

NASA FIRST Book of Wisdom

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Chapter 1: Center Projects

Previous Projects

One of the largest single assignments within the NASA FIRST program is the Center Project. Here is a listing of each of the center projects from the 2007 pilot class of FIRST including a short description, what the result of each project was as of graduation, and a list of the participants that worked on each.

ARC and DFRC: Morale Increasing Initiatives (MII)

- *Description:* Explored the factors that influence morale
- *Results:* The team surveyed managers across the center to identify factors that could improve morale, such as communication and big-picture awareness. Armed with this information, the team selected a pilot division to test different morale building activities. A re-survey was done after the morale initiatives were completed to see the positive or negative effects of the initiatives on morale.
- *Participants:* My Baillie, Beverly Norris, Jane Thipphavong, Ryan Lefkofsky

GRC: Offsite Exhibit Options for Aerospace Education Center

- *Description:* Developed concepts for visitor center exhibits and operation
- *Results:* The project was selected to raise awareness of Glenn activities in the northeast Ohio area. The final report proposes three distinct exhibits, a survey for use with the current Visitor Center patrons, and includes an analysis of existing NASA Visitor Center contracts and agreements.
- *Participants:* James Fleet, Kelly Gilkey, Grisselle LaFontaine, Anthony Nerone, Daniel Rodriguez

GSFC: New Technology Reporting at GSFC

- *Description:* Examined new technology reporting at GSFC
- *Results:* The project provided the center with recommendations on how to increase awareness of new technology reporting and improve the new technology reporting process. This will help accurately predict the future number of new technology reports and in the long term put GSFC in a position to be more technically competitive.
- *Participants:* Ayana Briscoe, Leigh Janes, Rivers Lamb, Geoffrey Sage, Ezinne Uzo-Okoro, Jonathan Verville

HQ: Enhancing Communications for Small Business Programs

- *Description:* Investigated improving communication between Small Business Programs, Mission Directorates and Procurement
- *Results:* Purpose was to take a comprehensive review of NASA's office of small business programs and improve communications with the office of procurement and each of the four mission directorates. The HQ team has presented its findings and recommendations to SBP.
- *Participants:* Omar DeFrias, Omega Jones, Sherry McAllister, Garvey McIntosh

JSC and WSTF: JSC Employee Development Initiative (JEDI)

- *Description:* Developed a new employee orientation program to fill the gap between agency-level and directorate-level orientation
- *Results:* A two day introduction to JSC was created which includes a JSC overview, introduction to the functional areas and programs at the center, motivational speakers, and tours. A pilot class of the new employee orientation program will be implemented by JSC HR in the near future.
- *Participants:* Christopher Blakeley, Irene Garcia, John Gowan, Mary McClellan, Jennifer Scott Williams, Carlos Westhelle

KSC: Health Assessment of the Well-being of KSC (HAWK)

- *Description:* TITLE
- *Results:* The purpose of the HAWK project is to define what “healthy” means to KSC, based on the seven attributes identified in the 2006 NASA Strategic Plan, and assess KSC's current health. As a result, this project will strategically position KSC in supporting NASA’s Vision for Space Exploration by building and maintaining a strong, healthy center.
- *Participants:* Denton Gibson, Diana Kniffin, Sasha Sims, Emily Unbehaun, Michun Williams

LaRC: A Generational Investigation to Increase Langley’s Insight about Today’s and Tomorrow’s Young Professionals (AGI2LIT2Y)

- *Description:* Researched factors to improve LaRC’s ability to attract and retain young employees
- *Results:* In order to maintain an adaptive and agile workforce for the future, the team identified the factors that motivate and de-motivate young employees. In addition, they provided insight into issues related to employment hiring practices.
- *Participants:* Melissa Carter, Jennifer Keyes, Robin Schlecht, Katrina Young

MSFC: Multi-Generational Environment Affecting Recruitment and Retention (M-GEAR2)

- *Description:* Developed data based guidance for leading Generation Y
- *Results:* In order to adapt the center to the expectations of youngest generation of employees, the team surveyed generation x and y employees to determine differences in management and workplace preferences between the generations and compiled the results into a management primer about generation y.
- *Participants:* Stephanie Lacy-Conerly, Ronald McDonald, Leslie McNutt, Joel Richter, Denise Smithers

NSSC and SSC: NSSC Chargeback Model

- *Description:* Made recommendations for training on the chargeback model
- *Results:* Because the NSSC chargeback process is new and not well understood, the team surveyed employees to examine their knowledge of the NSSC’s chargeback process in order to provide training recommendations to educate employees about how their individual actions affect the chargeback process.
- *Participants:* Tasha Davis, Wayne North

Working in a Team Environment

All of the past participants have found ways to get their FIRST work and regular duty work accomplished at the same time. We have a few lessons learned when it comes to working as a team to complete the center project that we wanted to pass along.

- Have a separate session to get to know one another on a personal basis. This helps to build trust and relationships between teammates.
- Assign duties for each member of the team. In addition, rotate those duties so everyone gets the opportunity to learn something new. For example each meeting or each month the group should appoint a project manager, meeting coordinator, note taker (secretary) and actions POC. Rotating these responsibilities around to everyone in the group also allows targeted scheduling so group members can participate at lower or higher pace depending on other work duties.
- Notes or minutes should be taken at all meetings and emailed out to everyone in the group. They should list what went on and actions that are due by the next meeting. Also consider including your senior advisor on your email distribution to keep him or her informed.

- Always keep project scope in mind. Try to pick a project that will have impact at your center, can be accomplished within the duration of the program and keeps in mind the number of hours per week each team member will be able to put towards the project, and is flexible to adjust as the project grows and requirements or situations change.
- Death to the concept of self. Don't seek to be the leader. Instead seek to be led or to be a servant, and then all other things will come to pass.

Working Across Distance

Some of the center project teams had membership with participants from geographically different centers. Within the 2007 class Ames Research Center was paired with Dryden Flight Research Center and Johnson Space Center had a member from White Sands Test Facility. Working on a joint center project is difficult and should be avoided if at all possible. If you are in the position of a joint center project, here are a few things that we learned along the way:

- Get a dedicated call in number. It is good to have an 800 telecon number that people call into, instead of everyone trying to call each other via conference calling.
- Use WebEx so all team members can see slides or other materials that are being presented. WebEx does require an account to set up meetings, so if any team members are on projects with accounts that are willing to support your meetings, the NASA WebEx site is <https://nasa.webex.com>.
- Another option to get all team members to see what's going on at a meeting is videoconferencing. When this is available it can be a good alternative.
- Whenever teammates from one center are on travel to the other try to schedule meetings. This is especially useful for senior staff tag-ups and briefings.

Chapter 2: Mentors

Selecting a Mentor

Selecting who will be your mentor for the duration of the NASA FIRST program is a big decision. Here are some tips and thoughts to keep in mind as you go about selecting your mentor.

- Ask previous mentors, your supervisors, project managers and others you respect for recommendations for people to interview.
- Consider going outside of your branch or area. Not only will this kind of mentor expose you to a different area at your center, you may learn about something new that interests you.
- If your mentor had worked in your organization previously, he or she may be able to provide perspectives from both where he or she is now as well as where you work.
- Picking someone outside of your organization, and especially outside your direct chain of command, eliminates possible conflicts of interests, as some of the topics you discuss may involve coworkers or your management.
- Consider choosing a mentor who is in a position you'd like to aspire to someday. Whether this is a branch head or the center director, be sure this person can relate to you and is a good fit for all your needs as a mentee.
- Be choosy and don't be afraid to "interview" as many people as you need to before you find someone that you "click" with. Finding the best fit for YOU is important since every person will need something a little different from their mentor. The interviews also provide a good experience interacting with others in terms of both the interviews, and the process of asking one person to be your mentor and then having to tell the others you interviewed that you didn't feel they were the best fit. Although this was tough, looking back it was valuable.

- Some questions that may be useful when interviewing potential mentors to find out if they can meet your needs are:
 - Why do you want to be a mentor?
 - Have you been a mentor before? When? How long?
 - Tell me about your job.
 - How long you been here?
 - What do you do?
 - Who is your supervisor?
 - What do you like about your job?
 - What is challenging or what don't you like about it?
 - What are your strengths?
 - What are your weaknesses?
 - What are the areas that you feel you need to develop skills in or learn more about?
 - What do you like to do outside of work?
 - Tell me about where you want to be in your career or what do you want to be doing one year from now? In three years? In five years? (make sure mentor describes the nature of activities or work they would like to be doing, not just a job title)
 - Tell the potential mentor what you need developmentally and what you want out of the relationship.
 - Ask them how they can support you.
 - Ask if this feels like a good match.
- It is important to choose an individual who wants to be a mentor rather than someone who sees it only as another duty or requirement.
- Seek a mentor who has completed NASA leadership courses such as Leadership Development Program, Senior Executive Service. The programs will have given them experience with having a mentor and what such a relationship can be like.
- Keep an open mind about expectations for you and the mentor. It may be useful to set up a relationship agreement to help set and limit expectations for how often to meet, where, how, how long, how to refer to each other, etc.

Characteristics of a Good Mentor

Although everyone will have their own specific needs as a mentee for their mentor, here are some characteristics that previous NASA FIRST participants feel a good mentor will possess.

- You should feel comfortable talking with your mentor about uncomfortable topics such as culture issues at work, insecurities you may be feeling about your career, etc. This should be someone that puts you at ease and is genuinely interested in listening to you. They can serve as a neutral listener and sounding board and ensure that information discussed will remain confidential where needed.
- Has a winning attitude and personality that works well with mentee.
- Must be people oriented. Mentoring should be genuinely interested in people and has a desire to help others develop and grow. A successful mentor is one who provides sufficient time with the mentee, possesses good people skills and knows how to effectively communicate and actively listen. Active listening is a skill that includes paying attention to the body language and other sensory cues of the mentee. A mentor must also be able to resolve conflicts and give appropriate feedback.
- Should be a good motivator. A mentor needs to be able to motivate a mentee through encouraging feedback and challenging work assignments. A mentor will expand a mentee's experiences while noting the advantages and rewards associated with accepting new challenges.
- Offers open, honest and relative personal and professional advice that is applicable to mentee's work and life situations.

- Is an effective teacher. A mentor must thoroughly understand the skills and knowledge required by the mentee's position and goals, and is able to effectively teach these skills to the mentee. A mentor also manages the learning of the mentee.
- Should be secure in their position. A mentor must be confident in his or her career so pride for the mentee's accomplishments can be genuinely expressed. A mentor should appreciate a mentee's developing strengths and abilities, without viewing these accomplishments as a threat. A mentor enjoys being a part of the mentee's growth and expansion.
- Willing to introduce the mentee to new individuals, experiences, etc. to help set and accomplish goals whether informally or formally, as well as offer career advice.
- A mentor is an achiever -- one who sets career goals, continually evaluates goals, and strives to reach them. A successful mentor is usually one who takes on more responsibility than is required, volunteers for more activities, and tends to climb the career ladder at a quick pace. A skilled mentor possesses and maintains current, up-to-date technological knowledge and /or skills. A mentor attempts to inspire a mentee with the same drive for achievement.
- Mentors need to offer continual feedback regarding expectations, performance and success criteria.
- Knowledgeable about NASA values and work. A mentor takes pride in NASA. A mentor understands NASA's mission, vision, and values and supports NASA's initiatives. A mentor is respected by his or her peers and management and serves as a role model. Keep in mind that a mentee looks to his or her mentor for guidance on interpreting policies and procedures. In order to provide this guidance, a mentor needs to know and understand this information.
- Able to explain how an organization works, who the key players are, and can also elaborate on the overall vision and mission of the organization without having direct conflicts of interest if you need to discuss specific situations, behaviors, examples or hypotheticals that you need advice on.
- Understands the need for work-life balance.
- Always respects others. A mentor is one who shows respect for another's well-being. Every person, including the mentor, has certain vulnerabilities and imperfections that must be accepted. A mentor should learn to accept a mentee's weaknesses and minor flaws, just as the mentee must learn to accept the weaknesses and flaws of the mentor. Mentors can, in fact, help a mentee explore his or her vulnerabilities and imperfections. Without passing judgment, a mentor must also recognize that differences in opinions, values, and interests will exist. By accepting such differences, a mentor projects openness to others. Not all of these characteristics are equally found in every one.
- Do not assume anything regarding the mentee. Mentees can surprise with regard to what they both know and do not know. There are several categories of needs where the mentor can offer:
 - The enthusiastic beginner = needs direction
 - The disillusioned learner = needs coaching
 - The cautious completer = needs support
 - The self-reliant achiever = needs responsibility
- Does not bring personal negative viewpoints into the mentoring relationship.
- Individuals that have had positive formal or informal experiences with a mentor tend to be good mentors themselves. Good mentors are experienced individuals that have a good reputation for helping others develop their skills. Maintaining the confidentiality of the mentor/mentee relationship is also crucial for success.
- Willing and available to get together whether in person, on the phone, over email, instant messenger, etc.
- Good mentors are also available to meet outside the office. In some cases this is highly recommended, especially if meeting in the mentor's office results in too many distractions.
- Should return your phone calls and e-mails and make time for your relationship. A cancelled meeting now and then is okay since plans and situations can change and all parties need to be flexible. The same rules go for you as the mentee! If cancellations or un-returned contact becomes frequent you may need to consider getting a new mentor as he or she is not willing or able to have your relationship as a priority.

- If you are listening and not talking, your mentor is not doing his or her job. Most of the time, you should be doing most of the talking. A good mentor LISTENS before talking. Many former mentors have said that they learned a lot from their mentees.
- Where projects for mentees are involved, clearly defined boundaries are required.

Chapter 3: Shadowing

The 2007 NASA FIRST class felt that the opportunity to shadow leaders across the agency was an invaluable part of the program. The class shadowed everyone from engineers and scientists all the way to the administrator himself, Mike Griffin, and his deputy, Shana Dale. The areas we were exposed to ranged from exploration to aeronautics, and the Office of the Chief Financial Officer to education. Below are lists of some of the positions and areas we shadowed in as well as some advice

Advice

- Go straight for the top! Pick someone at the top of your center's management and ask to shadow them. In our experience, everyone we asked was more than happy to have us shadow them.
- Consider shadowing people that you interviewed to be mentors but did not select.
- Ask to shadow someone who works in a position that you'd potentially like to work in. If you want to be a branch chief, shadow one. If you want to lead a project or be a director, shadow one.
- Shadow outside your home organization. It gives you a much greater appreciation for what other people do in and around the center, and you can form a network.
- The duration of a shadowing opportunity can vary greatly: from a single meeting or event to a whole week. Ask the person you're shadowing to pick out what works best for them and their schedule. You can get a lot out of the experience regardless of the length.
- For people that are higher up in organizations, for example with a title of Director of ..., you may have better luck scheduling a time to shadow if you contact both the individual and his or her secretary to work out the details.
- Ask the person you are due to shadow, or his or her secretary, at least a day in advance about appropriate dress attire for while you're with them. If in doubt, always overdress rather than 'under-dress'.
- Two or three days before you are due to shadow someone contact him or her, or their secretary, to confirm the arrangements you previously made, in particular where and when to meet. This is especially important if the shadowing experience was arranged far in advance, as plans and circumstances can change and you need to be flexible to the leader's schedule.

Positions Shadowed

- Administrator
- Deputy Administrator
- Associate Administrator
- Branch Head
- Center Director
- Chief of Staff (agency and center level)
- Chief Financial Officer
- Comptroller
- Directorate or Division Director
- Deputy Directorate Director
- Engineer
- Flight Director

- Program Executive
- Project Lead
- Scientist

Areas Experienced

- Aeronautics
- Contract management
- Diversity and equal opportunity
- Education
- Exploration
- External relations
- Flight crew operations
- Mission operations
- NASA Shared Services Center
- News media
- Office of the Chief Information Officer
- Office of the Chief Financial Officer
- Procurement
- Program planning
- Small business programs
- Space communications

Chapter 4: Reading Assignments

One of the several assignments you'll have throughout your year in NASA FIRST is to read books on leadership. The 2007 class were given suggestions by Charles Scales, the deputy associate administrator and NASA FIRST program champion, of John Maxwell's *The 17 Indisputable Laws Of Teamwork*, and Doris Kearns Goodwin's *Team of Rivals*. The following is a list of some of the books that were read by two or more members of the 2007 class.

- *The 7 Habits of Highly Effective People* and *The 8th Habit : From Effectiveness to Greatness* by Stephen R. Covey
- *The 21 Indispensable Qualities of a Leader* and *The 21 Irrefutable Laws of Leadership* both by John Maxwell
- *Abilene Paradox and Other Meditations on Management* by Jerry B. Harvey
- *John F. Kennedy on Leadership* by John A. Barnes
- *Lincoln on Leadership* by Donald T. Phillips
- *Our Iceberg Is Melting* by John P. Kotter
- *The Tipping Point : How Little Things Can Make a Big Difference* by Malcolm Gladwell
- *Who Moved My Cheese?* and *The One Minute Manager* by Spencer Johnson and Ken Blanchard
- *Who Says Elephants Can't Dance?* by Louis V. Gerstner

Chapter 5: Participants with Disabilities

Participation in NASA FIRST should not be limited by disabilities. Past participants have the following advice.

- Work with the FIRST program manager early on and discuss your needs, especially for the training modules.
- Discuss communication, mobility and other challenges with your fellow FIRST participants during the first training module in whichever setting you are comfortable (large group, small breakout groups or one-on-one). There are lots of opportunities at the first module!

Chapter 6: Golden Nuggets of Advice from Past Participants

As past participants in the NASA FIRST program there are some words of advice, golden nuggets if you will, that we'd like to pass on to those that come after us into this program.

- Make the most of this opportunity, learn as much as possible, take the feedback you receive and use it to make yourself better, apply the principles to work and home life, include your family in what you're learning, and have fun!
- Realize that this is a great learning opportunity and don't take the importance lightly.
- Make sure that you never forget about the purpose of the program, and remember that regardless of where you are or what the situation is that you are a representative of NASA.
- Know that this will require time and dedication.
- Keep an open mind. You will be exposed to and learn a lot of new tools and methods and theories through the training over this year. Some of these will resonate with you and others won't. This is okay and perfectly normal. This being said, reserve judgment for as long as you can. Try everything! If after you've tried something it still doesn't feel right for you then don't use that tool. Also keep in mind and try to understand that what doesn't work for you may be exactly what fit perfectly for your classmate sitting next to you or across the room so always be respectful in class during the sessions and willing to let others make the decisions and changes that are right for them.
- Embrace each other as family. You will spend a considerable amount of time together over the next year. Take these opportunities to get to know and care about each other. You will have bonds with these people for the rest of your careers and lives so make the most of the times you have together.
- The relationships formed during this program strengthen collaboration between the centers. We have great examples of fantastic people at all the centers across the agency! We have found the networks we have created to be invaluable, and already we are working together with and calling on each other. We are helping to break down some of those old barriers between centers and organizations. You'll find the same phenomenon.
- Shadowing opportunities and relationships with mentors and coaches are valuable resources for development. These relationships are incredible and invaluable!
- Be aware that balancing realistic expectations with the excitement and knowledge you'll have gained during this year can be challenging. It will be a great year where you learn and do a lot. As you bring the new you and your new skills both to your work and home lives, be aware of your expectations and cautious that they don't creep higher than what is reasonable.
- Being in NASA FIRST is your chance to get your name out there to upper management, take advantage of it.
- Any time you get to attend a senior leadership meeting do, it will aid in your understanding of NASA's policy and directives as well as give you a great opportunity to interface with senior leaders.
- Find your niche. Everyone has a role or a position on the team; therefore, work on your own strengths and offer them to promote the team and the mission. Every member of a team is important and can contribute in some way. Find the way you and your teammates can best aid the team and focus your energy in that way.
- Planning takes time and your original project plan, however well thought out, may require multiple revisions. We spent a considerable amount of time learning about project management and project plans. We also learned the necessity for planning to be flexible. Acknowledge from the on set that change is inevitable.
- Our center projects all spanned multiple areas at our centers. Therefore our team diversity really was required to be successful in this multidisciplinary environment.
- Present several possible solutions when raising an issue. We found much greater success when we brought several options to the decision maker or group to choose between.
- Ask questions early on of your center point of contact and your senior advisor to understand the proper procedures and policies concerning activities such as collecting data for your center project, who will need

to review your work and how to get on the senior staff's schedule for reviews and status briefings. Asking for such support and advice has worked well for us in the past.

- Meet with your center's point of contact at least monthly to gauge needs as well as get advice and direction.
- Take the pre work seriously, even if you are unsure of its value when it is assigned.
- NASA FIRST has enriched our lives and has generated positive feedback and support from all Senior Leaders who have interacted with us. Take every opportunity that presents itself during your NASA FIRST time and run with it!

Chapter 7: Prior Participants

The members of the pilot class of NASA FIRST are listed below. Please contact us with any questions you may have about our experiences in the program and **have a great year!**

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