allow the Staff to handle those tasks that would be difficult for the RAs to accomplish alone. The Academy is meant to be a shared, collaborative experience.

The following is the Academy structure for the summer of 2001; future years may use a different structure.

3.1 Academy Staff

The Academy Staff is divided into several positions:

3.1.A Acting Director - Dr. Richard Fahey

Appoints Academy Executive Committee Staff, and is the final authority in the Academy. Dr. Fahey directs the staff efforts for Academy planning and sets the strategic planning for future activities. However, the Director prefers that the Program manager and the RAs make the decisions about Academy activities.

3.1.B Program Manager - David Rosage

Manages day-to-day operation of Academy. Serves as staff director, oversees Academy budget goals and priorities, and implements Academy academic objectives.

3.1.C Academy Deans - Dr. Edward Belbruno and Dr. Irina Nelson

Visiting professors that are responsible for providing academic counseling to the RAs on both their individual project and the seminars that they attended as a group. Provides counsel to Director and Program Manager on individual RA performance and the strategic vision for NASA Academy.

3.1.D Alumni Staff - David Lamb and Erin Roye

The alumni staff are Academy participants of previous summers. They provide overall coordination for logistics, operations, communication, and RA

counseling. Specific duties include: maintain and update daily calendar of events, manage Academy "experts" correspondence, provide Academy with logistical support, maintain Academy database, maintain Academy computer equipment, coordinate program evaluations, manage RA working space, and coordinate special events.

3.1.E Special Assistant for Operations - Mary Floyd

Mary arranges logistical support for housing, meals, and distribution and collection of RA reimbursement, transportation, and lodging on trips.

3.1.F University Programs Specialist - Mablelene Burrell

Mablelene has been around since the Academy began and thus has accumulated years of experience with Academy activities. Although her primary responsibilities lie with other programs in our office, she is always a great help in many arenas.

3.2 Research Associates

The Research Associates are the student/researchers of the Academy. Some of the responsibilities of the RAs are outlined in this handbook (esp. Sections 4 and 6).

Responsibilities generally consist of:

- Work with your PI on your individual project
- Attend all Academy functions (guest speakers, rap sessions, trips)
- Assist in running the Academy
- Give presentations on your work over the summer
- Work hard while having the summer of a lifetime

The RAs will function as a **team**, making as many decisions on Academy proceedings as is possible and practical. RAs are expected to devise a system amongst themselves to best accomplish this. The Academy is basically a democracy. Specific tasks and Academy functions may be delegated to be worked on by smaller groups of RAs. The RA team responsibilities will be elaborated on in Section **6.0 Group Opportunities**.

Although RAs will make most of the decisions in conjunction with the Academy Staff, the Academy Staff does have final authority over policies and the Academy Budget.

"The NASA Academy is a tool for making your dreams into reality. It provides the right framework and opportunities for developing the maturity and gaining the knowledge needed to interact with today's engineers and scientists." - Rob B. '93



Figure 3 – Erin Roye working on her DDF Project during GSFC 2000

4.0 WORKING AT GODDARD

Goddard Space Flight Center was created on January 15, 1959, named in commemoration of Dr. Robert H. Goddard, the American pioneer in rocket research. The initial 157 employees were from the Vanguard project, transferred from the Naval Research Laboratory, Washington, DC.

The mission of Goddard Space Flight Center is to expand knowledge of the Earth and its environment, the solar system and the universe through observations from space. To assure that the Nation maintains leadership in this endeavor, the Center is committed to excellence in scientific investigation, in the development and operation of space systems and in the advancement of essential technologies.

Goddard is the lead center in NASA's Earth Systems Science program (formerly Mission to Planet Earth), NASA's long-term, coordinated research effort to study the Earth as a global environmental system.

4.1 Getting Around Goddard

Goddard Space Flight Center is a campus-like facility (see the map on the following page). Notice that all buildings are referred to by number. Since you may be doing a bit of walking, keep the weather in mind. Temperatures during the summer frequently pass 90⁰ F (30⁰ C), oftentimes with high humidity. This can contribute to intense thunderstorms in the afternoons, so bring an umbrella.

4.2 Important Buildings

- Building 1 - GEWA Exchange Store (also Ticketmaster, US Postal SubStation), small cafeteria
- Building 3 - Auditorium (many major presentations here)
- Building 8 - GSFC Director's Office, Graphics department (basement), Auditorium, Office of Public Affairs, DCR, and Code 100
- Building 9 - Security shack. You will pass by this building everyday, flashing your badge. Go here for a key card, a necessity if you wish to enter labs after hours. Anything related to getting a badge for yourself, or others, happens on the downstairs level of the building (enter from rear of building)
- Building 21 - Main Cafeteria, Library, NASA Credit Union, ATM Machine
- Building 28 - GSFC Academy/University Programs office (N159)
- Building 88 - Visitor's Center, Gift Shop (This is not within the gates, you must enter from Soil Conservation Road.)

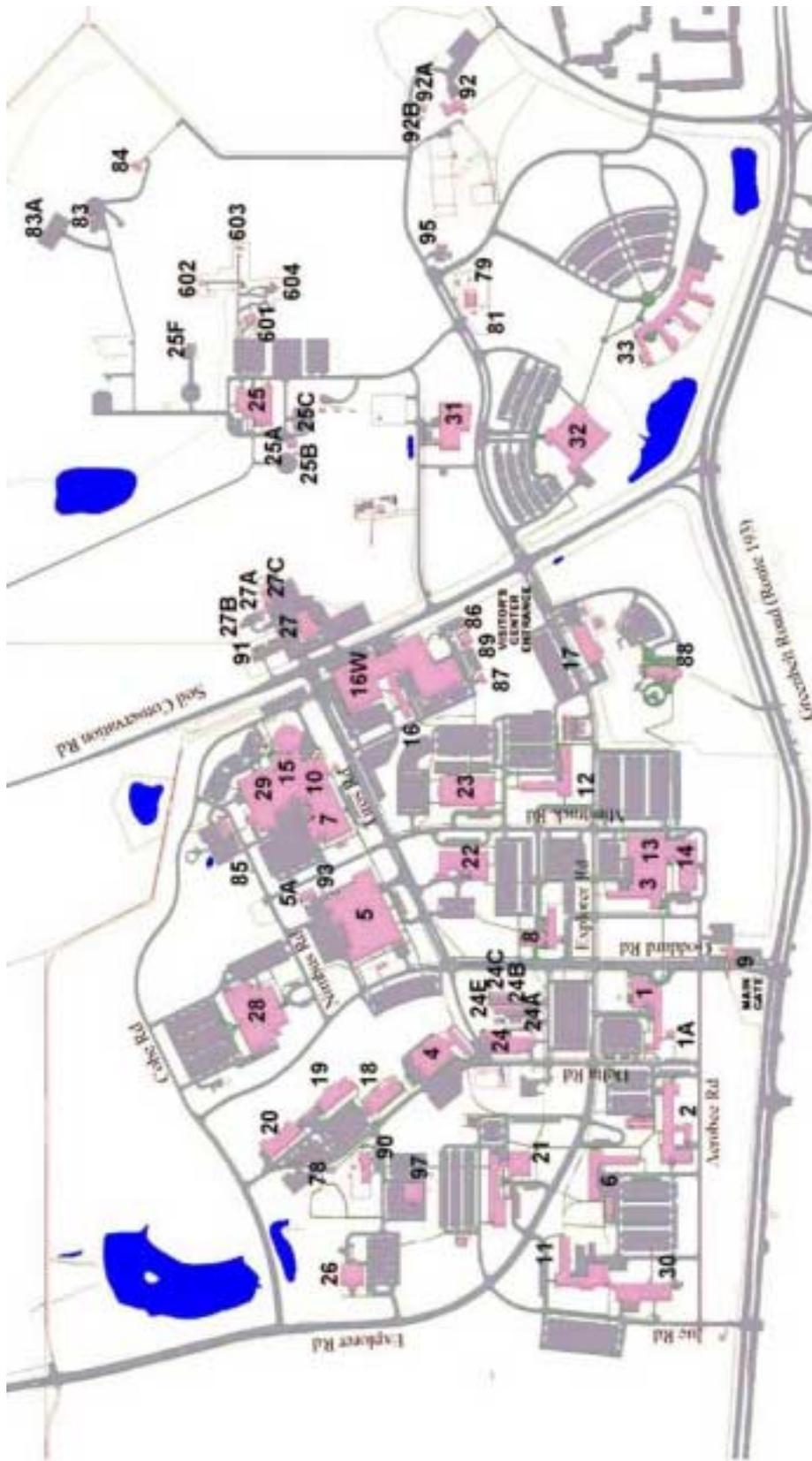


Figure 4 - Goddard Space Flight Center Map

4.3 Different Opportunities at Goddard

Scientific Colloquia – location varies, often Bldg. 3 or 8 Auditorium. Past speakers have included Jim Hanson (GISS), David McKay (JSC), and Harrison Schmitt (University of Wisconsin, Apollo 17), and Robert Wald (Univ. of Chicago). Occasional lecture series on specific topics of research are open to all NASA employees and the press or public. For example, in 1994 there was a weeklong series of lectures by leaders in environmental studies, with a lot of the latest observations and theories available. There may also be receptions after lectures, which give you the chance to speak with the featured guests. Here are some other opportunities:

“Brown Bagger’s” – a new series of lunchtime talks given by guest speakers in an informal setting. Many of the speakers will be NASA Academy Alumni.

Tea and Poster Sessions – In an effort to display some of the different projects going on at Goddard for all employees to see, poster sessions take place on a semi-weekly basis. These are akin to art exhibitions, except they are exhibitions of scientific work at Goddard. You will be participating in one (Sect. 4.6.B).

The Library (Bldg. 21) – Here is a technical library that is at least equivalent to a good-sized state university. Of course, there is a larger selection of space oriented books and periodicals.

4.4 Getting to Goddard

One of the responsibilities of the RAs will be to arrange a carpooling system for transportation to and from work. Drivers will be reimbursed for mileage on all official Academy trips and commuting. No RA should have any worry about finding a ride to/from work. However, cars are extremely useful in getting around during the Academy.

The Metrobus system may also be used, but is NOT recommended as the primary transport mode. Schedules are available at the GEWA exchange, Building 1. The T16 bus provides connections to the Green line Metro terminal near Greenbelt Plaza, and the Orange line terminal at New Carrollton. The Green line can be taken between the College Park station and the Greenbelt station. The T15 and T17 buses supplement the route during rush hours. Buses generally stop at Goddard once per hour, but more frequently during rush hours.

4.5 Guidelines for working at GSFC as an RA

4.5.A Your Image

As a RA, you represent the Academy and NASA in all situations. It is important to remember that your actions can reflect (positively or negatively) on the Academy as a whole. It is a good idea for the Academy to make positive impressions on NASA workers, administrators, scientists, as well as visiting industrial leaders, and other important people you are likely to meet. When the NASA Academy gains respect as a whole, you gain respect for being a part of the Academy. In fact, you will be making many contacts during your stay here. To help retain those contacts, you should always have a set of business cards on your person for usage. The staff will provide you with the means of developing your own set of business cards.

4.5.B Dress

Goddard itself is known to be one of the more relaxed NASA centers as far as dress goes. Of course, practicality demands that if you're working in a lab, a suit and tie wouldn't be a good idea. However, when visiting with certain NASA or industry leaders, or when giving formal presentations, attire that is more business-like is desirable. The Academy Director will recommend which situations require formal dress. Examples include visits to NASA HQ, or visiting as guests at an industry function.

4.5.C Security Badges

Keep your temporary badges with you at all times while at Goddard. The badge is supposed to be worn in plain view at all times while on Center. They are also necessary to enter Goddard. If you are ever in doubt about whether to bring your badge to an Academy function/field trip, just bring it. You will also receive an Academy badge, which you may want to keep with your NASA/GSFC badge. *NOTE: Do not wear your badge off Center, such as when going to the store or at the mall.*

4.5.D Lost Badge

If you lose your badge, notify the Academy Staff immediately, they will inform you of the proper procedure to report a lost badge. Loss of badges is **not** encouraged.

4.5.E Goddard Security

It is to be kept in mind that NASA/GSFC is a Federal facility with billions of dollars worth of lab space, equipment, and intellectual property. As with all Federal facilities, there must be security procedures that may be subject to change, depending on the current political situation (i.e. protesters, terrorist possibilities).

If you have to leave Goddard on foot (to catch a bus, for example) and plan to return to Goddard on foot, you must have your badge to re-enter. All entrances are guarded. And, yes, they **are** armed. :))

Badges are generally not checked when leaving Goddard. During the workday, it is nearly unheard of for a guard to check someone's badge. After hours though, this changes, be sure you are wearing your badge in plain sight to avoid any unnecessary hassle.

If you forget your badge, and are "caught," as it were, you should be able to clear yourself with Security by explaining who you are, and getting cleared over the phone with the Academy Director or Manager. This is also NOT recommended.

4.6 Your work at GSFC

Once you have found your way around GSFC, it's time to get to work. The duties of all RAs on their individual projects will vary wildly. One of the first events of the start-up week is your initial meeting with your Principal Investigator (PI). You will meet your PI at an introductory luncheon on the first workday of the program. Your PI will then take you back to the lab for an introduction to your work area. Your PI will fill you in on what you will be doing, and where you'll be doing it.



Figure 5 – Orientation with the PI's during the 1996 Academy

4.6.A DDF Project

The project you are working on is part of the Director's Discretionary Fund (DDF) program. These projects are specially selected by the Center Director because of their cutting-edge potential. You are expected to spend at least half of your time (probably closer to 60%) during the 10 weeks working with your PI on the DDF research project assigned to you at the beginning of the Academy session. Work varies widely, depending on the PI, the project, and the RAs capabilities. Some require more diligence than others. Some are more hands-on, while others are more research oriented. The NASA Academy Staff will be informing you how to contact your PI. You will need to communicate with your PI before the start of the program.



Figure 6 – Erin Smith of NA VIII (2000) hard at work in the lab

4.6.B Poster Session

You will be expected to prepare a “poster” for display in a special Academy exhibition. This would generally include a description of your project, progress, data, a picture of any lab set-up, etc. Keep in mind that these projects proceed at different rates. At the beginning of the summer, some projects may be in theory, while others are bending metal.

On the day of the NASA Academy poster session, you will be expected to hover near your poster to informally explain your project or answer questions from the many PI’s who will attend. This informal exchange could be very helpful in formulating your final presentation. (Questions asked of you at the poster session might be asked of you at the final presentation; or maybe some elements of your project need to be more clearly defined for those not literate in your field.)

The Academy Staff will provide complete instructions about the poster session during the summer and it is currently scheduled to take place during week 8.

4.6.C Final Presentation

As you work on your DDF project, keep in mind that you are expected to present a summary of your work to the entire Academy and invited guests

at the end of the summer session. Most RAs will have had some experience with scientific/engineering presentations from their coursework in school—some may not, and are encouraged to ask advice of those who have. Your presentations are generally expected to last about 12-15 minutes, allowing for a question and answer period.

Presentations should be of professional quality, and the graphics department in Building 8 provides many excellent services. Do not leave preparation of your presentation to the last minute, as the graphics department does require some time to make transparencies, (a.k.a. viewgraphs at NASA) etc. Details about the final presentation will be given out by the Staff during the summer.

4.6.D Getting College Credit for the NASA Academy

In the past there have been a few RAs who have been able to obtain credit hours for participation in the Academy, either as a technical elective or and independent study. The following is advice for how to go about obtaining credit.

1) Make sure you ask before leaving for the Academy. It may take a couple months to get the paperwork through and approved. 2) Be sure to get everything in writing. Outline exactly what must be done to ensure credit (papers, presentations, etc.). 3) Emphasize the fact that it could mean publicity for the department and school.

For those of you who are going to be missing out on summer courses to help you graduate on time, or to complete a minor, this is something you may really want to look into. Remember, we cannot guarantee that your school will comply: this is just a suggestion.

5.0 LIVING AT THE U. OF MARYLAND, COLLEGE PARK

Located just about 7 miles from GSFC, the University of Maryland College Park (UMCP) area is an ideal setting for the Academy “off-hours” activities—UMCP is a large and beautiful campus. Although the services provided by UMCP will be curtailed for the summer semester, the Academy staff are investigating everything that will be available for your use.

5.1 The House

Housing for the Academy this year continues a tradition started in 1995. In order to promote more of a group environment and to provide more immediate services, Academy RAs will be staying at the Sigma Delta Tau sorority house, which is located on the campus of UMCP.

The large house has three floors and a finished basement. The common rooms—dining room, kitchen, large TV room, study room, and computer room—are located on the first floor and in the basement. All the bedrooms are located on the second and third floors. Each bedroom floor contains a bathroom facility with three showers, toilet stalls, and sinks. Women and men will be located on separate floors, with separate bathroom facilities. The bedrooms come in a variety of forms, with double, triple and quadruple rooms. It is not yet decided how the RAs will be distributed in the bedrooms, but room partners will be assigned by Academy staff. Each Academy RA will have a bed, a bureau, and a closet. Academy RA’s will have at least one roommate.

5.1.A Linen Service/Laundry

Sheets, pillows, blankets, and towels will be provided. Each RA will get: two flat sheets, one pillow and pillowcase, one blanket, and two towels. The linens are picked up weekly for washing. Laundry machines are located in the basement of the house. There are two washers and two dryers. Each cost \$0.50 per load.

5.1.B Academy Provisions to the House

In-house meals are provided on Tuesday, Wednesday, and Thursday evenings. The kitchen is open during the other evenings of the week (when the caterers are not there) so the Academy members may cook, although the hours that the kitchen is open may be limited. There will be small

refrigerators and microwave ovens in the dining room for those late night snack attacks.



Figure 7 – GSFC 1999 has a meal after a long Academy day

5.1.C House Cleaning

Once a week, a cleaning person from the food service provider comes to clean the house. She will dust and vacuum the common areas of the house: the basement and first floors, and the hallways and bathrooms of the second and third floors. She will NOT clean anyone's room.

5.1.D Computer Facilities in the House

We are looking into providing IBM and Macintosh computers to be available at the house. These computers would have programs such as MS-Word, Excel, PowerPoint, as well as access to the Internet. You are welcome to bring your own computer, if you wish. (See Section **8.8** for more on computers)

5.2 Your Mail at the House

Mail can be delivered to you at the house at the following address beginning around May 30:

(Your Name)
Sigma Delta Tau Sorority House
4516 Knox Rd.
College Park, MD 20740

If you fill out a Post Office Change of Address form, please make sure to mark the 'temporary' box and to include the last day of the Academy on it. Towards the end of the summer, you will be expected to fill out a new Post Office Change of Address Form. A house phone and payphone will be available.

5.3 UMCP Services and Activities

There are still many services available during the summer, but the hours (often M-F 8:00 am - 4:00 pm) are often inconvenient for RAs, since you'll be working at GSFC. As details of what campus facilities you will be able to use are uncertain at this time, you will receive additional information from the Staff when you arrive. Some of the facilities that may be available are:

5.3.A Fitness Center

A fitness center with weight machines, lifecycles, and stairmasters is located in the basement of Annapolis Hall. There is a fee of \$10 per half of the summer, so if you want to use it through your stay, you'll eventually pay \$20.

Before you are allowed to use it, you must attend a 1-hour safety orientation; sign up for this ASAP, as spaces are limited. It is air conditioned, which is essential for those who enjoy exercise, but aren't used to 90-degree, humid weather.

5.3.B Sports Equipment

You can borrow limited sports equipment from UMCP. However, this department is only open M-F 8-4, so forget it. Bring your own.

5.3.C Field House

There is a field house with an indoor running track and basketball court. It is not air conditioned, so forget it. :)

5.3.D Swimming

There is an indoor pool at the field house.

5.3.E Library and Computer Clusters

The library is located in the middle of campus, and you may be allowed to take books out with a GSFC Library Card through some sort of interlibrary loan program, there is also a large computer cluster there. Another computer cluster is located in a parking garage on the far side of campus.

5.4 Living in Greenbelt and College Park, MD

College Park and Greenbelt are where you're going to be going about your daily business, going food shopping and such. The following is a list of useful information about the local area. College Park is (obviously) a college town, and you can find many of the usual establishments just outside campus on Route 1 (barbers/hairstylists, convenience stores, a few bars, etc.) There is a website at <http://www.umd.edu/visitors/attract.html> that provides more information.

5.4.A Supermarket

The nearest convenient supermarket is the Giant, located on Greenbelt Road in Greenbelt Plaza, you will pass it on the way to work every day. There is also a Safeway in the city of Greenbelt in a very crowded shopping area (we will also pass it en route to Goddard).

5.4.B Movie Theater

The nearest convenient movie theater is also located inside Greenbelt Plaza. If you're on the Metro, there is a theater in Union Station. At Union Station, the best individual theater to see a movie in is the "Grand," where there is Digital Stereo sound. In addition, in Calverton and Chevy Chase (Uptown) there are really high-end theater systems. In most cases, **bring your Student ID** for discount tickets.

5.4.C General Stores

A small strip mall just south of campus on Route 1 has a CVS store. A 7-Eleven is also located across the street from this strip mall.

5.4.D Video Store

The closest video store is the Blockbuster, also located in the strip mall.

5.4.E Photocopy Service

A Kinko's is located behind the CVS, it's open 24 hours. Of course, while you are at GSFC, the Staff will let you use their photocopiers, and they can authorize jobs at the GSFC Graphics Dept.

5.4.F Shipping Service

A Mailboxes, Etc. outlet is located near the UMCP main south gate. You can rent a PO Box here if you want to. However, we have provided mail slots for you at the Academy House.

5.4.G Radio Stations

93.1 – Country

94.7 – Classic Rock and Southern Rock (Allman Brothers, Lynyrd Skynyrd)

95.5 – Rap and R&B

97.9 – Classic Rock plus some new stuff (Pink Floyd, Aerosmith, Everclear)

101.1 – Mostly new stuff & some old (Rock and Alternative)

104.1 – Pop and Dance

105.7 – Oldies

There are many more, but for lack of space we're not listing them. Also, we get a lot of Baltimore stations, many of which have DC counterparts.

6.0 GROUP OPPORTUNITIES

Academy living does not simply take place at GSFC. After you go back to the house, you still have commitments to the Academy, and since most of your time during the day is spent either with your PI or with Guest Speakers, the evenings are a time for other Academy functions. Most of the decision making process, and the community activities of being an RA, are outlined in this section.



Figure 8 – SA IV on their orientation tour of the Langley Research Center

6.1 Rap Sessions

Rap sessions are large group meetings that include all RAs and some or all of the Staff. These are also sometimes referred to as plenary sessions. This is the forum for discussion and policy making for the Academy. Much information will be exchanged and/or distributed in rap sessions. Attendance is critical to stay informed of future events and have input into the decisions.

Rap sessions are the meat and potatoes of the NASA Academy. Rap sessions are very important and each RA is an important part of every one.

Rap sessions are hard to define, mainly because their structure is determined by the individual RAs participating in the Academy at the time. They can be orderly or chaotic, cooperative or debating, focused or wide-ranged (all traits that can be both desirable and hindering): This all depends on the make-up of the Academy.

Rap sessions are part town meeting, part open forum. It is the government of the Academy. The actual structure and procedures to be adopted in rap sessions are up to the RAs. They will usually be scheduled in the evenings, and usually take place at the house. However, an impromptu rap session may be held before or after any other meeting where all RAs are expected (a guest speaker, a field trip). At least one rap session will be scheduled and held every week of the Academy. This rap session is for the staff to pass along information and logistics concerning the upcoming week.

6.2 Running the Academy – RA committees

Each year, the NASA Academy takes on a very different character simply because of the new personalities that take part. Each of you, through taking an active role, has the power to build upon the foundation of the program that currently exists and mold the 2001 Academy into an inimitable experience.

You are encouraged to show initiative and contribute to the program whenever you see the opportunity. Some of these opportunities will come about through organized activities, but others only through your own creativity and initiative. The RA Committees will be the first organized means for you to take an active role in running the 2001 Academy.

Before arriving for the summer and again during the first week of the program, you will be asked to form several of these committees. Certain responsibilities will be identified immediately, for example: organization of local transportation to Goddard each day. Other responsibilities will be determined partly by what activities you as a group want to undertake. While much of the program has already been planned out before your arrival, many areas have been left open for you to organize as you wish.

Look for more detailed information about the specific committees as the summer approaches in e-mail, and watch for the opportunity to contribute. It is not intended that only a few people participate, all RAs should plan to become involved!



Figure 9 – Leonard David (right), a freelance space journalist, is pondering both palate and policy with the 1995 Academy

6.3 Guest “Experts”

A major benefit of being in the Academy is the opportunity to meet many guest speakers from NASA and related agencies. These experts can range from Dave Thompson (the President of Orbital Sciences Corporation, or “OSC”), to the space entrepreneur Peter Diamandis. You will also meet many NASA scientists, engineers, and administrators; as well as many industrial representatives, and members of other space related agencies. You will meet many people that regular NASA employees may never meet, keep in mind how special these opportunities can be.

Generally, a meeting with guest experts may last from 1 to 1.5 hours. Most of these meetings allow for introductions, perhaps a prepared speech or presentation, and opportunities for Q & A. Through Q & A, you have the opportunity to take these sessions in the direction you want. It is also your chance to impress upon these people what a distinctive group of students you are. You will learn who your guest speakers will be from the Staff well in advance. This should give you time to think up any questions you'd like to ask, or issues you'd like to focus on, before you meet.



Figure 10 – 1999 NASA Academy with former astronaut Dr. Kathy Thornton

6.3.A Introductions

At most meetings with experts, it is not only expected that the expert introduce himself/herself, but that every member of the Academy should introduce themselves as well. After all, you are important too. At the beginning of a meeting, you will give a short introduction. After repeating it several dozen times over the summer, you will never forget it. By the end of the summer you may be expected to introduce other Academy members, or even the entire Academy (from memory) so pay attention!

Items to include in your introduction:

- Your Name
- Your School and major
- PI project and short explanation if necessary
- NASA Code # and your PI's name (optional, since this will probably only make sense to other NASA employees).

6.3.B Example Introduction

This is a sample of an introduction:

"Hello! My name is Greg Richardson. I am a senior studying Aerospace engineering at MIT. I am currently working in Code 660 for Elihu Boldt on a "Feasibility Study for an Inflatable X-ray Collector.""

6.4 Field Trips

The Academy will take several field trips together. Past trips have taken the Academy to other NASA centers (Kennedy, Langley, Wallops Island, and GISS in New York), to major NASA contractors (Lockheed-Martin and Orbital Sciences Corporation), a few for team building and orientation (white water rafting, tour of DC), and even a trip to another Academy (Ames Academy and the Annapolis Naval Academy). Again, you will have many opportunities that others never have.



Figure 11 – 2000 Academy in front of the Vehicle Assembly Building at KSC

All field trips will require transportation arrangements. All overnight trips will require accommodation arrangements. The RAs and Staff will work together on this. Field trip planning will be a major component of rap sessions.



Figure 12 – Jacob is standing in front of the Goddard Institute of Space Studies (GISS) as well as another popular establishment in New York City

6.5 Group Project

In addition to RA's individual projects at Goddard, the RAs will work together on a group project. The nature of this project is totally up to the RAs. Academy I worked on a comet impact study, and on creating a slide presentation about the NASA Academy for promotional and recruitment purposes. Academy II worked on the proposal of the CLASS project, with the goal of involving all American schoolchildren in space based experiments to inspire an interest in space and science. Academy III composed a feasibility study on using the SR-71 as an airborne launch platform. In addition, Academy III initiated the formation of an alumni organization. In cooperation with their compatriots at the Marshall Space Flight Center Academy, Academy IV put on a multi-media presentation for the commemoration of the 20th anniversary of the Viking Landing and the upcoming Mars Missions. Academy V was funded by NASA Headquarters to develop and implement an outreach program called "Kids in Space." Details of previous projects can be obtained from the Staff and alumni to help think of ideas for future projects, and to learn some of the logistics involved. Academy VI developed a feasibility study of designing an Easy Low-Cost Lunar Explorer (ELLE), whose scientific objective was to prove the existence

of lunar ice. Academy VII split into two groups; the first groups feasibility study on terraforming on Mars, while the second group worked on designing a mission to Europa, complete with a lander design.

The group project is a **great** chance to practice your leadership skills. It is also a great opportunity for new experiences, such as giving a project proposal before the people at NASA HQ in DC. A group project gives all RAs a chance to work as a team toward a specific goal, since most of their scientific work will be done separate from the Academy members with their PIs.

It is highly recommended that a group project idea be formed **as early as possible**. As the ten weeks pass, priorities often end up being placed on the final presentation by the RAs, often to the detriment of the group project. Moreover, the ten weeks go by much faster than one would expect, because most of the time you are busy with other Academy activities.

6.6 Family/Parents Weekend

One of the new things we're trying this year is a parents (and family) weekend. This has already been a great success at the Ames Academy for several years running. We invite you to invite your parents, spouses, and/or extended family to join the Academy for a weekend. This will give you a chance to show off what you do as well as help your family understand what the Academy is all about. This weekend is currently in the planning stages, so we can't elaborate on the activities, and this will in part depend on how many parents are able to come. We highly encourage you to let your parents know ASAP so we can get an idea of what to expect and how much to plan.

Some of the items on a tentative itinerary might be: a tour of GSFC (and if possible, show your parents your lab), a family/parents dinner (with speakers), etc. If we have enough demand, we will probably block off some rooms at a relatively affordable—yet nice—hotel. If you have other suggestions for the weekend, please e-mail them to David Lamb or Dave Rosage. We have scheduled Saturday and Sunday July 21 and 22 for this special occasion.

6.7 One-on-Ones

All RAs will arrange at least one individual conference with an Academic Dean and with Dr. Fahey. These are basically getting-acquainted sessions. Topics of discussion are relatively open. By taking advantage of these meetings, you may discover opportunities both within and outside of the Academy. You will also have a chance to influence Academy policies and give your viewpoint without being crowded out by 15 other voices in a general rap session.

These sessions are also a good opportunity for introspection. It is not very often that we might describe exactly who we are to someone, what our personalities are like, what our goals are. By doing so, opportunities that would best align with your goals and drives may be discovered.

7.0 OTHER ACTIVITIES

Official activities take up most of your time in the Academy. The rest of the time is yours. Most of this extra time will be spent sleeping and eating of course, but there's still some time to have fun. One of the big advantages of working at Goddard is the proximity to Washington, D.C. This section will be a guide for opportunities outside the general Academy duties. Of course, you are encouraged to engage in these activities with other RAs. One of the prime objectives of the Academy is the formation of a unit of friends (the RAs and Staff) who may maintain contact throughout their careers.



Figure 13 – Enectali Figueroa, Jane Thorpe, Shawn Kuehl, and Max Ulrich of Academy '95, taking in the sights of the Baltimore Inner Harbor

D.C. offers too many things to do. You probably already have a good idea of some places you'd like to go. It is virtually impossible to become bored in this area during spare time. You will receive a few maps of the D.C. area when you arrive, but one appears in this section. It is highly recommended that you obtain a good map of DC; the AAA map of DC is recommended, and free to all AAA members. You can usually find free maps at most tourist areas' Park Service stations. In addition, the RAs might want to have at least one good guidebook. The following is recommend: "The Unofficial Guide to Washington, DC" by Bob Sehlinger and Joe Surkiewicz. The "Let's Go Map Guide" to Washington D.C. is also a good concise booklet

of maps and info. You can always get an AAA Citybook of D.C., but their information is pretty sparse. And of course, as the Staff spends more time in D.C. they will be an indispensable source of native knowledge.



Figure 14 – Academy class of '96 and Dr. Gerald Soffen taking a break from the Washington, DC orientation tour

7.1 Guide to Washington, DC

7.1.A Geography

D.C. is a fairly open city devoid of tall skyscrapers. Its most visible landmarks are the US Capitol and the Washington Monument (the 555 ft. obelisk). The city is divided into quarters, with the Capitol as the center. These quarters are Northeast, Northwest, Southwest, and Southeast.

Streets are in a grid system, with north-south running streets numbered, larger numbers indicating greater distance from the capitol. East-west streets are lettered, the further into the alphabet, the farther from the capitol. So, there are two 4th Streets, one is four blocks west of the Capitol, and one is four blocks east of the Capitol. Keep in mind that the quarter/grid system means that there are FOUR places that the intersection of 4th and D could be! So all addresses are followed by the quarter (i.e. 2029 P St. NW is Pizzeria Paradiso's address, in Northwest DC).

If you've seen any pictures of DC, you've probably seen The Mall, the grassy strip of land in the middle of town, with the Capitol and the Lincoln Memorial on either end, the Washington Monument in the middle and the White House to its north. The numerous museums of the Smithsonian surround the east half of the Mall.

The grid system is too simple, so diagonal avenues have been added to augment confusion—they are named after states. Pennsylvania Avenue runs diagonally from the Capitol to the White House. Additionally, there is no Zero St. The streets that align with the borders of the quarters and radiate directly from the Capitol are North Capitol St., South Capitol St., and East Capitol St. There is no West Capitol St. because The Washington Monument would have to be moved.

For even more bewilderment; there are no A or B streets either. Running along the Mall, on the north side, what should be called A Street is named Madison Drive, and what should be called B Street is named Constitution Ave. When you go beyond Constitution Ave. you find C Street, then D Street and so on. Running along the south side of the Mall, what should be A street is named Jefferson Drive, and what would be B street is named Independence Ave. Moving further south, you then find C street, D street and so on.

If you've read this far you must really want to know DC, and you are probably asking yourself, "What comes after Z Street?!" Well, you get normal words. After Z comes a one-syllable word starting with A, then a one-syllable word starting with B, etc. "But then what comes after the Z word?!" Simple, a two-syllable word starting with A. Twenty-six streets later, you get three syllable words. It stops after that. Otherwise, town planners in Maryland would be asking themselves "What's a 5 syllable word that begins with Q?" Any further naming of streets would require hiring Germans. If you said Quetzacoatl St., you are clearly deranged.

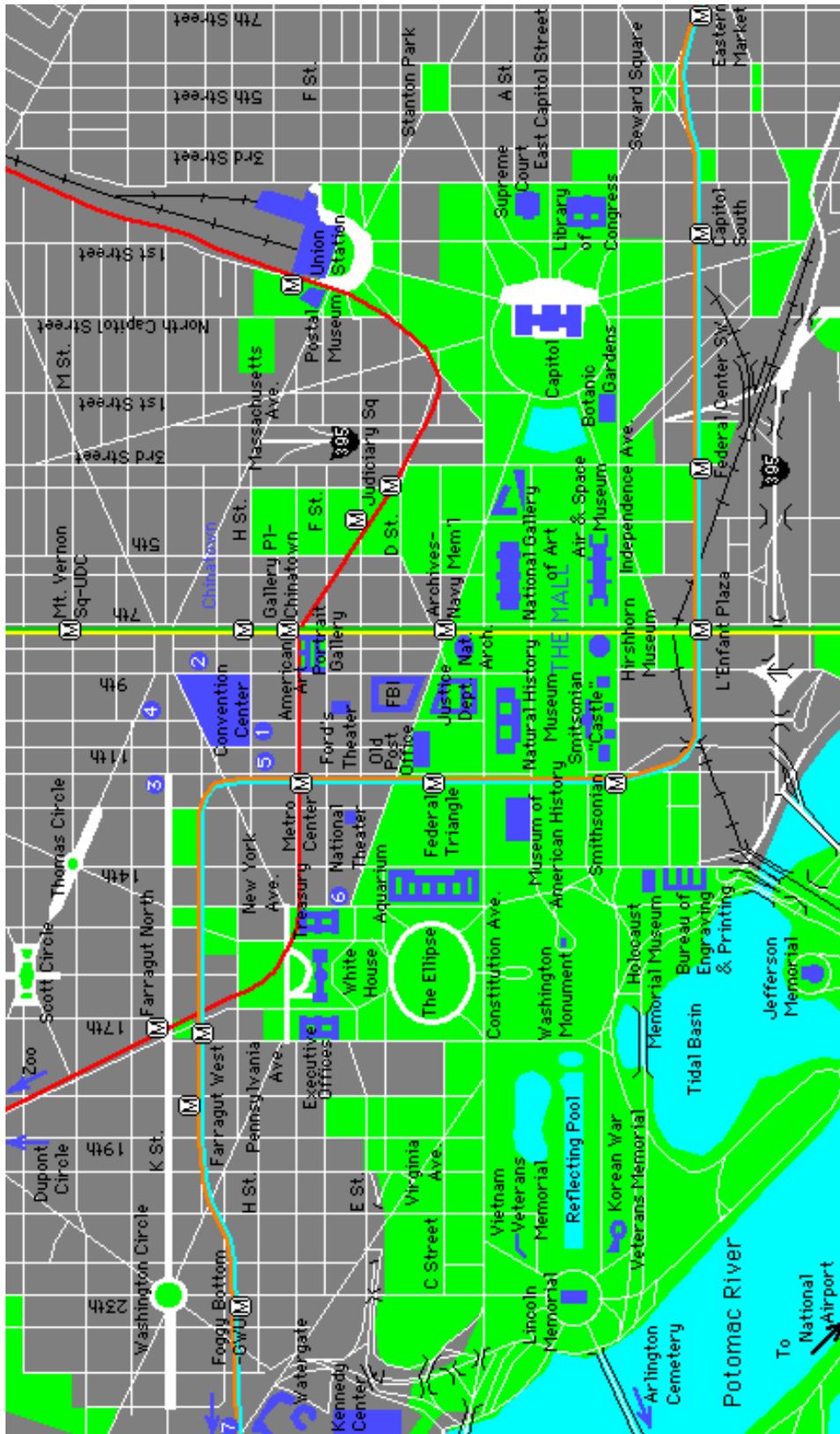


Figure 15 – Map of downtown D.C.

7.2 Safety

DC can be a very nice place and a very dangerous place, depending on where you are. The Mall and most of the common tourist attractions are nice, and quite possibly the most heavily policed places in the free world. After all, tourism is DC's primary income source. Nevertheless, it must be kept in mind that some of the worst violent crime rates in the world are just blocks away. The common sense rules for urban areas should always be kept in mind:

- Primary DC Rule: Anacostia (across the Anacostia river) is historically unsafe.
- Generally the safest places are: the Mall and the surrounding few blocks of downtown DC, Georgetown, and the upper NW quarter; Chevy Chase, and Dupont Circle/Adams Morgan. You probably won't find anything to do outside these areas anyway.

7.3 Getting Around

There are many ways to get into and around Washington, D.C.

7.3.A The Metro

The best way to get into and around D.C. is by the subway system known locally as "The Metro." It is clean, air-conditioned, and cheap for you since you will be provided with Farecards at the beginning of the summer. There are five lines in the system, Green, Red, Orange, Blue, and Yellow. (A map of the system appears on page 32). There will also be a Metro map in your arrival packet (in addition, they are posted in all stations and in the trains themselves). The closest Metro station is the College Park station on the Green Line, a mere five-minute walk from the Academy House.

Metro station entrances are all marked with a tall brown pylon marked with a white "M" as well as the colors of the lines serviced at that station. Most street signs in DC will indicate the direction of the nearest Metro station.

7.3.B Using the Metro

All access to the Metro is accomplished with the use of your electronic Farecard, a white card with a strip of magnetic tape on it. It is required to enter, AND EXIT the terminals, so hold on to them! The farecards work as

debit cards, with an amount of fare remaining printed on the face, fare is deducted at the end of each trip, based on some obscure variable rate system. Rates increase temporarily during the rush hours. You can purchase Farecards at the vending machines in each station; you may also add cash to your Farecard or replace a heavily used card when the face is fully covered with deductions (they reach the words "Trade In" by sticking it in the right slot on a vending machine, and pushing the red button.

Before you pass the entry gates, look at the map board and note the route you will take to your destination. Also note the cost of travel to your destination and be sure your Farecard can cover it. You will need to take the correct color train that is going in the right direction. The train direction is noted by the name of the last stop the train will make on the route. For example, the north end of the Green Line is at Greenbelt station, the southern end is at Anacostia. If you are in DC, and want to go north to College Park, take the Green Line train to Greenbelt, and get off at College Park station. If you don't keep this in mind, you could end up heading for Anacostia. That would be bad (see Primary DC Rule above). If you go the wrong way, you can always get off at the next stop and switch back to the correct train. There is no eating or drinking on the Metro. This is the price paid for one of the cleanest subways in the world.

7.3.C Very Important Metro Fact

The Metro closes at around midnight; if you plan late night travel note the posted time of the last train leaving your late night destination. If you miss it, you'll have to take an expensive cab ride.

7.3.D Metrobus

The Metrobus system is confusing for the neophyte, try not to use it unless you really know where you're going. Metro is quicker and costs about the same. You can't use your farecards on the Metrobus anyway.

7.3.E Taxis

Taxis are available, and charge on some kind of zone system, where you pay a certain amount per zone traveled through, plus an amount per person, etc. etc. Take the Metro, then walk. Of course, late at night taxis are worth the price when the Metro is closed.



Figure 16 – The Metro system

7.3.F Driving your own car into DC

Try not to. There is very little parking in DC and most of it is expensive. Take the Metro. If you must drive, (such as if you plan to stay out late) these are the quickest routes into downtown from College Park. (Inexpensive parking can be found at 7th Street and New York Ave. \$3.50 for the whole day. Hours: 8:30 am - 6:00 pm.)

7.3.G To drive to NW DC

Leave College Park, going north on Route 1 toward the Beltway. Take the Beltway east/clockwise for about 10 minutes to Route 50. Take Route 50 west, it eventually becomes New York Avenue as you enter the urban area. After you pass North Capitol St. (the boundary between the NE and NW quarters, it runs north from the Capitol building) you are in NW DC. New York Avenue leads you to Mt. Vernon Square and continues on to the White House. Continue west along one of the letter streets (such as M Street) to get to Georgetown (starting at around 26th Street and extending to about 38th St.)

7.3.H To drive to SW DC

Get to New York Ave. as above. After you pass North Capitol St. bear left for I-395, take 395 through the tunnel which runs under the Mall, then bear right, take the first exit on the right to 6th or 7th St. You are now in SW DC, a few blocks south and west of the Capitol, near L'Enfant Plaza.

7.3.I Getting Lost

It is difficult to get lost in DC, you can always follow street signs by decreasing letters or numbers to get to the familiar Mall. If that doesn't work, find your way to the closest Metro station, they all have display maps of the surrounding area. If are a star navigator, you can always roughly triangulate your position from the Washington monument and the Capitol dome, which are about a mile apart.

7.4-7.5 Major Attractions

See Appendix A for a list of some of the major attractions in DC and Appendix B for a listing of the major attractions in the neighboring area.

7.6 Miscellaneous Entertainment

The best way to find out what is happening in the music and social scenes in DC is to pick up a copy of the City Paper, a free weekly you can find at all newsstands, and many other hangouts. If you need tickets, you can go through the Ticketmaster office at GSFC, in the GEWA Exchange Shop, Building 1.

7.7 Areas of Interest Outside of the DC area

7.7.A Baltimore

Baltimore is a must. The Inner Harbor is a great spot with lots of shops and restaurants. The Sea Aquarium here is \$11.50 but helps fill the day. Where else are you going to see sharks in the DC area?

Of course, there is also Camden Yards, where the Orioles play baseball. You can drive to Baltimore, or take the MARC train from Union Station for a round trip fare of about \$9.00. Additional points of interest are: Fort McHenry, the planetarium, and the IMAX theater at the Science Center.

7.7.B Annapolis

Best known as the home of the Naval Academy. It's a great day trip. Take the tour of the beautiful Academy, spend the day wandering in the colonial downtown. Annapolis is also the capitol of Maryland, so you can take a tour of the State House. We will be taking a trip there at some point in the summer.

7.7.C Civil War Battlefields

There are tons of historic battlefields in the area, such as Manassas, VA. You can find information about them at any tourist information center.

7.7.E King's Dominion

This amusement park is about an hour away in Virginia. There are five or six roller coasters here, try them all. The Grizzly is guaranteed to give you a bruise or two, but it's fun. There is also a water park here, so bring swimming gear.

7.7.F Ocean City, MD

This beach community is ideal way to spend time with the surf and the sun. It is located on the Eastern shore of Maryland.

7.7.G Williamsburg, VA

Colonial Williamsburg is like stepping back in time to see what life was like during the American colonies. It is located several hours away in Virginia.

7.8 “Things just come up!”

There are some things that just happen during the summer. The launch of a GSFC satellite or a special VIP coming to the B-W area are examples. Previous social events have been various rock concerts, a 5K “Race for Space” sponsored by the National Space Society, as well as events that the Smithsonian puts on at the Mall. So be prepared to take advantage of situations that might come up.



Figure 18 – Team “NASA Academy” during the Fourth Annual “Race for Space” on the Mall

8.0 LOGISTICS

Room and board for all RAs is provided by the NASA Academy. Your meals are either provided or paid for and require a bit of financial planning by the Staff. A large part of this planning, and the requisite paperwork, involves meal per diem (Latin for "by the day") advance tracking for your meals during your 10-week stay. You will receive checks for per diem advances at several points during the Academy. These cash advances are for your use in paying for meals outside the program. Section 8.1.A below will illustrate the meal schedule. Some meals will be taken outside of the Academy program, primarily on the weekends. There are plenty of restaurants in the area of the Academy House for some good meals.

The Academy uses Westover Consulting for conference coordination. Ms. Mary Floyd (with Westover Consulting) will act as the Special Assistant for Operations in the processing of per diem advances and expense reports. She will be the liaison between NASA and the service providers for the Academy.

Computer resources will be provided in your PIs lab and also in the Academy house. However, if you have a machine available, you may want to bring it. You can talk to the Staff about details regarding bringing your computer before your arrival.

8.1 Meals

Your meals are provided at the GSFC Cafeteria (lunches) during the week and catered at the Academy house (dinners) three nights a week. On Monday and Friday evenings, and on the weekends, you must find your own meals, but the Academy will still pay for them. See Section 8.4.A for details.

8.1.A Meal Schedule

As mentioned above, all meals are provided for by the Academy budget in different ways. The following schedule shows where and when meals take place in any typical week, as well as the method of payment. Specific terms are defined further on in this section. Meals during field trips will be addressed later in Section 8.5.

| | WHEN | WHERE | PAYMENT |
|-----------|---------------------|----------------|--------------|
| Breakfast | Mon. – Fri | GSFC Cafeteria | "NASA Bucks" |
| | Sat. and Sun | RA's choice | per diem |
| | | | |
| Lunch | Mon. – Fri | GSFC Cafeteria | "NASA Bucks" |
| | Sat. and Sun | RA's choice | per diem |
| | | | |
| Dinner | Tues., Wed., Thurs. | NA House | covered |
| | Mon. and Fri. | RA's choice | per diem |
| | Sat. and Sun. | RA's choice | Per diem |

8.2 GSFC Cafeteria

Breakfast and lunch are available Monday through Friday at the Goddard cafeterias. There are two cafeterias at Goddard, one in Building 1 and one in 21. Food is reasonably priced, and pretty good, with a variety to choose from. Fare includes breakfast items, a salad bar, burgers and other grill items; sandwich bar, soups, desert bar, daily entrees, frozen yogurt, fresh fruit, sodas, juices, etc.

8.2.A GSFC Cafeteria Meal Vouchers – "NASA Bucks"

The coolest part of the Goddard cafeteria is that it's almost free. Upon your arrival at GSFC, you will receive a limited amount of food vouchers, called "NASA Bucks" with which to purchase breakfasts and lunches at GSFC. **These should be sufficient to supply you for the entire summer, at a rate of \$8.00 per day.** The vouchers are used as cash, but you cannot receive change back for the unused portion of a voucher. For example, if you buy a \$0.60 drink with a \$1.00 voucher, you will not get \$0.40 in change. To conserve your resources, it would be better to use a \$0.50 voucher, and a dime. The Academy will meet for breakfast at 7:30 am (eek! [Editors interjection]) every Goddard workday morning. On non-Goddard workday mornings, such as day trips, the individual RAs will have to make arrangements for their own breakfasts.

8.3 House Dinners

Your evening meals on Tuesday, Wednesday, and Thursday will take place at the house. The meals will be catered and will include at least two entrees, several sides, salad, bread, and dessert. The staff will make the menu selections for the first week, after which, the RAs will make the selections. The Academy house will have bottled water service and the caterer will provide a juice machine for 24-hour thirst quenching.



Figure 19 – Academy class of '96 displays their honest opinion of that evening's dinner

8.4 RA's Choice (Per Diem Meals)

For these meals, you are responsible for finding your own food, either by going to a restaurant, or possibly cooking in the kitchen at the Academy house. This gives you a good chance for variety, as opposed to the regular cafeteria and catering fare. You should pay for these meals with your per diem. This cash advance works similar to the way a travel advance would work within NASA and industry, meaning that you will have to track your expenses and claim them on expense forms. See Section 8.4.A for details on the per diem system. Keep in mind that the Academy is a federally funded program with taxpayer money, so records are important. This fact also means that Academy will not pay for any alcohol.

There is a daily spending limit in the per diem system, so it is highly recommended that you are fully aware of how it works. It is easy to lose track of expenses, especially with so much happening during the summer. You will receive a daily per diem calendar detailing your allowances throughout the summer. It is in your best interest to closely follow the schedule and system for the summer.

8.4.A Per Diem System

The NASA Academy uses a system of cash advances and expense claims to administer to the needs of the RAs to pay for meals outside of those provided by the program, and to reimburse you for incidental expenses (mileage, presentation supplies, etc.). There will be three per diem advance periods in which you will receive payment by check. The tentative pay periods are: June 3–June 26, June 27–July 24, and July 25–August 10. Spending guidelines per day are set according to the number of meals, and the allowances are as follows:

- Dinner Friday and Monday - \$12 each night for a total of \$24
- Saturday and Sunday, all meals - \$25 per day for a total of \$50
- No alcohol may be expensed

This per diem system has been designed so that you will receive your money up front, before you need it, and has been divided into periods to ensure that the system meets governmental requirements and is not burdensome to the RAs. Your first per diem advance check will be given to you the weekend you arrive. During your first day at Goddard, you will have the opportunity to set-up a bank account with the NASA Federal Credit Union (see Section **9.3**).

At the end of each advance period, you are required to turn in an expense claim form in order to receive your next advance check. This form will report in detail your spending versus the per diem allowances. In addition, incidental expenses should be reported to ensure that you are reimbursed for these expenses. These incidental expenses shall be pre-approved by the staff to ensure compliance with governmental standards.

Your expense claim forms will be turned in to the staff or the Special Assistant for Operations on the first day of each advance period

8.4.B Expense Reporting Schedule

In order to receive your per diem advance checks on time, you must turn in the expense forms. We will provide you with the dates (to turn them in) as they approach.

In order to receive your graduation certificate, you must turn in your final expense form. If you have any incidental expenses listed on this final report, a check with your reimbursement will be mailed to you once you have left the academy.

8.5 Meals During Field Trips

The Academy will be taking several field trips throughout the summer. Accordingly, the meal allowance for these trips will vary due to the governmental per diem rates. You should consult your daily per diem calendar for these allowance fluctuations.

8.6 Area Restaurants

See Appendix C for a partial list of some area restaurants that have been recommended by previous Academies.

8.7 Mileage Reimbursements

RAs will be reimbursed for mileage driven on personal vehicles while commuting to and from Goddard or on Academy field trips. This mileage should be reported on the expense form for the period they occurred for reimbursement. The rate for payback is 33 cents per mile. The staff can explain information regarding the specifics of allowable mileage.

8.8 Computer Arrangements

All RAs will have access to computers, at both GSFC and the house. The platform that is used (PC or Mac) in your PIs lab will vary. The individual performance of these machines also varies. If the RA would like to bring a computer with them for use at the Academy house, you are encouraged to do so. These personal desktop machines, generally, will not be allowed in your lab, however, if you have access to a laptop, its availability may be valuable; computer lab space at the house can become a premium, especially when big projects and tasks are due.

8.8.A Computers at GSFC

Each RA will receive an e-mail account at GSFC and each RA should also have access to a computer at his/her workspace. Computer performance and peripherals can vary a great deal. The Academy Staff's office contains PCs Macs with full Audio-Video capability, color scanning, and printing. Availability of this equipment is limited and should be arranged with the Staff.

8.8.B Computers at the House

The computer systems available at the house will have limited performance capabilities. This is due to budget constraints and continual technology advances. However, there will most likely be PCs and Macs available with printing capability and (hopefully) Internet access.



Figure 20 – After hours at the Academy house's computer lab

9.0 BEFORE YOU ARRIVE AT GSFC

It is assumed that you will receive this handbook before you come to the Academy. And it is thusly presumed you will peruse (that means read carefully) it before you come. It is also assumed that you are in contact with the Academy Staff and all other RAs through e-mail. In fact, e-mail will be the means through which you will be receiving the most current information.

9.1 *Maintain e-mail Contact*

Monitor your e-mail regularly for updates and information on the Academy as soon as you have established contact, and until you depart for Goddard. You may also want to open up topics for discussion with other RAs. This would also be a good time to make arrangements such as, "who brings the stereo?" and the other college roommate stuff.

It would be very beneficial if discussion about the eventual group project was done before you arrive. If you can agree on an idea or two, you can then hit the ground running when you arrive at GSFC. You will also have the wisdom of alumni at your disposal, so be sure to clear up any questions you can think of during this time.

9.2 *Contact Your PI*

When you received your acceptance into the Academy, you were also assigned one of the projects you chose from the DDF list. The engineer or scientist that is the lead person on this project is the Principal Investigator (PI). In effect, your PI is will be your boss while you are working at GSFC. It is very important that you contact your PI before you come to the Academy, either by phone or e-mail. Your PI can then provide you with information about what exactly you'll be doing over the summer. Your PI may also be able to send you materials to bring you up to speed on their area of research before you arrive at GSFC, or recommend topics you should review. This way you can have a better chance at hitting the ground running during your first week at GSFC. You will be responsible for looking up your PI contact information in the x500 directory (<http://www.hq.nasa.gov/hq/x500.html>).

9.3 Banking

You are going to need money. You should have already received a stipend from your Space Grant by the time you start at the Academy. This is your money to use as you see fit over the summer.

9.3.A NASA Credit Union

If you need to open an account while in the area, you can start one at the NASA Credit Union in Building 21, adjacent to the cafeteria. You can get a cool ATM or credit card with the NASA logo and Space Shuttle on it from them. I recommend you do this as soon as you arrive. The staff will provide you with appropriate information and forms when you arrive.

9.4 Clothes to Bring

9.4.A Primary Items of Clothing

1) During the summer, several occasions will require formal dress, so bring some business-type clothes.

2) Bring clothes you would wear in a laboratory for work, some labs may require you wear full-length pants and no open-toed shoes for safety. You should ask your PI about this before you come to the Academy. Additionally, some of the technical tours, such as the Orbiter Processing Facility at KSC, require closed-toed shoes.

3) Bring lots of hot weather clothes, temps in the 90's and high humidity are the diurnal norm.

4) BRING AN UMBRELLA! It rains (downpours) often in the humid afternoons.

5) You will be white water rafting, so bring some clothes (and shoes) you wouldn't mind having drenched. If you wear glasses, you might want to bring one of those straps that allow you to hang your glasses around your neck.

9.4.B Other Items to Bring

1) You will be receiving a backpack/satchel from the Academy on arrival, so you may not have to bring your own.

2) A student ID will get you discount tickets in many places, including movies, and IMAX films at the National Air Space Museum.

3) You may want to pack a desk lamp, as the lighting in some of the rooms of the house is sparse.

4) A camera, film, and batteries. Film is expensive around the tourist areas. Generally, everything is more expensive in and around D.C. If you don't have a camera; it is probable that a system will be arranged by the RAs to obtain copies of prints from other RAs and the Staff at the end of the summer. You might want to bring a walkman for those hours in vans on the longer field trips.

5) Bring sunscreen for the rafting, or you'll be a lobster.

9.5 Cars

Some people will be living close enough to DC to drive instead of fly; some may opt to drive for the convenience of having a vehicle, which comes in handy. Although living at the University of Maryland is near DC, you can't take the Metro to the supermarket, you need a car. You will have to arrange beforehand through e-mail the details about who is bringing cars. Generally, more cars are better. Those who drive cars will probably have much more cargo space than those who are flying, so they could bring some of the bulkier essentials for dorm life.

The Academy staff will be communicating with all RAs before the summer about bringing their private cars. If there aren't enough RA vehicles, cars will be rented for RA use. Transportation between GSFC and the house will not be a problem.

9.6 Arrival arrangements

You will, of course, need to arrange with your Space Grant and the Academy Staff beforehand for transport from your place of arrival (Reagan National Airport, BWI [Baltimore Washington International], Union Station, or Dulles) to the Academy house on the first day. **BWI** and **Reagan** are the most convenient airport locations to arrive/depart from. A staff member will pick you up and drop you off at the end of the summer.

9.6.A Advice for Day of Arrival

Once you have met some people and found your bearings on Day One of the Academy, you will probably have some spare time as the rest of the RAs make their arrivals and the Staff is busy picking them up. It is highly

recommended that you use some of this time to go to a store and buy the essentials (detergent, soap, snacks, etc.) because the first week of the Academy is a very busy one. You simply will not have enough spare time later on.

9.7 Sports Equipment

Because obtaining sports equipment has been difficult through UMCP, you should bring your own. Someone should probably bring a basketball, maybe you have a tennis racquet, baseball bat and gloves, volleyball and net, and of course, many Frisbees! There are organized sports teams at Goddard, if you would like to participate.

10.0 A MISCELLANY OF ACADEMY WISDOM

10.1 Papers

“A big benefit of the Academy is the wealth of information you will obtain from guest speakers and industry visits. Unfortunately, this takes the form of reams of paper. Before returning home I threw out (in the recycling bin) what I didn't want, and I still had about 20-30 pounds of papers and pamphlets I had to ship home. Most of this I could have probably thrown out and re-obtained later by request, but the time and effort that would be needed to locate all this information independently justifies paying the shipping cost.”

10.2 Group Dinners

“If the RAs have a few cooks amongst them, a good way to have some good homemade food for a change (rather than cafe and restaurants) is to organize a group dinner. This is also a good chance for all the RAs to get together in an unofficial capacity and socialize. It is also a good way to decrease the burden on the per diem system, as it's pretty easy to organize a group meal for \$3-\$5 per person. As mentioned above, any means to decrease the burden on the Academy budget can yield more spending in other areas. In Academy II, we organized a year end picnic on the Mall in DC, it was pretty fun. Of course, group parties can happen too, but you don't need this handbook to explain about that.” :)

10.3 The Experience

“This will be one of the most exciting—as well one of the most challenging—summers of your life. It would be an excellent time to keep a journal of the events and your thoughts of the events. When you are nostalgic 20 years from now about these experiences, you will want something more than pictures and pamphlets to reminisce. During my Academy, many of the students would write down some words every couple of days. By the end of the summer, Academyites were already asking those who had kept a journal about particulars (because so much happens!). When you are a major success in years to come, this will also help in assembling your autobiography.”

APPENDIX A – MAJOR ATTRACTIONS IN THE DC AREA

The following is a list of some of the most popular attractions in DC; it is by no means even close to a complete list. Each attraction is listed with its location, hours of operation, and is given a short explanation, along with the name of the closest Metro stop. The RAs should have access to maps of DC, possibly included in their initial information packets, or obtained at Park Service information posts at many attractions.

All of the attractions listed in this section are free. Some of the places you may want to visit haven't been listed here because your schedule will severely conflict with the hours of operation. (For example, the famed FBI tour is only given during the day, M-F; you'll be at GSFC or on field trips M-F all the time, so forget it. The Supreme Court usually doesn't have open arguments during the summer, so there's not much point in going).

Some of these attractions can require a lot of waiting in line, or pre-arrangement to get in. So, odds are, you'll not have enough free time to see everything. Invest your free time wisely. But don't be disappointed with your lack of tourism time, any schmuck can visit the White House; your time is being spent on cool tours of Martin Marietta, or talking with space VIPs! Besides, you're in the NASA Academy, not on vacation. :)

A.1 The Smithsonian

This is THE national museum. It is comprised of many individual museums. Most of them are found surrounding the eastern half of the Mall. The exact hours vary from year to year depending on the available funding. Hours are posted on large signs; note them. And, of course, it's all free. I've never seen a line to get into a Smithsonian museum (except in the morning before opening when the doors are still locked).

The "Smithsonian" Metro stop on the Blue/Orange line is the most convenient for the major museums. The most popular individual museums are described below.

A.1.1 Smithsonian Institution Building "The Castle"

WHERE: The Mall, 1000 Jefferson Drive, SW

WHEN: 900 - 1730, daily

You can't miss this big red brick castle, which at one time was The Smithsonian Museum. (It has expanded since those days.) Today, it contains no exhibits, but serves as the information center for visitors to the Smithsonian. There is a neat map of the city here, and that's about it.

A.1.2 National Air and Space Museum (NASM)

WHERE: The Mall, far east side, on Independence Ave.

WHEN: varies, see Smithsonian above

This is THE place for us space cadets. They've got it all, Chuck Yeager's X-1, an over-handled moon rock, original Mercury, Gemini, and Apollo capsules, the Wright brothers' Flyer, the Spirit of St. Louis. Check out "Where Next Columbus?" an exhibit on exploring Mars, and the "Star Wars" exhibit.

NASM is very popular. It will be crowded, especially during the summer, and especially on weekends. Surprisingly, you can often walk through even the most popular exhibits without any waiting if you go during the hour before closing.

The IMAX Theater is also very popular, so you may have to wait in line for a while to see a movie, but it's worth it. "The Dream is Alive" and "Destiny in Space" are must-sees. "Cosmic Voyage", a recent film shows both the macroscopic and microscopic views of our universe. Bring your student ID for reduced ticket prices.

Check out the gift shops for the coolest in aerospace gifts and books. The glass-enclosed cafeteria is expensive, but the view of the Capitol is cool. L'Enfant Plaza is the closest Metro stop, it's on the Blue/Orange, and Yellow/Green lines.

A.1.3 National Museum of American History

WHERE: The Mall, 14th St. and Constitution Ave. NW

WHEN: varies, see Smithsonian above

The name says it all; this is the museum of American history, with just about every category covered, from pop culture to the Revolutionary War. It includes a nice display on science, engineering, and computers. There is something of interest for everyone, so there's no use trying to describe it all. The Smithsonian's best (besides NASM) general gift shop is sort of tucked out of view in the lower level.

A.1.4 National Museum of Natural History

WHERE: The Mall, 10th St. and Constitution Ave. NW

WHEN: varies, see Smithsonian above

Recognizable by the large dome, this is the kind of museum where you'd expect to find Indiana Jones. It's a bit old, but distinguished, and filled with all sorts of natural artifacts. The most popular exhibits are the dinosaur skeletons, the crystal and gem collection (which includes the Hope Diamond), and the Insect Zoo. On one of the floors, there is an exhibit of meteorites (and at one time they were showcasing the now-famous ALH84001 Martian meteorite). There are special exhibits on the lowest level.

A.1.5 National Gallery of Art (East and West Buildings)

WHERE: The Mall, far east side, along Constitution Ave. NW

WHEN: varies, see Smithsonian above

Art lovers could spend weeks here. Art haters should at least visit the impressive I.M. Pei-designed East Building, which is itself a work of art, inside and out. You will also learn the standard tradition for all East Wing visitors from the Academy Staff.

The West wing contains the more traditional stuff, European masters, paintings, sculpture, etc. The paintings are mostly displayed in a maze of smaller rooms, so take your time, or you could miss half the place with a wrong turn.

The East wing houses the more modern stuff. Being more modern, exhibits often change, so you never know what'll be there from season to season. Some temporary exhibits require you to get a free time ticket for entry, which you can get on the day of your visit if you arrive early (usually by noon) art lovers will have to plan ahead.

There is an underground tunnel connecting the East and West Buildings, along the way there is a good art gift shop, and a nice cafeteria. The closest Metro stop is Archives on the Yellow line.

A.1.6 Other Smithsonian Museums

There is not enough room to describe all the Smithsonian Museums, nor enough time to visit them thoroughly: Here is a list of others that may interest you, with brief explanations.

The Arthur M. Sackler Gallery

WHERE: The Mall, 1050 Independence Ave., SW (near the Castle)

WHAT: Asian art

Freer Gallery of Art

WHERE: The Mall, Jefferson Drive and 12th St., SW

WHAT: Eclectic mix of both Asian and American art.

Hirshhorn Museum and Sculpture Garden

WHERE: The Mall, 7th St. and Independence Ave., SW (the circular building)

WHAT: The coolest bizarre modern art and sculpture.

The Renwick Gallery

WHERE: 17th and Pennsylvania Ave., NW, (near the White House)

WHAT: mixed-media art, American crafts

The closest Metro stop is Farragut West on the Blue/Orange lines.

National Museum of African Art

WHERE: The Mall, 950 Independence Ave., SW (near the Castle)

WHAT: Traditional African art.

National Portrait Gallery / National Museum of American Art

WHERE: 8th and F streets, NW

WHAT: Portraits (duh), and the largest museum in the world dedicated to American art. Contains a nice collection of portraits of the Presidents.

A.2 The National Zoological Park

WHERE: 3001 Connecticut Ave., NW

WHEN: 800 - 2000 during the summer

The National Zoo is also a branch of the Smithsonian Institution. Most of the animals are in large, natural looking enclosures, not cages. If you plan on seeing everything, you'll be walking, outdoors, mostly on asphalt trails, about two miles, so it's best to go when it's cool. The animals are more active when it's cool anyway. Fortunately, there are many shady trees, and some air-conditioned indoor exhibits.

The most popular attractions are the giant pandas, white tigers, the new young elephant and parents, the giant pandas, the various felines, the great apes, polar bears, and, of course, the giant pandas. Panda feedings are at 1100 and 1500, and are very popular (crowds packed in like sardines in the viewing room).

The Zoo is free, but the food and drinks at stands inside are definitely not. There are plenty of restaurants outside the main gates. Ask the Staff for the best way to get there. The Red Line Metro stop at Woodley Park/National Zoo is at least half a mile short of the Zoo entrance. But the next stop is about half a mile past it. And don't forget to see the giant pandas, they're very popular.

A.3 U.S. Capitol

WHERE: The center of D.C. It's the Capitol! You should know where it is! Enter on the east side, opposite the Mall.

WHEN: Guided tours 900 - 1545 daily. Rotunda and Statuary Hall open until 2000 in the summer.

The Rotunda is the starting point for tours; Statuary Hall has statues from all 50 states, and some interesting acoustics. Go early to avoid lines. When you get there, it's best to ask a guard for directions. You should take the tour, but you don't have to, you can wander on your own, and maybe get lost. Guards will keep you from going anywhere you're not allowed. If you feel ambitious, contact your congresspeople beforehand and you could meet them in person, or at least get a lot of free VIP tickets for lots of Federal building VIP tours, usually getting to stroll past the regular tourists waiting in line. The closest Metro stops are Capitol South and Federal Center, both on the Orange line.

A.4 Washington National Cathedral

WHERE: Massachusetts and Wisconsin Avenues, NW—a good mile's walk NW of the Woodley Park/National Zoo Metro stop on the Red Line.

WHEN: 1000 - 2100 in the summer

A huge, impressive cathedral. I walked the mile in sunny 90-degree weather, and it was still worth it. A bonus of the walk is that you pass by the large estate-like embassies of many of the wealthier nations. The great

stained glass windows include one symbolizing achievement in space travel, and it contains a moon rock. The cathedral is not air conditioned, but the small gift shop is.

A.5 Arlington National Cemetery

WHERE: Across the Potomac River from DC, Arlington Metro stop

WHEN: 800 - 1900

This is the nation's largest military cemetery. As a reminder to the rebels of the Civil War, the dead were buried in Robert E. Lee's front yard, in what evolved into Arlington National Cemetery. The most famous parts of Arlington are the Tomb of the Unknowns, and the Eternal Flame (of John F. Kennedy). The Tomb of the Unknowns is guarded 24 hours a day, with a changing of the guard every half hour in the summer which must be seen. The Eternal Flame is very popular, with an appropriate view of DC.

Also of interest is the memorial to the Challenger astronauts, and the Iwo Jima Memorial (a large scale monument depicting the famous photograph of the flag-raising on Mount Suribachi). Every Tuesday night at 7:00 the marine marching band performs here. It is definitely well worth the trip. Cars are not permitted inside Arlington, so there is a lot of walking involved, depending on how much you want to see. There are no food and drink vendors (they don't fit the dignity of the place). So, be warned, try to go on a cool day, and bring something to drink.

A.6 The White House

WHERE: 1600 Pennsylvania Ave., NW

WHEN: Tours are 1000 - 1200 Tues. through Saturday

You won't see the President on this short 15-minute zip through the White House. To get a same-day ticket for a tour during the summer, you should plan to get in line at the ticket booth on the Ellipse (the park between the White House and The Mall) at about 7:30 AM. So, you'll probably end up spending a whole morning for this tour, there are probably better ways to spend your time. *Tours can be canceled for the day with no notice.* You can get tickets for an extended VIP tour from your Congresspeople, by writing well in advance. The closest Metro stop is Federal Triangle.

A.7 Lincoln Memorial

WHERE: The west end of The Mall

WHEN: Always open. Park rangers on duty 800 - midnight

This is an obligatory stop for any DC visitor; the view from the steps is great, looking down the length of the Mall to see the Washington Monument and the Capitol. The view at sunrise, sunset, or at night is particularly noteworthy. There is a small museum in the basement, where you can get a peek at the foundation of the monument. The Vietnam Veterans Memorial is within easy walking distance.

A.8 Vietnam Veterans Memorial

WHERE: The Mall, west end; a bit east and north of the Lincoln Memorial

WHEN: Always open

This long black wall is inscribed with the names of more than 58,000 Americans who died in Vietnam. This is also an important stop for any new DC visitor. Nearby, across the Mall to the north, the National Academy of Science building features a large statue of Albert Einstein. It is traditional to sit in his lap and get your picture taken.

A.9 Washington Monument

WHERE : The center of the Mall, you can't miss it.

WHEN : 800 - midnight in the summer

The elevator to the top of this 555-foot tall monument provides the best view of DC. However, the observation deck is small, as are the viewing windows. The wait to get in can be long, with the line of waiting people often looping around the base. Each loop means about a one-hour wait. It is suggested that you go at night, when the line is usually much shorter, and the view is even better. For a personal tour of the monument, you can get tickets for a special "Walk the Steps of Washington." This is one of the best-kept secrets in DC. It is a tour through time of the life of George Washington as you walk down the steps. If you want a good view without the wait, head for the tower of the Old Post Office. The closest Metro stop is the Smithsonian.

A.10 Old Post Office Tower and Pavilion

WHERE: 12th St. and Pennsylvania Ave.

WHEN: 800 - 1800 M-F ; 1200 - 1800 Sat/Sun

There are two main attractions here. First is the tower. It's about half the height of the Washington Monument, but the wait to get to the top is not long (15 minutes was the worst I've experienced), if there's any wait at all. Also, the windows are very large, so it's easy to see. The ride to the top of the building is via a glass elevator, from which you can see the entire food court shrink below you as you rise nine stories, so acrophobics beware. The Park Service rangers here are often especially helpful and informative.

The second main attraction is the Pavilion, a three level arrangement of restaurants, fast food, and shops. The closest Metro stop is Federal Triangle on the Blue/Orange lines, which is just across the street from the entrance.

A.11 Holocaust Memorial Museum

WHERE: 100 Raoul Wallenberg Place, SW (formerly 15th St.) near the Mall between the Washington Mon. and Bureau of Engraving and Printing

WHEN: 1000 - 1730 daily

This attraction is not for the faint of heart. It is a powerful display of that horrible chapter of World War II. Displays are very graphic. The most graphic films are displayed behind tall concrete barriers to prevent young children from seeing them. The museum as a whole is designed to give the visitor some of the feel of a Nazi concentration camp atmosphere.

There is a limited amount of space in the museum, and since its opening in 1993, a large amount of people wanting to visit. A free time ticket system is used. You line up outside (arrive early, 8:00 AM is suggested) to get a ticket that permits entry at a certain time later that day. After you get your ticket, you have free time, until the time printed on your ticket. There are plenty of places to visit nearby. You may enter at, or later than, that printed time. Again, if you're in a vacation mood, do not visit here. The closest Metro stop is the Smithsonian.

A.12 Library of Congress

WHERE: 1st St., SE on Capitol Hill

WHEN: 900 - 1730, M-F

The world's largest library consists of three buildings, the main (Jefferson) building, with the impressive rotunda, was undergoing renovations and closed to the public as of 1994. However, it was open to "researchers". All the buildings are connected by underground passageways. By entering the publicly accessible Madison building, you can follow signs to the basement level, through a tunnel, and get to the Jefferson building. I don't know if this is necessary, but just look official, bring your NASA "Research Associate" badge and don't look like a tourist.

You can then look up anything, because the LOC has everything; books, recordings, etc. The main problem is their computer system is not up to par with most university's, without much of a search ability, it's not much more than a paper card catalog on screen. You pretty much have to know exactly what you're looking for. Ask a librarian for help, it's their job to cater to you, this place is not self-serve. So, unless you have a specific idea of what you're looking for, a visit here could be pretty dull. There is also a pretty good cafeteria on the sixth floor of the Madison building. The closest Metro stop is Capitol South on the Orange line.

A.13 RFK Stadium

WHERE : Take the Metro to "Stadium"

This is where the Redskins play, and is the site for many major concerts. Just one note, don't eat the food, it's cooked IN THE CANS over an open flame, according to an alum.

APPENDIX B – AREAS OF INTEREST IN THE DC AREA

Spending the day in D.C. doesn't have to be an endless string of museums and monuments, below are some areas to visit and explore.

B.1 Old Town Alexandria

If you want to get away from the urban feel of D.C. for an afternoon or evening without having to drive, Old Town Alexandria, a restored colonial port across the Potomac in Virginia, is the place to go. Take the Metro to King Street, on the southern end of the Yellow Line. You will arrive about 15 blocks, or about 1 kilometer, west of the riverfront. Walk down King St. towards the river, or take a 75-cent bus trip (exact change only). Hang out and take it easy in the park by the river, watch the jets take off from National Airport. Find a restaurant somewhere; there are tons. (The Austin Grill, 801 King St. is supposed to be a good inexpensive Tex-Mex place.) There is a Ben & Jerry's shop a couple of blocks from the river, just south of King St. for dessert.

B.2 Georgetown

Very trendy, lots of shops, bars, restaurants, malls, people. This is where people go for nightlife. You just can't describe it all. It is a colonial feel, but there are townhouses, and parks, and bars, and stuff. Arnold Schwarzenegger chased bad guys on a horse through Georgetown in "True Lies." Just go to Georgetown, and you're guaranteed to find something to do.

The major point for you to know before you go exploring is that the closest Metro stop is Foggy Bottom/GWU on the Blue and/or Orange Line, and it's about a half mile away. Get off, walk west and a bit north, you're there. It might be worth a cab ride—especially at night. Traffic and parking can be a real problem due to the lack of Metro service.

B.3 Dupont Circle/Adams-Morgan

Trendy in the other sense, more of a college student, artist, ethnic, and liberal feel. Greenwich Village-ish. Not quite as polished as Georgetown but home to many foreign embassies and estates. There are plenty of good

restaurants especially a large variety of ethnic cuisine, nice bookstores, art galleries, delis, and cafes; even bookstore-cafe-deli-restaurants.

The Dupont Circle area is accessed from the Red Line Dupont Circle station; it is north of Georgetown, and it's where more of the embassies are. As you walk north you approach the Adams-Morgan section, with the more ethnic flavor, heavy on Hispanic and African influence. There is so much here, that it's best to get advice from a native.

B.4 Chevy Chase

It is a community just north of DC, where many young people like to go out for the evening. There are several restaurants and eateries located in the area. Also, for any big movie premieres, the Academy traditionally has gone to the Uptown theater.

APPENDIX C – RESTAURANTS

The following is a partial list of some area restaurants that have been recommended (or panned) by previous Academies. One caveat: some of the following may have changed names/locations/hours. Ask any staff member for their recommendations.

C.1 Local restaurants

C.1.1 Seven Seas (Chinese)

Located on Route 1 in College Park. It will be on your right as you pass it every day on the way to GSFC. Outside it looks a bit dumpy, but inside is much better—good food, good price. Tables can seat 10-12. There are some Japanese items on the menu as well.

C.1.2 RJ Bently's (Bar, Burgers and other high cholesterol items)

Usual Generation X/Yuppie college fare. Pretty good, OK prices. Open late. On Route 1 just outside UMCP and a bit south of the main south gate.

C.1.3 Bennigan's (Bar, yuppie food, burgers)

Typical bar mega-franchise. Good food, OK prices. Located next to Greenbelt Plaza.

C.1.4 Chi-Chi's (Mexican)

Located on Greenbelt Road, or your right as you head toward GSFC from UMCP, about half of the way there. Good food, plus a bar.

C.1.5 T. G. I. Friday's (Bar, yuppie food, burgers)

Same idea as Bennigan's. Good food, good drinks (both hard and soft), fun atmosphere, decent prices. Located on Greenbelt Rd., just past the beltway on-ramp.

C.2 Restaurants in DC

The big four eating galleries are listed below. Each of these locations features a large mall-like selection of fast food restaurants with a few nicer

places thrown in. They are usually quick, relatively cheap, easily accessible by Metro, and relatively good. All are nice stops while on a day of touring in D.C. All are located at Metro stops of the same name (except the Old Post Office, at the Federal Triangle stop on the Blue/Orange line). For other (more posh) places, ask the staff.

C.2.1 The Old Post Office

See the Old Post Office entry (Section 7.5.10). There is also a stage in front of the food court/table area. There are usually performances every Sunday afternoon from about 1400 - 1600. To avoid the worst lunch crowds, try to go after 1300.

C.2.2 L'Enfant Plaza

Many government staffers eat lunch here, it can get crowded, but you just might see someone you recognize; although you probably won't be here M-F anyway.

C.2.3 Union Station

DON'T eat at Pick-a Pita, the food is disgusting. The manager was seen going next door to Greater Potato to eat. Also, avoid the Indian Delight.

C.2.4 Pentagon City

A big mall one stop away from the Pentagon. Very nice atmosphere.

C.2.5 Pizzeria Paradiso (Pizza)

2029 P St., NW. Serving great, but small, gourmet pizzas. The place is very small, seating about 35. So, don't bring a large party. There are no reservations, first come first serve, but a quick turnover. Try the four cheese "quattro fromaggio" or any of the other anti-Pizza Hut gourmet choices.

C.2.6 Capitol City Brewing Co. (Bar/American)

11th and H St., NW. Known for its good wide selection of pricey beers, and well stocked bar.

C.2.7 Brickskeller (beer)

1523 22nd St., NW. 500 kinds of beer in a rabbit warren of rooms. It contains some food, but a much larger collection of beers for beer connoisseurs.

C.2.8 Luigi's (Italian)

This is a great Italian place near the Dupont Circle Metro stop. It is a bit pricey, but the food is GREAT. But, look out for the waiters and hostesses. They want you to order drinks, appetizers, entrees, and dessert. If you don't, service isn't delivered with a smile. Still, it is worth it simply because the food is great. Try the minestrone soup and the cheesecake.

C.2.9 Pizzeria Uno (Pizza)

Union Station, upper level. Great pizza, deep dish variety. Expensive drinks.

C.2.10 Zed's (Ethiopian)

3318 M St., NW. This restaurant in Georgetown is an experience. The food is delicious and filling, it's very unusual though. In fact, you don't get a plate or silverware at all. You eat with your fingers, using a spongy pancake called injera as your plate/spoon/napkin. "Alicha" is a milder stew or curry dish; "watt" is the spicier.

C.2.11 Hard Rock Cafe (Rock and Roll theme restaurant)

Pennsylvania Ave. near Old Post Office. Be prepared for LOUD music, high prices, and lots of families. "It's a lot more like Chuck E. Cheese than I expected," said one Academy member upon inspection. A total tourist dive. If you're looking for a cool atmosphere, try Planet Hollywood, one block away.

C.2.12 Planet Hollywood (Movie theme restaurant)

Pennsylvania Ave. near Old Post Office. Filled with props from various movies. The food and service here are a pleasant surprise considering the apparent similarity to the Hard Rock Cafe. A big difference is that there is no blaring music, so you can actually hold a conversation, and the waiters don't have to be lip-readers. The place is relatively new, and may not have made it into all the tourist publications yet. If you show up for lunch by around

11:30, you'll probably be able to walk right in, otherwise, prepare to wait in line.

C.2.13 Tortilla Coast (Tex-Mex)

The Tortilla Coast serves "Tex Mex" style food and outstanding Margaritas for \$4.50 a pop. It is easily accessible from the Union Station Metro stop. Head across the street from Union Station and down about 1 1/2 blocks. It's a big pink building with Christmas lights, you can't miss it. This is a popular hangout for college students working in DC for the summer, doing political internships and such.

C.2.14 Cajun Bangkok (Thai)

Alexandria, VA. It doesn't have REAL Cajun food, but it does have good Thai for really cheap prices. It's located in Old Alexandria, and is accessible from the King St. Metro stop.

C.2.15 Copeland's (Cajun)

Also located in Old Alexandria, is the closest thing you will find that resembles authentic Cajun food (there was a genuine Cajun in Academy I from New Orleans who made this judgment).

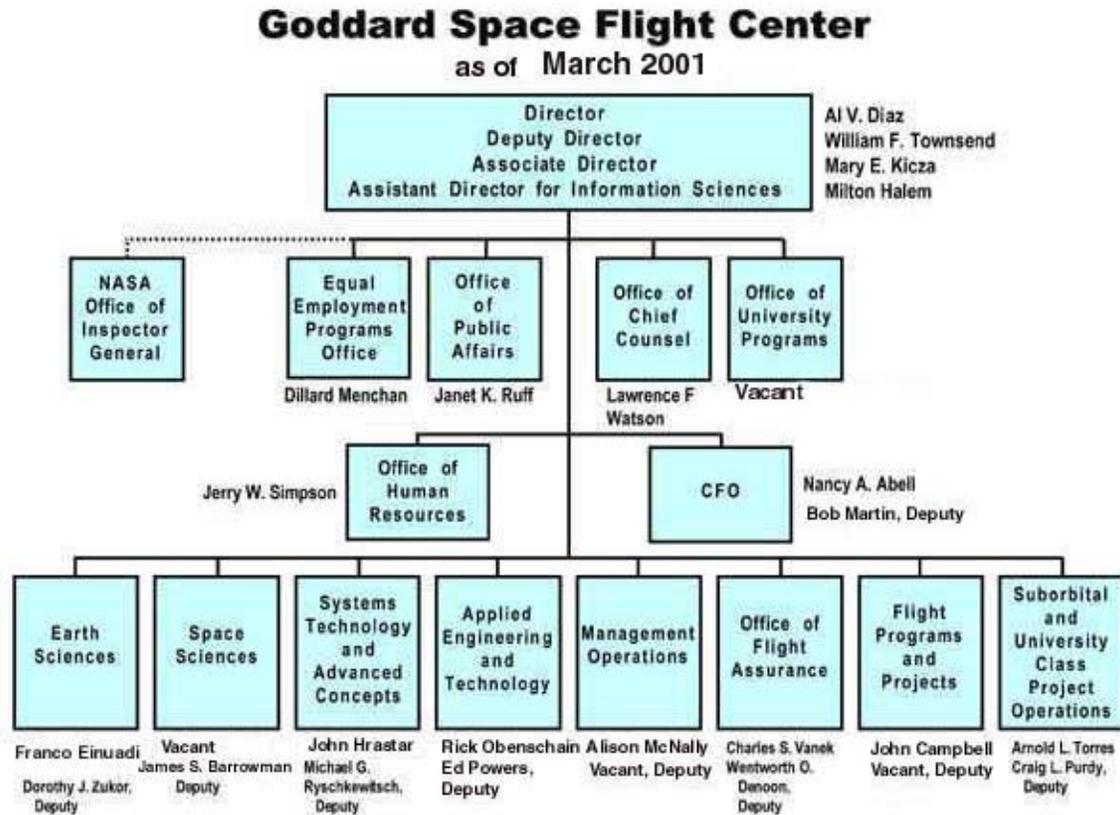
C.2.16 The Hamburger Hamlet (burgers + more)

In Georgetown PLAZA (not Georgetown). According to one RA, this place offers "much, much more than hamburgers." In fact, they have an overwhelming selection of burgers, appetizers, sandwiches, and other various munchies. It is all quite good and certainly worth the \$10-\$12 that you will probably spend.

C.2.17 The Cheesecake Factory (American)

Located at 5345 Wisconsin Avenue N.W., it is famous for, what else, its cheesecake; most of the appetizers and entrees are also incredible. Good sized portions for a decent price. Very popular among young and old alike, they do not take reservations, so expect a wait. For brunch, if you get there by 11:30 you are okay, or 5:00 for dinner, much after that, the wait jumps up fast.

APPENDIX D – THE ORGANIZATION OF GODDARD



This Chart shows the overall organization of Goddard. GSFC is partitioned into nine Directorates: Code 100 – Office of the Director; Code 200 – Management Operations; Code 300 – Office of Flight Assurance; Code 400 – Flight Programs and Projects; Code 500 – Applied Engineering and Technology; Code 600 – Space Sciences; Code 700 – Systems Technologies and Advanced Concepts; Code 800 – Suborbital and University Class Project Operations (Wallops Flight Facility); Code 900 – Earth Sciences. You will all be working in Codes 500, 600 and 900. A more detailed chart of these directorates will be displayed in the house.

APPENDIX E – TRANSPORTATION TO NASA HQ

A shuttle bus is available for transport from Goddard to NASA Headquarters in DC. This shuttle departs from Building 8 and Building 33 at regular intervals. A bus schedule appears below (it also appears on the last page of the GSFC phone book)

NASA Headquarters Shuttle Schedule

| <u>Depart GSFC</u> | | <u>Arrive HQ</u> |
|--------------------|---------------|------------------|
| Bldg 33 | Bldg 8 | |
| 7:35 | 7:45 | 8:15 |
| 9:35 | 9:45 | 10:15 |
| 11:35 | 11:45 | 12:15 |
| 1:35 | 1:45 | 2:15 |
| 3:35 | 3:45 | 4:15 |

| <u>Leave HQ</u> | <u>Arrive GSFC</u> | |
|-----------------|--------------------|----------------|
| | Bldg 8 | Bldg 33 |
| 8:30 | 9:05 | 9:15 |
| 10:30 | 11:05 | 11:15 |
| 12:30 | 1:05 | 1:15 |
| 2:30 | 3:05 | 3:15 |
| 4:30 | 5:05 | 5:15 |

-All HQ arrival and departures are at the northwest corner of the building, outside the Credit Union.

-Average travel time is 30 minutes.

APPENDIX F – WISE WORDS

(What the “critics” have said about the NASA Goddard Academy)

"The Academy is the closest thing to having your brain launched from an aircraft carrier: a very exhilarating, challenging, and time limited experience that you will never forget."

"A decision to go to the NASA Academy is a decision to push your personal and professional envelopes to their limits. If you are ready to give completely to research, discovery, leadership, and group efforts then the Academy will help you to maximize your potential in your corner of the American Space Effort."

"It ain't Space Camp. It ain't Star Trek. The Academy is as real as it gets for college students."

– David V. '95

"The NASA Academy is a once-in-a-lifetime experience. In a ten-week period, one learns more about NASA, government, and industry relations with NASA, people, and oneself. It is an intense time of learning, experiencing, researching, meeting new people, making life-long friends, and basically having a great time. Not for those who enjoy relaxing, only for those with an intense desire to lead, and to learn about leading."

– Todd C. '94

"The NASA Academy is a dream-come-true experience, but only for those people seriously interested in the Space Program."

– Warren B. '93

"NASA Academy is not for people who lack passion about space exploration; nor is it for people who like to relax for extended periods of time. It is challenging, in that one must handle one's research tasks and also keep up with the tightly-scheduled encounters with NASA engineers, scientists, and administrators. If you can keep up with the pace, the rewards of NASA

Academy—research experience, professional development, and a new group of friends and colleagues in the "space community," among other things—are proportional to your efforts."

– Mike L. '93

"Ever desire to pull the face off your wristwatch or remove the cover from your radio to discover how these devices operate? NASA Academy does this to the space program, and just like seeing the springs of the watch or the circuit boards in the radio, you'll find yourself with familiar and unfamiliar objects that present to you the challenge of understanding how everything works together."

– Laura S. '95

"My Academy experience was great. The program is for people who are interested in Space, NASA, and space-related industries. You don't have to have planned out your life in the space industry for the next 10 years, including a trip to the Moon or Mars or even be able to recite the entire Star Wars trilogy from memory (although one of us this summer did :). What you do need is a bright mind, a true interest in Space, and a passion for working with people. This program is NOT for you if you are strictly interested in research work. There are some other programs at Goddard that do that better. This program IS for you if you are interested in doing some research with one of the best scientists or engineers at Goddard on a cutting-edge project, learning about the structure, policy, and politics of Goddard, NASA, and the space program, and working closely with a bunch of motivated, exciting, and bright people like yourself. Of course, it is quite a fast-paced program. You'll be working with other students from around the country (and the world) on your own projects."

– Grant B. '95

"After my experience at NASA's space academy, I was asked to apply my new knowledge to Utah State University's space design class as a systems engineer. I met my wife in that class. A couple of years later, the professor for that class recommended me for a job as a spacecraft systems engineer, which I accepted."

– Mark W. '93

"The Academy gives you an in depth look at how NASA operates without hiding anything. As a result, you get to see both the strong points and the weak points of NASA. With this knowledge, it is possible for you to start thinking about what needs to be continued and what needs to be changed. I believe this is very important because if you do not understand the dynamics of a system you can not apply control to it."

– Jose G. '94

"SPACE. Suspended effortlessly looking at your mother planet. Your chest feels compressed, your eyes water, as you stand humbly in awe before the greatest and most beautiful sight you have ever seen: Planet Earth. The whole of blue mother Earth. Waltzing with you in the presence of millions of stars, across the greatest of ballrooms... SPACE."

– Enectali F. '95

"The summer that I spent attending the first NASA Academy was one of the most rewarding times of my life. More than anything, the Academy is a learning experience. From my interaction with the program, I learned not only about NASA, but how science and technology relate to society on broader scales, and how important it is that we keep the flame of exploration burning bright and hot."

– Matt L. '93

"This program is truly more than it is billed to be. I feel it has provided me with the tools to begin my long journey as a future leader in our space program and help me meet some incredible people that I will be working with along the way."

– Randy W. '99