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## MENTOR/HOST HANDBOOK



University Programs Office, Mail Code 603.1  
NASA Goddard Space Flight Center  
Greenbelt, MD 20771  
<http://academy.gsfc.nasa.gov/>

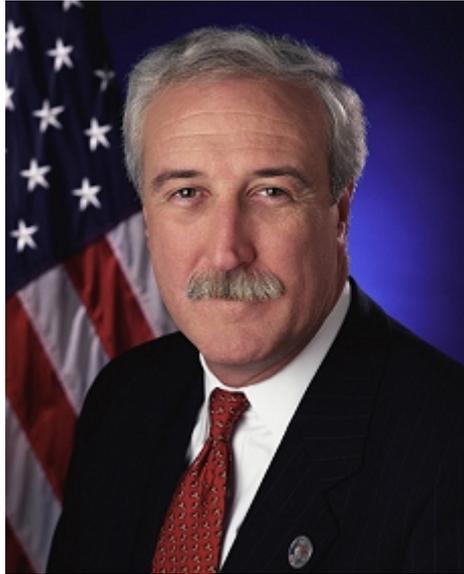


**2003 NASA ACADEMY AT THE  
GODDARD SPACE FLIGHT CENTER**

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**Sean O'Keefe, NASA Administrator**

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

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

*So, how do we get to that impressive picture of the future?*

*Part of the answer is by executing NASA's mission:*

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

(From the Address by the Honorable Sean O'Keefe, NASA Administrator, at the Maxwell School of Citizenship and Public Affairs, Syracuse University, New York, April 12, 2002)



## **PREFACE**

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This handbook contains information about the NASA Goddard Academy program, in particular its 2003 session. It attempts to summarize features that are common to successful mentoring relationships and suggests some basic mentoring/host guidelines to the Goddard scientists and engineers who have agreed to host and guide Academy participants in their resident part-time research work.



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# 1 INTRODUCTION

## 1.1 BRIEF HISTORY

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

As the reputation of the Goddard Academy widened, new NASA Academy Programs were started at the Marshall Space Flight Center (1994), the Ames Research Center (1997), and the Dryden Flight Research Center (1997). In recent years, the Goddard and Ames Academies have functioned regularly.

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

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

In 2002, the NASA Academy celebrated ten years of successful activity. So far, 365 participants have graduated from the program.

In 1996, a German engineering student from the Imperial College in London, England, attended the Goddard Academy, as did an Italian student from La Sapienza in Rome, Italy, in 1999. In 2002, an alumnus of the International Space University (ISU) joined the Goddard Academy staff. This year, as part of a pilot international program, a French student will attend the Goddard Academy, and ISU will contribute both a staff member and a lecturer.

## 1.2 PROGRAM DESCRIPTION

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

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

The NASA Academy at Goddard Space Flight Center is expected to be coordinated with the University of Maryland at College Park: College of Computer, Mathematical, and Physical Sciences; the A. James Clark School of Engineering, and the Department of Geography. If such an arrangement is concluded, participants will receive Maryland academic credit. The draft "Course Description" for the Bulletin of the University of Maryland at College Park is:

*"Listing: CMPS/ENES/GEOG 496*

*Grading: (S)atisfactory/(U)nsatisfactory*

*Course title: NASA Academy*

*Course description: A ten-week resident summer institute at the NASA Goddard Space Flight Center for juniors, seniors, and first-year graduate students interested in pursuing professional and leadership careers in aerospace-related fields. The national scholarship program includes research in a Goddard laboratory and a combination of lectures and workshops on the mission, current activities, and management of NASA. Students interested in the Academy will find on-line information at <http://www.nasa-academy.nasa.gov>. Application should be made before January 31. Sponsorship by an affiliated State Space Consortium is recommended."*

### **1.3 OBJECTIVES**

The objectives of the NASA Academy at GSFC are:

- To identify, to encourage, and to assist the future leaders of the aerospace program
- To provide an opportunity for participants to contribute to research in a world-class, space-related laboratory
- To provide a unique, intensive, and rigorous educational and training curriculum on NASA, its in-house science and technology projects, its collaboration with other National centers, industry, and academia, and its extensive technology-transfer programs
- To foster creativity, personal initiative, and leadership qualities, together with teamwork, appreciation for diversity, and professional ethics



## 2 ORGANIZATION AND MANAGEMENT

### 2.1 FINANCIAL SUPPORT

The Academy program is financially supported by the NASA GSFC Center Director's Discretionary Fund (DDF). Academy participants are sponsored by the USA regional Space Grant Consortia. Special events have been funded by the NASA Academy Alumni Association and others.

### 2.2 ORGANIZATION

The NASA Goddard Academy is administered and operated within the GSFC University Programs Office.

#### Chief, University Programs - *Dr. Vigdor L. Teplitz*

Dr. Teplitz directs the University Programs Office and provides vision, inspiration, and leadership for the Academy and other programs offered by the Office. He joined Goddard at the beginning of 2003 on a three-year leave of absence from the Physics Department of Southern Methodist University. His previous experience includes academic appointments at MIT and Virginia Tech, as well as twelve years in the U.S. Arms Control and Disarmament Agency and two years in the White House Science Office. His research is in elementary particle theory, primarily at its border with astrophysics and cosmology.

#### Program Co-Director - *Dr. Richard P. Fahey*

Dr. Fahey has served as Director and Co-Director of the NASA Academy since its foundation. He took over the leadership of the University Programs Office as Acting Director after Jerry Soffen's death. For the past three decades, he has been developing methods of presenting relativity and quantum theory to non-specialist audiences. During that time, he has taught courses in physics, astronomy, relativity and cosmology, and the philosophy of nature. Dr. Fahey currently conducts research as a cosmologist at GSFC and also holds the Naval Space Command Research Chair at the U.S. Naval Academy in Annapolis.

#### Program Co-Director - *Dr. Richard C. Henry*

Dr. Henry is Professor of Physics and Astronomy at The Johns Hopkins University in Baltimore, Maryland, and Director of the Maryland Space Grant Consortium. From 1976 to 1978, he was Deputy Director of the Astrophysics Division at the NASA Headquarters. He is an expert in the astrophysics of diffuse background radiation, particularly the diffuse background in the ultraviolet part of the electromagnetic spectrum. He has served as Co-Director of the Academy since his appointment to that role by the late Jerry Soffen, founder of the Academy. He has been a regular

lecturer at the Academy, presenting the foundations of quantum mechanics and other aspects of physics and astrophysics. Dr. Henry is a staunch supporter of the Academy program, its participants, and alumni.

Program Manager - Mr. David Rosage

Mr. Rosage has earned two Master's Degrees (Mechanical Engineering and Program Management) from The Johns Hopkins University and has served NASA for the past 23 years and the Academy Program since 2000. Besides managing the day-to-day activities of the Academy, he oversees the Academy application and selection process, promotes the Academy, sets milestones, performs scheduling duties, performs budgeting duties, oversees program staffing and contract utilization, and increases the involvement of and opportunities for the NASA Academy Alumni Association (NAAA). Additionally, he provides advice and assistance to NASA project scientists, engineers, and officials on a wide range of Academy-related matters.

Dean of Academic Affairs - Dr. Irina Nelson

Dr. Nelson, a physicist with a long-time record in education and research (high energy physics, solid state physics, and materials science and engineering), is currently appointed Special Assistant for Research and Outreach in the Goddard Office of University Programs. As Dean of the NASA Academy, she is involved in the development of the Academy curriculum and its general academic program, and contributes to the strategic vision for NASA Academy. She is responsible for providing academic counseling to the Academy participants on their individual research work, the group project, and consults with their research supervisors. She provides advice to the Program Director, Co-Directors, and Program Manager on the individual participants' performance. Dr. Nelson is also a visiting lecturer at the International Space University (ISU).

Logistics Manager - Mr. Paul Gosling

Paul is an alumnus of the 2002 NASA Goddard Academy. He just graduated with a Bachelor's degree in Physics from The Johns Hopkins University. This spring, Paul led a senior undergraduate team conducting a micro-gravity research project on the KC-135 plane at the NASA Johnson Space Center. In the Fall, Paul will begin graduate studies in astrophysics, with further plans to attend the International Space University.

Operations Manager - Ms. Sara MacLellan

Sara is an alumna of the 2002 NASA Goddard Academy. She just graduated, Summa Cum Laude, with a Bachelor of Science Degree in Aerospace Engineering from the Embry-Riddle Aeronautical University in

Prescott, Arizona. Besides being an excellent student, Sara is also an experienced private pilot and motivated volunteer. In the Fall of 2003, she will begin graduate studies at the Massachusetts Institute of Technology with an Emphasis in Information and Navigation Systems.

Program Support - Ms. Julielynn Wong

Julielynn is an alumna of the International Space University (ISU). She is currently completing an M.D. degree at Queen's University in Ontario, Canada. She has worked at the Ontario Science Center as a Science Educator and Program Leader, where she has created and given numerous educational presentations and planetarium programs on various space science and astronomy topics to over 15,000 members of the public. Last summer, at ISU, she was part of an international and multidisciplinary design project team that focused on the development and promotion of a global strategy to help combat malaria using satellite technologies.

Program and IT Support - Mr. Johnny Erickson

Johnny has a Bachelor's degree in Computer Science, Summa Cum Laude, and is the co-founder of a software design company. A pillar of the 2002 Goddard Academy, Johnny is an enthusiastic and devoted supporter of the Academy and its Alumni Association and serves as their Webmaster.

In the operation of the NASA Academy, Paul, Sara, Julielynn, and Johnny will provide general assistance and logistics coordination. They will reside full time at the Academy House and will be available as facilitators in all the relevant program activities.

Special Assistant for Operations - Mrs. Mary Floyd (Westover Consulting)

Mrs. Floyd provides support for housing, meals, transportation, and lodging on field trips, and distribution of the Academy participants' financial reimbursements.

Academy Alumni Coordinator - Ms. Laura Burns

Ms. Burns is an alumna of the 1996 Academy at the Marshall Space Flight Center and an active member of the NAAA. She currently works at GSFC supporting the James Webb Space Telescope (JWST). As the Alumni Coordinator, Laura informs, recruits, and coordinates alumni participation in all Academy extracurricular activities.



## 3 THE 2003 NASA GODDARD ACADEMY PARTICIPANTS

### 3.1 ELIGIBILITY AND SELECTION CRITERIA

The 18 participants in the 2003 NASA Goddard Academy have been selected from a pool of 65 financially supported applicants representing 29 states in the continental USA, Puerto Rico, Canada, and France. For the territorial USA, citizenship or permanent residence was required. Selection was based following criteria:

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

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

### 3.2 PLACEMENT IN GSFC LABORATORIES

The selected students have been matched with their hosts in GSFC Laboratories, in advance of their arrival at the Center and based on their mutual agreement and expressed mutual interest.

### 3.3 THE PARTICIPANTS (RESEARCH ASSOCIATES)

The 18 participants in the 2003 NASA Goddard Academy are listed below. Their official title during the Academy session is "Research Associate (RA)".

<b>Name</b>	<b>Support / Space Grant</b>	<b>School</b>	<b>Major</b>	<b>Level</b>
Meghan Baker	Maryland	University of Maryland	Aerospace Engineering	Senior
Brett Bethke	Massachusetts	Massachusetts Institute of Technology	Aerospace Engineering and Physics	Sophomore
George Boyarko	Ohio	Case Western Reserve University	Mechanical and Aerospace Engineering	Graduate
Guillaume Collange	Auvergne, France	SUPAERO	Aeronautical and Space Engineering	Graduate

La Vida Cooper	Maryland	Johns Hopkins University	Electrical Engineering	Senior
Erik Dambach	New Hampshire	Dartmouth College	Engineering Science Modified with Chemistry	Junior
Sally House	Arizona	University of Arizona	Planetary Sciences	Graduate
Joni Jorgensen	Kansas	University of Kansas	Engineering Physics, Aerospace Design Option	Junior
Kelly Kolb	Delaware	Villanova University	Astronomy and Astrophysics	Junior
Seth Koterba	Minnesota	Concordia College	Physics, Mathematics	Senior
Jeffrey Kujawa	Vermont	University of Vermont	Mechanical Engineering	Graduate
Kevin Langone	Virginia	Virginia Polytechnic Institute & State University	Aerospace Engineering	Junior
Christina Pelzer	Florida	Florida Institute of Technology	Space Sciences	Junior
Darin Ragozzine	Massachusetts	Harvard University	Physics and Astrophysics	Junior
Miguel Román	Puerto Rico	University of Puerto Rico at Mayagüez	Electrical Engineering	Junior
Alyssa Rzeszutko	Illinois	University of Illinois Urbana/Champaign	Aeronautical and Astronautical Engineering	Junior
Julia Sakamoto	Hawaii	University of Hawaii at Manoa	Physics	Senior
David Thompson	Kansas	Pittsburg State University	Electronics Engineering Technology	Graduate

### **3.4 DUTIES AND RESPONSIBILITIES**

To provide an insight into the depth and intensity of the Goddard Academy program, this Handbook includes a list of the principal duties and responsibilities of the participants, as follows:

- Work with the assigned research supervisors on the individual laboratory or field research projects
- Work together on the "Group Project"
- Attend all Academy functions (lectures, workshops, sundry review sessions, field trips)
- Prepare and deliver Poster and Final Oral Presentations related to the individual and group project work executed during the Academy session
- Create mini-educational Internet modules related to their research.
- Create weekly Internet reports of the Academy activities, as components of the 2003 Goddard Academy Web Site
- Create the 2003 Goddard Academy Yearbook
- Create original "Logo", "Patch", and "Mascot" for the 2003 NASA Goddard Academy
- Assist in the operation of the Academy, as needed.

### **3.5 CODE OF CONDUCT**

The Academy Code of Conduct states that all Academy participants and staff shall conduct themselves in a manner that is honorable and respectful toward each other and the institutions they interact with, at all times, and in all places and circumstances in which the NASA Academy activities are conducted.

Any form of harassment or discrimination against any of the Academy community, its partners, hosts, or other interns is strictly prohibited and will not be tolerated.

The participants should understand the professional pressures and time constraints faced by their mentors. For NASA scientists and engineers, mentoring is not their primary responsibility; in fact, the time spent with interns can be time taken from their own research.

The participants will give their hosts a detailed schedule of the Academy, and inform them in advance, as early as possible, of any schedule changes decided by the Academy staff, or unplanned absences due to illness or other unpredicted circumstances.



## **4 THE "NASA EXPERIENCE" AND THE ROLE OF MENTORS, HOSTS, AND SUPERVISORS**

The national and international reputation of the NASA Academy can be credited in part to the unique relationship between the participants and their mentors. In a relatively short time, by observing the mentors and their associates at work, mingling with the larger NASA scientific community, and "giving a hand" in the real work of NASA laboratories, the students acquire professional skills and work habits that shape in unpredictable ways their professional development into the future scientists and leaders of the space program.

It often happens that some of the NASA mentors represent for the Academy students the "best teachers" they have ever had. The mentors may also cultivate valuable coaching, feedback, and leadership skills that can further their own personal and professional development. When viewed as an enabling process that facilitates career development and skills exchange, mentoring brings satisfaction and benefit to all parties involved. Professional mentor-mentee relationships may evolve into natural friendships, and former students may become colleagues.

Effective mentoring need not always require large amounts of interaction time. Students augment their knowledge and experience in a variety of circumstances and with a variety of tools. Often, merely "shadowing" the experts is beneficial. Moreover, the ethical, scientific, and professional behavior of mentors and collaborators, as well as their attitude toward work, leave a strong impression on students.

The roles of the mentor may include coaching, teaching, motivating, counseling, guiding, opening doors, advising, sponsoring, and most importantly being a role model.

As a mentor of NASA Academy students, you can expect them to be competent, ambitious, eager to learn, loyal, hard working, and candid; have a positive attitude; and be able to listen, work as partners, and accept responsibilities.



## 5 BASIC MENTORSHIP GUIDELINES

- The mentors (Principal Investigators at GSFC or their designated substitutes) are invited to attend the First Day Orientation Meeting on Monday, June 2, at 12:00 Noon, in the Conference Room of Building 26, second floor. Lunch is provided, during which the NASA Academy participants (Research Associates - RAs) are introduced to their respective mentors.
- After the meeting, the mentors escort the student Research Associates to the host laboratories, introduce them to the local team members and collaborators, discuss the work assigned to them for the entire length of their summer residence at GSFC, and orient them regarding the location of the buildings, rooms, installations and facilities related to the students' work.
- It is essentially important that the Research Associates are provided with:
  - dedicated desk space
  - access to telephone
  - access to computer
  - access to printer
  - access to Internet connection
- If shop work or data processing and use of specific software are involved in the assigned duties, it is important that the students are initiated in such operations, know the computer passwords, the location of necessary stockroom materials, and the technical personnel whom they may need to contact in order to execute and complete the assigned tasks, thus avoiding or minimizing any possible waste of time or idle presence in the labs.
- The GSFC mentors should be aware of the time schedule of the Academy RAs. The Academy program is based on an intensive daily schedule, with more than three full days (Monday through Wednesday) of each week, and three half-day Thursdays spent in supervised laboratory research work. Exceptions are the following days when the students are on field trips or participate in various other activities, as follows:
  - Thursday, June 17: preparation and presentation of the NASA Academy Poster Session (1:00 p.m. to 4:00 p.m., Bldg.28 atrium);
  - Wednesday, June 11: afternoon, departure to Langley Research Center
  - Thursday, June 19: morning departure to the NASA Marshall Space Flight Center

- Wednesday, July 23: whole day absence from the labs due to travel to the NASA Johnson Space Center.

The remaining time of the Academy session is occupied (outside the host laboratories) with the development of the "Group Project", attendance of colloquia, seminars, or workshops, meetings with experts and leaders in space organizations, and field trips or visits to local University laboratories and industries.

- Although most of the Academy students possess basic skills and are self-learners, it is important that the mentors, or their designated substitutes, are available to guide them, answer their questions, or supervise their work, as needed. Equally important is that the students be involved in challenging and intense learning/training work.
- Every Tuesday and Wednesday evening, expert speakers visit the Academy students at their Residence House (the Sigma-Delta-Tau sorority house at the University of Maryland, 4516 Knox Rd., College Park, MD 20740, Tel: 301-864-8803) for dinner, followed by after-dinner presentations on various topics of interest, in a more informal setting. All GSFC mentors are cordially invited to participate in these evening gatherings. No Residence House Dinner Presentations are scheduled on Wednesday June 11, and Wednesday July 23, when the students are on travel.
- On Tuesday July 17, the Academy students will organize a Poster Session in the atrium of Building 28. All the mentors, coworkers, visitors, and other interested persons are invited to attend and entertain scientific dialogs with the RA poster presenters. These conversations and the critique from scientists and experts are very valuable for the students. Besides demonstrating their communication skills and their knowledge and familiarity with the projects, the students benefit from the comments and advice of Poster visitors, enabling them to prepare for the highly demanding Final Oral Presentation Session at the conclusion of the Academy.
- The "Final Presentation and Graduation Ceremony" will take place on Friday, August 9, from 8:30 am to 2:30 pm. Each Academy student will give a formal oral presentation of his/her research work at GSFC, followed (after a catered luncheon) by the presentation of the "Group Project" and awards ceremony. All GSFC supervisors/mentors are cordially invited to attend and evaluate these presentations. The mentors will also be recognized for their supervision and mentoring work.

- The Academy students are instructed in advance of the general rules and constraints valid within the NASA-GSFC perimeters including: security, driving speeds, parking, restricted access to buildings and facilities, etc. No discipline incidents are expected to occur. However, the Academy staff appreciates the cooperation of the mentors in sharing the responsibility for the smooth and successful unfolding of the 2003 summer NASA-Goddard Academy.



## **6 GRIEVANCE PROCEDURES**

The NASA scientists and engineers who will be working with Academy students as hosts, mentors, or supervisors, as well as the Academy participants themselves, are encouraged to raise any issue(s) of concern involving the Academy community. Any grievances related to the conduct or performance of the Academy students within their research environments or on the Goddard Center grounds should be addressed to the Dean of Academic Affairs (Dr. Irina Nelson) or the Program Manager (Mr. Dave Rosage). Further appropriate action(s) will be taken, as needed, by the Chief of University Programs Office (Dr. Vigdor Teplitz).

Full confidentiality will be respected, if requested. Lodging a grievance shall not affect negatively the individual(s) who initiated the grievance event.



## RESOURCES

1. M.W. Galbraith and N.H. Cohen, Eds., *Mentoring: New Strategies and Challenges*, Jossey-Bass, San Francisco, 1995.
2. H.E. Johnson. *Mentoring for Exceptional Performance*, Griffin Publishing, Beverly Hills, 1997.
3. M. Murray, *Beyond the Myths and Magic of Mentoring: How to Facilitate an Effective Mentoring Program*, Jossey-Bass Publishers, San Francisco, 1991.
4. G.F. Shea, *Mentoring: A Practical Guide*, Crisp Publications, Menlo Park, 1998.
5. M.Sinetar, *The Mentor's Spirit: Life Lessons on Leadership and the Art of Encouragement*, St.Martin's Press, New York, 1998.
6. S.G. Brainard and D.A. Harkins, "A Curriculum for Training Mentors and Mentees", WEPAN Western RegionalCenter, University of Washington, Seattle, WA, 1998.
7. N.A. Gaffney, Ed., "A Conversation about Mentorship: Trends and Models", Council of Graduate Schools, Washington DC, 1995.
8. K.E. Kram, "Mentoring at Work: Developmental Relationships in Organizational Life", Organizational Behavior and Psychology Series, H.J. Reitz, Ed., Scott, Foresman and Co., Glenview, IL, 1985.
9. M.A. Wunsch, Ed., "Mentoring Revisited: Making and Impact on Individuals and Institutions", New Directions for Teaching and Learning, 57, Spring 1994, Jossey-Bass Publishers, San Francisco, CA, 1994.
10. Mentoring Information at the Los Alamos National Laboratory:  
<http://education.lanl.gov/RESOURCES/mentors/Education.html>
11. Mentoring Information at the University of California at San Diego:  
<http://rcr.ucsd.edu/content/descriptions/mentoring.htm>
12. Mentoring Information at Penn State University  
<http://www.hhdev.psu.edu/careers/>

13. "*Adviser, Teacher, Role Model, Friend: On Being a Mentor to Students in Science and Engineering*", National Academy of Sciences, National Academy of Engineering, Institute of Medicine

*Thank you, and enjoy your 2003 student coworkers  
and your 2003 NASA Academy mentoring opportunity!*

## Appendix I: IMPRESSIONS OF NASA ACADEMY ALUMNI

*"The Academy is the definition of a full-time experience - if this was the summer you planned on catching up on your reading or exercising four hours a day - forget it! The three most important qualities you need to have are a PASSION for space and the future, a COMMITMENT to the Academy (you must "give yourself to the Academy), and enough CONFIDENCE in yourself to believe you can change the world. Over only ten weeks you will garner more useful, real-world knowledge than you did all through college, meet an incredible number of brilliant and exciting people, and supply yourself with more tools than you could ever use to achieve your highest goals!"*

- Eric A.

*"Attending the Academy was one of the most rewarding experiences of my college career, the work is challenging and the friends you make will last a lifetime."*

- Jeff A.

*"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.

*"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.

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- Robin S.

*"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.

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

- Warren B.

*"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.

*"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.

*"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.

*"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.

*"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.

*"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.

*"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.

*"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."*

- Ran



## Appendix II: INTERNET RESOURCES

- NASA Academy:  
<http://www.nasa-academy.nasa.gov/>
- NASA Academy Alumni Association:  
<http://www.nasa-academy.org/>
- NASA Agency:  
<http://www.nasa.gov/>
- International Space University:  
<http://www.isunet.edu/>
- The Soffen Memorial Fund  
<http://www.nasa-academy.org/soffen/donors.html>
- Goddard Space Flight Center  
<http://www.gsfc.nasa.gov/>
- Goddard Space Flight Center's Mission  
[http://www.gsfc.nasa.gov/about\\_mission.html](http://www.gsfc.nasa.gov/about_mission.html)
- University Programs Office  
<http://university.gsfc.nasa.gov/>



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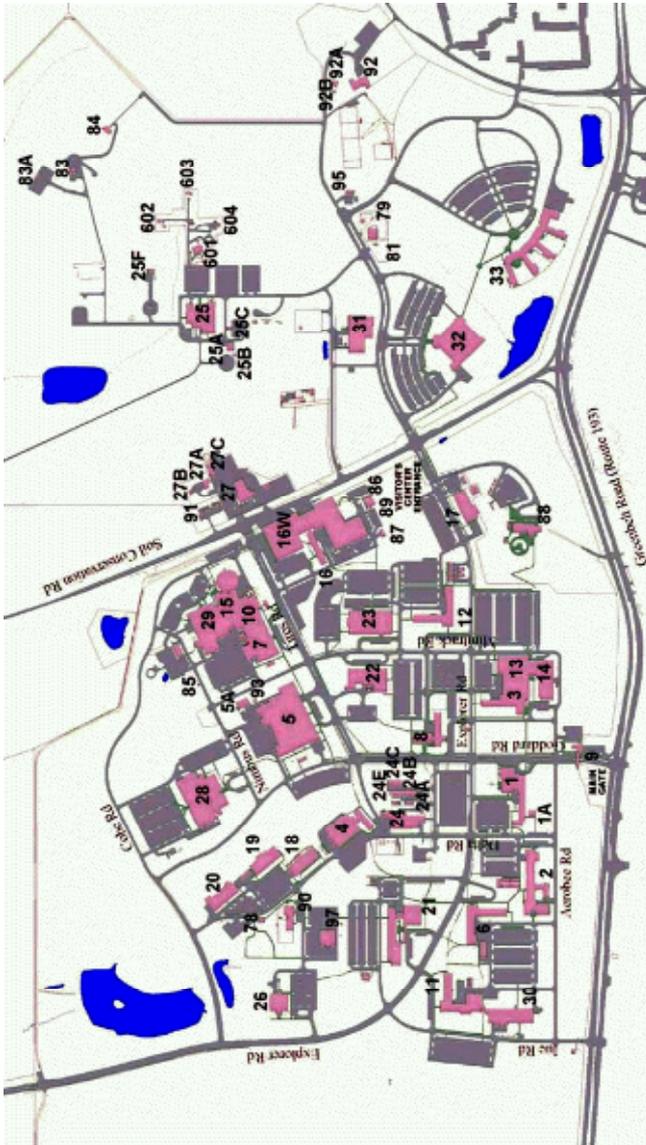
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# Appendix IV: NASA GODDARD SPACE FLIGHT CENTER MAP





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