

**NASA JOHNSON SPACE CENTER ORAL HISTORY PROJECT
EDITED ORAL HISTORY TRANSCRIPT**

ANNA L. FISHER
INTERVIEWED BY JENNIFER ROSS-NAZZAL
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ROSS-NAZZAL: Today is February 17th, 2009. This oral history with Dr. Anna Fisher is being conducted for the Johnson Space Center Oral History Project in Houston, Texas. Jennifer Ross-Nazzal is the interviewer. She is assisted by Sandra Johnson. Thanks again for joining us today. We really appreciate it. I know your schedule is busy.

FISHER: Good to be here.

ROSS-NAZZAL: I'd like to start by talking about your pre-NASA days. Could you tell us about your interest in science when you were growing up?

FISHER: I was always interested in science and math, just because that was what I was good at. I tended to be kind of shy, so I wasn't somebody who wanted to go into theater or anything like that. I just always gravitated toward science and math. My father was in the military. I'm an Army brat, so we moved every two or three years. When I was in seventh grade, I remember we were stationed at Fort Campbell, Kentucky. We were out at PE [physical education] class, and our teacher had a little transistor radio. We were listening to Alan [B.] Shepard's first flight. That was when I first really thought, "Wow, I would love to go do something like that." But of course all the astronauts at that time were male. They were all fighter pilots. For whatever

reason, it never even entered my mind to consider trying to go to pilot training. That wasn't something that I had access to or that entered my imagination.

But I did think about, "Maybe someday there'll be a Space Station." I started thinking a little bit about medicine but not in a realistic way. I did not read a lot of science fiction, because I had this thing when I was growing up that I only liked to read books that had a female lead character. There weren't a lot of books with female lead characters that were in science fiction novels. I didn't read a lot of those kind of things. Like I said, I got interested in science and math. Then as I got older and started focusing more realistically on medicine, I was a volunteer at Harbor General Hospital because my best friend's mother was a nurse there, which is one of the county hospitals in Los Angeles [California]. Back then they had us developing film for X-rays. I'm not sure if you'd be allowed to do that anymore today, but that's what we were doing. We were in the darkroom. I remember telling her, "I'd really like to be an astronaut." She's the only person I ever even said the words out loud too.

She was a good friend. She didn't laugh at me. Then I pretty much forgot about it, because as I grew up and went to UCLA [University of California, Los Angeles], I got into chemistry. I started out in math, and then I sat down and said, "Well, what am I going to do with that? I either have to go into research, and I don't know that I'm that smart." I liked working with people more. A bunch of my friends were in chemistry. So I started going into chemistry. As I saw my friends graduate after getting a PhD and spending six years and not getting jobs, at that time I said, "Hmm. I think I'll be a little more practical and shift gears to medical school." Plus I found that I really didn't like doing lab work. I wanted to work more with people. So that's how I evolved from math to medicine.

I was very fortunate to get into the MD/PhD program at UCLA. As I got going into my medical training I got much more interested in the practice of medicine. At that point medical training is just very overwhelming. You're just so focused on that. I was doing my internship—I can tell you more about that if you want—but I was doing my internship, and I had a very good friend, Dr. Mark Mecikalski, who's in—I believe he's in Arizona now. He used to follow the space program avidly. He got all the NASA newsletters and all those things. I remember he had lunch with my then fiance, later husband, Bill, and said, "Hey, NASA is looking for people. You and Anna have always talked about how you're interested." I remember Bill paging me over the loudspeaker system, getting his call, and saying, "We have three weeks to apply before the deadline."

So we got our applications. I think we wound up having some vacation. In those days it wasn't an electronic application. It was just a regular civil service application that you filled out by hand. I remember where you put in the title, what you were applying for, and it was astronaut. It felt kind of weird. I think I got mine in the day before the deadline, because you had to get transcripts and all that kind of stuff. It was a pretty arduous process. So I got mine in maybe the day before the deadline. I think Bill got his application postmarked the day of the deadline. For me it was a real struggle in that time period, because we had both accepted surgical internship positions. Bill was a year ahead of me. At the last minute we sat down—well, not the last minute, but fairly early in the process of when you get your internship. We sat down, and we talked about it. I said, "Here I am. I'm going to be a surgical resident. Is that the kind of life I really want to lead where I'm going to be on call at all hours of the night?" We started having second thoughts even before the NASA application came along.

Then when the NASA application came along we decided to take a year and wait. I spoke with Dr. State, who was the head of surgery at Harbor General, and said that we were going to wait a year. He wasn't too happy with that. Once I got accepted to be at NASA he was much nicer. So anyway we decided to spend a year practicing ER [Emergency Room] medicine while waiting for a decision from NASA. We wound up practicing in emergency medicine for the year in Los Angeles while we were waiting to find out what happened, which was a really hard year. Just practicing emergency medicine in Los Angeles was a very challenging thing.

But it did allow us to make a fair amount of money, which was very nice when we finally wound up coming here. We could finally have some money to buy a house and start paying off our thousands and thousands of dollars of loans which we were both in debt for. Maybe I've wandered too much on that.

ROSS-NAZZAL: No, it's great; it's wonderful. Those are the kind of details we're looking for.

FISHER: That's a funny thing. When we were working for this particular ER group, and Bill was working probably ten 24-hour shifts a month, and I was working probably eight 24-hour shifts, which is really grueling. I never want to work another 24-hour shift as long as I live if I can help it. But that was what our group did. A lot of docs liked to do that, because then they could work two weeks real hard and then take two weeks off and travel and do other things. I didn't like it. I like a nicer pace of life, but that wasn't an option. But it did allow us to earn a fairly large amount of money, because all we did was work, go home, and save. We didn't really spend a lot. So we were making—oh, I guess I probably was making \$8,000 a month and Bill was probably making \$10,000 to \$12,000 a month. So all of a sudden from being on loans to here.

Then when I finally got accepted at NASA, all of a sudden they said, “Well, do you want to come work?”

I looked at my very first payroll sheet. I think it was \$30,000 a year.

ROSS-NAZZAL: Oh, that’s a huge change.

FISHER: It was like our financial status was just changing; it was so funny. As Bill said, “Hey, we would pay to come work here,” or something like that, when Dr. [Christopher C.] Kraft asked. It was just kind of funny. We had this one blip of a year where we made some money, and it allowed us to buy a house and pay off loans. So that was nice.

ROSS-NAZZAL: Tell us about the interview process. Did you come with your husband at that point?

FISHER: No. I was in the second interview group, but the first group that had women. It was real interesting, because [Margaret] Rhea [Seddon], Shannon [W. Lucid], and I were in that same group. Also I’m blanking on her last name. Nina. She’s also a scientist here.

ROSS-NAZZAL: Yes, I know who you are thinking of.

FISHER: Cintron, Nitza [M.] Cintron, yes. She was in our group as well and wound up coming here and working. It wound up being a pretty successful interview group for NASA. So Bill and I were working, as I said, and we had just started in that ER group. We had arranged a couple

days off, because we decided—I'm trying to remember. My birthday was August 24th. We were trying to take some time off for my birthday. Then we were also going to plan our wedding. We were just going to have a small wedding in Florida with Bill's family out where they have some property and an old house that meant a lot to Bill. There was a little church. It's called Windermere, Florida. It's a little town on one of the lakes. It's now near Disney World [Orlando, Florida]. At the time Disney World wasn't there.

So we had just arranged about a couple days, and we were going to go get married. We were just sitting there making plans and flight plans and all that sort of stuff when the phone rang. It was—I don't remember who called anymore, probably Duane [L.] Ross asking if I wanted to come interview. This would have been on a Friday I guess, Thursday or Friday. Would I want to leave not that Sunday but the following Sunday and come for an interview? That was the week Bill and I were targeting to plan our wedding. As you see, I'm not one of these plan a wedding a year in advance kind of person. We were sitting there and I said, "It's NASA. They want me to come interview." He said, "Say yes, we'll figure it out." So I said yes. I said, "Okay, now what?" That began one of the hardest weeks of my life. Let's see.

This was a Friday. We went shopping. We bought a dress. We went and talked to the Wayfarers Chapel, Paseo Del Mar, [San Pedro, California] which is this beautiful chapel where Marilyn Monroe got married at one point. It's designed by Frank Lloyd Wright. It's beautiful. It's built out of glass and rock. We went over there, and we explained our predicament. They had an opening that Tuesday at 2:00 or something like that. We went and got dresses, we got a photographer, did all this stuff. We called a couple of our friends that we wanted to come. Bill's family wasn't even able to adjust, but they were very understanding. We did all that. We got married on Tuesday. We went to San Francisco [California] for that night to the next day and

came back. I think I worked a shift on that weekend and another shift. It was supposed to be my tenth high school reunion that Saturday, and I really wanted to go.

That was it. I just ran out of steam that Saturday night having to be ready to go the next day. I said, "If I'm going to go for this interview, I've got to give it everything I have." It's my only reunion that I missed for high school, but they were very understanding as well. Then I got on a plane that Sunday morning.

ROSS-NAZZAL: Oh my gosh. You must have been exhausted.

FISHER: I was. I was exhausted. Because I was so busy, I didn't really have time to think about the interview process, study, or research. Back then you didn't have the Internet and Google. You couldn't just instantaneously get the information like you can today. All of a sudden I realized, "Jeez, I'm on my way to do this, and I really haven't researched it, other than I know I want to do this with all my heart." A lot of the people who come now, they know exactly who's on the board. They know all this sort of stuff. They've planned their whole life to do this. So I'm going, "Jeez, what have I gotten myself into?"

We arrive Sunday. John [W. Young] and George [W.S. Abbey] meet us at the then Sheraton Kings Inn where we were all staying. We were in one of their little rooms and they told us to write an essay on why we wanted to be an astronaut.

ROSS-NAZZAL: Do you remember what you wrote?

FISHER: Oh, I know I wrote that it was a dream that I'd always had, and that I wanted, and that if they selected me I would do the very best I could, or something like that. I don't remember exactly what I wrote, and then I wound up being on the astronaut selection board in 1987. Then I saw how when you get these—because they still do the same thing, ask you to write that. It was just funny being there, reading the things—remembering back to when I wrote mine.

I'm trying to remember. I know I had medical tests. I know I had my interview on Thursday. I remember we had the social on Wednesday night. As I mentioned, I was pretty shy even at this stage. I'm not somebody who in a social event just goes up and goes and talks to people. I remember Mr. Abbey bringing me over to meet Dr. Kraft, seeing that I got to meet people.

Around that time I was starting—I don't know where it came from, but I just had this feeling that this was possibly going to happen. I remember I called Bill and I said, "I think you better come here, because if this is real, you better see if you want to live in Houston." So I remember that morning we were getting ready to leave, and they came with a bus every morning. I remember Bill pulling into the parking lot right around the time the bus was going to leave. I told him, "You better go look around and see what you think, because—I don't know, I just have this feeling about all of this."

Then that day I wound up having my interview. To this day I always wonder what they must have thought, because most people wear suits. I was from California. I still have it in my closet now. I wore this one-piece long green pants outfit with my wedge probably about this high. [Demonstrates] Wedge shoes that were '70s timeframe. I just had this thing, "Well, this is NASA. They're going to know everything about you, so I might as well just be myself, and

either that's good enough or it's not." So I still look back going, "I went to my interview like that!"

As I said, Bill was from Florida. I remember driving around and seeing John Young Parkway. I was very shocked to find him on the selection board, because I was sure that he must have been someone who died earlier in the space program, because everything was named after him. I'm now really good friends with Susy Young and John Young. We go over to their house for Thanksgiving. I don't think I ever quite had the courage to tell her that story yet.

I had my interview, and again my attitude on all of that was, "NASA is this big entity that knows everything about you." They already had done background investigations. I knew from some of my friends that people had come and talked to them. I just figured, "Well, I better be honest." I even remember saying, "I want to have children, so if that's a factor in your selection, I definitely do want to have children." I even said that at my interview. Then you leave. After you've been here for a week, then you really want it. Before I was able to keep it at a distance, but those months from August till when they announced in January were probably some of the hardest months in my life.

ROSS-NAZZAL: Tell us about that phone call that you received from George Abbey. What's your recollection of that?

FISHER: Well, let me just backtrack a little bit. Because then remember Bill came here and he spoke with people. I don't know if that helped him a little bit in terms of getting an interview or it would have happened anyway. He wound up being in the interview group with Judy [Judith

A.] Resnik. I think it was in November. He was towards the end of the interview process, either the last or next to last group, something like that.

So then we both really wanted it, but realized it was really hard to think that we'd both get selected at the same time. The night before that call went out I started getting a lot of calls from reporters, so you started to have an indication that something was happening. Roy Neal, who was the big space reporter, called. They wanted to have an interview. The next morning that call came from Mr. Abbey. Of course we were the only ones where he had to say yes to me, and Bill is the only one who ever has gotten a rejection call from Mr. Abbey, because he had to talk to both of us at the same time. But Bill took it pretty well.

We had both talked and said that if either of us got selected I probably had the greater opportunity, because I also had the background in chemistry as well. At the time they were really looking for people that had a background in two areas. Bill really didn't have that. I remember that whole day was kind of surreal. Connie Chung was then a local reporter. She came and interviewed me. It was really strange because then you were kind of on your own. There was no NASA. You were sitting there thinking naively—this was around the time when the Shuttle hasn't flown, and they were getting a lot of criticism, and the tiles were all going to fall off on the first flight. You're sitting there thinking, "Well, should I do these interviews or not? I'm sure NASA wants some good publicity, but I don't know any more about the Shuttle today than I did yesterday."

We would call Houston to ask advice on things. It was always, "Use your own judgment." So those first couple of weeks and months you were stumbling along, because there was all this interest. You were just not sure what to do and what to say. I remember I got invited to the International Harvester dealers' convention in Las Vegas [Nevada]. I think it was

sometime in February. Jim [James A.] Lovell was speaking, and I was speaking. This was my first speech I had ever given. Like I said, I was pretty shy. So I had this all written out and everything, and I was sitting next to Jim Lovell. He was so gracious and kind.

I remember he got up and talked about going to the bathroom in space and all those things. I'm getting up and giving this little goody-two-shoes kind of speech. It was so funny. So that was my introduction to learning how to talk in public for NASA. Going back to that first day when the announcement was made, there was just interviews all day, and then I remember Bill took Judy and I out to dinner that night.

ROSS-NAZZAL: Judy Resnik?

FISHER: Judy Resnik. She was working for Xerox.

ROSS-NAZZAL: You knew each other at that point?

FISHER: Because Bill was in the same interview group with her, we had made some contact before. Even the night before, because she was getting the same kind of calls that I was getting. We had an idea that something was going to happen the next day. We had talked the night before. I don't remember if we went somewhere. But definitely Bill took us both out to dinner the next evening. I remember going over to her apartment. She lived right along the ocean on Redondo Beach Boulevard. To this day, when I go to LA I almost always, when I drive to go to my mom's house—before my mom sold her house, I would always drive that way and think

about Judy, because we went over to her house and were standing on her balcony. “Can you believe this is really happening?”

ROSS-NAZZAL: Did you guys talk about all this publicity that was landing at your doorstep and how you were going to deal with things?

FISHER: We talked about it; we did a couple things together. It’s hard to remember. Everything blurs. It’s a good thing you’re doing this project now, because ten years from now I might not remember all these things. We had something at the Griffith Park Observatory [Los Angeles, California] that we did together, I remember. Just a couple things like that. We did some joint interviews. They had us both be on a morning talk show, some things like that. Very quickly they brought us all to NASA for one day where they had the official announcement with that picture where there are all of us sitting on the stage. I believe that was—January 16th? No, that was when the announcement was. It was just about maybe a week or two later.

We all got to see each other. But we still weren’t official NASA employees, because we didn’t actually start until—I think my first day was July 5th. Judy and Jim [James F.] Buchli, I know they started early. They came earlier. For the bulk of the group we started on July 5th.

ROSS-NAZZAL: You and your husband had been out here to check out places to live.

FISHER: Right, yes. I can still remember actually driving to work that first day. I can remember exactly what it felt like, and I’m thinking, “God, I can’t believe I’m driving into work to be an astronaut!” But yes, Bill had come out. Yes, that’s right. When I had to go do that talk in Las

Vegas he had gone out. We had looked around when we came that day when they announced everything. I remember we drove around, and we saw this one house that we really really liked and would have loved, but it wasn't for sale.

We talked with a realtor and talked about what we wanted. Then she called and said, "There's this really neat house that I think you all would like. It fits your description, but you better come quick because it'll probably sell pretty quickly." That was that same weekend I had already committed to give that talk in Las Vegas, so Bill said he would go out and take a look. He goes and takes a look and says, "I really think this is the house we should get." My first house I ever bought without ever even seeing it. But Bill and I had pretty similar tastes in things.

I was back in Houston on a later trip. I don't remember exactly what the reason was for the trip. I went to go see the house, and I remember looking. I go, "But the windows don't open," because there were very few windows in the house that opened. There was maybe a bathroom window that opened. The real estate agent says, "This is Houston, you're not going to want to open your windows." Funny the things you remember.

ROSS-NAZZAL: Where did you guys end up?

FISHER: We wound up living in Clear Lake Forest Subdivision.

ROSS-NAZZAL: That's a nice area.

FISHER: Yes, and what was really weird then when I realized it, that house was right on the water on Armand Bayou. It's really called Mud Lake. Then it connects to Clear Lake and

Taylor Lake. You know that bridge where the Hilton is? It goes under there. There's only about nine houses. There's really a right-angle bend, and there's about six houses on this one street and there's the three houses that we had. Our house was the one that's right at the right angle.

Right across was a vacant lot that for years and years was vacant so that's how I had seen that house. I had stood on that lot and looked over there and said, "Oh, I really like that house." It turned out it was that one. The house that Bill bought was the house that I had looked at that I liked. It took me a while to realize it was the same one, because I wasn't as familiar with the area, and I didn't know exactly where I was. Finally I realized it was the house I had always wanted when I'd been looking around. It was really funny. It was kind of sad though because the person who bought it was going to move here from San Francisco, I believe. He and his wife had moved here, and then their daughter got in a car accident. The mother went to go be with her and take care of her and everything. Finally they decided to sell; he stayed there for a year and then moved back to California, which was why they sold it.

ROSS-NAZZAL: What a shame.

FISHER: Sad.

ROSS-NAZZAL: What did you think of all the publicity? We've seen a lot of the articles about you and Bill, how he applied, didn't get accepted, and you got accepted. There seemed to be a lot of focus on you, especially as a married couple. What did you think of all that press coverage?

FISHER: Bill was really great then. He was just happy that we both got in the program. He was glad to give NASA publicity. All his comments were really sincere. He never ever made me feel—if anything I was just a little more conscious of not saying things. Later on when we got here and I would go do something I might be a little hesitant to say, “Oh, wow, I had such a great time today,” or something like that. Just to not make him feel bad.

But like I said, he had pretty much expected that. I think if he hadn’t gotten accepted the second time it might have been different, but he was really good at that time.

ROSS-NAZZAL: Now you were in the first class that was selected in close to ten years. What was the reception like from all of these male astronauts to this new very diverse class coming in?

FISHER: Oh, it was really interesting. It was fun. They were all very nice. I’m sure privately they had their thoughts, but they never in any way expressed that. I know that with the flight rate the previous ten years they certainly didn’t think they needed a bunch of new astronauts; they could quite adequately take care of it themselves, I’m sure. I’m sure that many of them thought that. In fairness to them I would have probably felt the same way, but they were very gracious. One of the neat things they did—it’s really interesting now watching the way our training went versus how it’s set up now for the current astronaut candidate classes.

Actually, now I’m involved in how we’re developing the ASCAN [Astronaut Candidate] training flow for this new class that we’re in the process of selecting. It’s interesting, because it’s the first class that’s not going to have any Shuttle training and trying to figure out how to do that.

For us, I don't think they really thought it out ahead very well. I was expecting to come in and have it be like in the military flight school kind of thing. But really they were inventing how they were going to train us on the fly. For example Jim Buchli, who was a military backseater, I told you he came early. Then Dale [A.] Gardner, who I wound up flying with on my flight, both were military backseaters. They put together the training plan for the mission specialists in the group who had absolutely no aviation experience. They put together the little course and taught us how to do navigating and talking on the radios. The pilots out at aircraft ops [operations] right now are a really professional group, and they really handle all the training of both the pilots and the mission specialists.

Back then it wasn't exactly that way. We each—the mission specialists who had no aviation background, or little or none—got assigned to one of the pilots in the astronaut corps. I was assigned to [Thomas K.] Ken Mattingly. It pretty much then became a matter of pride for them how their mission specialists did when they talked on the radios and how quickly they progressed.

Jim and Dale came up with this ten-flight syllabus that you would go through. On this flight you went out, and you concentrated on visual flight rules. On this one, instrument rules. It was just a ten-card syllabus; something like that is still in existence today.

So that was the T-38, which was probably the first thing that happened when we got here. That was the first priority, to get us qualified to where we could fly in the T-38s and start getting experience. So we got sent to water survival training in Homestead [Air Force Base, Florida], which was also real interesting, because Tom [Thomas D.] Jones wound up being a pilot there for the Air Force. He was doing his water survival training at the time that we, the six women, came through, with all the reporters that were there covering it. It was really interesting that he

wound up coming and many years later being selected as an astronaut. We laughed about that a lot, because he and I wound up working together on Space Station many years later.

Then we were sent to Enid, Oklahoma [Vance Air Force Base] to do land emergency training, which they don't do anymore, thankfully. They now send people for winter survival, where you learn to navigate and eat bugs and all that kind of stuff. Luckily we didn't do that. I'm not sure I would have passed that one. I think I would have rather died than eat bugs.

What they did with us though, they took us to Enid, Oklahoma, which is Shannon Lucid's hometown area. Of course everybody there was all excited about Shannon. They literally had this pickup truck. You know how you do parasailing off of a boat? Which is what we did in Homestead, and it was really neat. I'm not sure if they do it to this level of depth, where you actually parasail and then they cut you loose. The guy gave the signal and you hit these two handles, they fall way, and then you do the last part of a water entry as though you were ejecting from a T-38. Then you had to get into your raft. Then a helicopter actually came with the water swirling around. So you actually got to see what it would be like to be in a water rescue. You got on the little thingy and saw what it would have been like to hoist you up. Then they left you there. Then they went on to the next person. So it was actually really interesting training.

They decided to do something very similar in Oklahoma, where they use a pickup truck instead of a boat. Suddenly you're going across the land. It was actually pretty scary. I was kind of light. Some other people weren't as light as me. Some of them were really struggling to get up into the air. I remember poor Shannon was getting dragged for a while. So I think after that experience people perhaps looked at the safety aspects of that. I don't think any other class did that.

I don't remember, but it was probably one of the more interesting parts of our training. It still was very interesting. Then you actually did a parachute landing, because they cut you loose and you did the same thing. So I think it was pretty remarkable that none of us got hurt.

ROSS-NAZZAL: Were the press following you around this whole time?

FISHER: They were somewhere nearby. I think it became apparent that there was this possibility that someone could get hurt, and they probably better not have anyone too close by.

ROSS-NAZZAL: What was it like having all this press attention while you were in the midst of doing water survival training and other activities?

FISHER: For me, NASA needed good publicity because we still weren't flying. By this time we were becoming a little more knowledgeable about things. I just felt that was part of our job. I don't know; it didn't really bother me. I guess I understood people being curious. I just felt like if there's anything I can do to get good publicity and to get this Space Shuttle off the ground, so that I have the career I want to have, I'll do it. If the Shuttle didn't fly and things weren't successful, I was going to be figuring out what I was going to be doing.

Many, many, many years later when I was head of our Space Station Branch, before the first element flew, the class of '96, which Mike [Edward M.] Fincke, who's up on board the Station right now, was part of—I remember looking at them. There were several of them, Sandy [Sandra H. Magnus] and Dan [Daniel C.] Burbank, Mike, and they were all assigned to the Space Station Branch, because at that point I had convinced Charlie [Charles J.] Precourt that our office

had not really been that involved in the development of Station, and we really needed to be more involved in it. I was the only one at that point left who remembered what it was like before the Shuttle flew and how when things weren't perfect. People were really complaining about the Station. I was able to say, "The Shuttle wasn't always like this either."

I remember looking at that group and saying the same thing that I had felt back in '78 and '79, "If this thing doesn't work, have you all looked at the manifest? It's all Space Station built. If this doesn't work you guys are out of a job. I suggest you do whatever it takes to get this thing to fly." They did. They were just troopers, just as we were in '78. Our training was—instead of learning how to operate an APU (auxiliary power unit) or the computers, the engineers would come over and tell us how to build one, what the fuel was, and what the temperature was. There were no procedures for how to operate it and malfunction procedures. Your training now, you might know vaguely how an APU is built, but what you really want to know is how to operate it. What do you do if it shuts down? Our training wasn't like that at all.

We had a couple months of classes. We were divided into two groups, the red group and the blue group. We still to this day have red T-shirts and blue T-shirts.

ROSS-NAZZAL: Whose group were you in?

FISHER: I was in [Frances R. "Dick"] Scobee's group, the blue group. [Frederick H.] Rick Hauck, who was later my commander of my flight, was head of the red group. It's interesting how these military folks just emerge as leaders. Those two guys just really emerged as leaders from very early on.

We would have our classes separately, so that it wasn't such a large group. That's how we went through things. It was always a friendly camaraderie and rivalry between the two groups. Then we went on all of our Center visits, which was a lot of fun. That was a time where we all got to bond, got to know each other, and learn about the different Centers. A lot of fun memories from those trips.

Then all of a sudden, we were here for about one year, and all of a sudden John announced, "Okay, that's it. Training is over. You're all astronauts now." We were supposed to have a two-year period. It was like, "No, we've got a lot of work to do now. We don't have time for all this foolishness."

So we were all given our assignments of what to do. The military folks, I think, obviously having come from an aviation background, had a little more understanding of how to just get in there and start doing things. I remember they decided who the ascent, orbit, and entry teams were going to be for the first Shuttle flight. Then the CapComs [Capsule Communicators] were assigned. I'm trying to remember. I think it was Rick Hauck for ascent, Dan [Daniel C.] Brandenstein for entry, and Jim Buchli for orbit.

Then I remember that they started just having all these meetings with the flight controllers coming up with procedures; nobody had written any procedures or anything about how we were going to write an ascent checklist. What it was going to look like. I think they all finally got the idea that they were going to need cue cards. I remember Dan Brandenstein going down to the Cape [Canaveral, Florida], fitting all these cue cards. Figuring out where they were going to go. To this day they all pretty much fly exactly as was envisioned by our group. We certainly didn't write all the procedures. We weren't the experts in the systems, but the idea of

what the ascent checklist had to look like and the entry checklist came from us. Then okay, we need a malfunction procedure for this. Then the flight controllers would go off and do that.

Many years later I was in charge of our flight data file, after it was much more established. Every class that'd come in would always be complaining about how this procedure in the ascent checklist is this way and this one in the entry—they were pretty much essentially the same procedure. Luckily I had seen the evolution of all of this, so I was able to say, “Well, that’s because there were three different teams, and they all independently developed this.” It was just fun to watch all of that.

Then after the *Challenger* accident, we had the two and a half years’ downtime. That was one of the things we did. We went in and just cleaned up all that stuff that we never had time to clean up, like make a procedure the same if it was basically the same procedure, and try to have common standards throughout.

We were so busy up until that point, because all of a sudden we were developing procedures, getting them ready to go, and then all of a sudden very quickly the Shuttle was going to fly, and there just wasn’t enough time to get all that polish work done.

ROSS-NAZZAL: One of your first assignments according to the records that we have was working with Bill [William B.] Lenoir. What were some of the things you were working with him on?

FISHER: Well, my actual most fun first assignment was—now that there were going to be women on board the Shuttle, what did we want in our personal hygiene kit. That was a real interesting assignment, because I had long ago decided when I was in medical school that since I was going to be on call and having to get up in the middle of the night, that I wasn’t going to

wear makeup. I didn't want to be one kind of person in the daytime and sleep and have makeup running all over my face; so I went all through medical school with no makeup. I was one of these no-makeup kind of people. Then there was other people who felt differently about it.

It was just really interesting coming up with this kit. The one thing that I did, my mom is European. In Europe they use Nivea cream a lot. So I had grown up on Nivea cream, which probably wasn't that big in the United States. I got Nivea cream on board in the kit. That was one of my actual first fun assignments was to come up with what we wanted in our kit.

I remember years later somebody complaining about the Nivea cream. I said, "Gee, I don't know how that happened." It was too greasy or something.

ROSS-NAZZAL: What typically goes in one of those kits? Can you tell us?

FISHER: It's your toothpaste, your toothbrush, creams. All that stuff then has to go out to White Sands [Test Facility, Las Cruces, New Mexico] and be tested for outgassing and flammability. You can't just take whatever it is you want. So I just let everybody else decide what they wanted, but I picked the cream. That was the thing I cared most about. That was one of my first assignments.

My second assignment was to work on the development of the extra-small EMU [Extravehicular Mobility Unit]. Early on, Mr. Abbey really wanted to force the program to design a spacesuit to fit everybody in the office. So they were working very hard on trying to build the extra small hard upper torso [HUT]. I actually started out doing a lot of EVA runs with Jim Buchli; he was also assigned to do that. When we first started out they didn't even have a Shuttle EMU available to go in the water. The water tank was right by the astronauts' gym. It

was this old building. This tank that you had to walk up some steps to get up to the top. I don't know how deep it was, maybe ten feet or something. They had a little mockup of the 576 bulkhead where the latches come.

It's definitely not like the NBL [Neutral Buoyancy Laboratory] today. It was this little tiny thing. That's where we did a lot of our early development of the contingency procedures if the payload bay doors wouldn't close. That was honestly the hardest job I've ever had, because they didn't have a suit that fit me. They put me in Pete [Charles] Conrad's A7LB. He was short, but he was definitely bigger. Now that we've gotten so much more experienced in doing EVAs, if you don't have a good suit fit and you have a lot of air in there, it's just going to make it almost impossible to get a good weigh-out and to work. Now we have weight trainers who help us really bulk up. But again back in those days it was just, "Okay, you're doing this," with no training whatsoever as to how to go about doing that. So that was hard.

I would get in that water tank. You'd have these heavy tools. It was really hard. Then they kept trying to get the suit small enough, but there's only so small you can get that hardware. Getting in and out of it was a real challenge. Have you ever seen anyone get in? You might want to go over to an NBL run one time so that you understand and just watch at the beginning when they're getting in the suits, because they have it hooked on this thing, and you kneel down, you crouch in, you're trying to get your hands up through it. It's hard torso. I would come home and my whole arms would just be totally bruised from trying to get through those metal rings and things.

Finally after several years they decided that from a cost point of view it was going to be so cost-prohibitive. They decided to just go with the medium and the large. If you didn't fit in those you weren't a candidate for a spacewalk. I did not disagree with that decision, because the

extra small HUT, the hardware that's in front, all your gauges and all the controls, you can't really make that smaller. Even if you make the torso small enough to where it fits, your useful arm reach, which is where you do most of your work in these spacewalks, is going to be much less than one of the guys with the big orangutan arms. It's like saying, "Okay, I wish I could be a pro basketball player." Well, I wasn't given those assets. You can't always do everything. That was my first experience was with that job.

Then I started working for Bill Lenoir. He was actually working on the development of the PDRS [Payload Deployment and Retrieval System], the arm. He worked with Sally [K. Ride] a lot on that. Then in September of '80, somewhere around late August, September of '80—the Shuttle wound up flying April 12th of '81—somebody decided we needed an on orbit tile repair capability. So Bill Lenoir was tasked to head that up. Dave [David M.] Walker and I and a little bit Charlie [Charles F.] Bolden, because the new class had just come on, started working the early tile repair effort.

It was this real crash effort of coming up with the material, coming up with how we were going to do it. Looking back on it now, for me it was a crash course in how you start off a program from nothing to design requirements to building actual flight hardware. In the end, they decided wisely to not pursue that on the first flight. The first flight was challenging enough as it was. When they wound up coming up with tile repair after *Columbia*, they actually started with where we had left off. It turned out that a lot of the challenges we identified at the end of that program were the same challenges they were going to face. The material was still bubbling and outgassing when you tried to put it in vacuum. How you restrain yourself for the task. All those same issues. To make a long story short, we came up with the idea of using the manned maneuvering unit, because you had to get under the Orbiter somehow. We were going to fly,

and they had these pads that you attached to either side that you could heat up. They would stick to the Orbiter then you could release them. That was a real challenge in the design, designing those pads.

As part of it we got to fly up to Martin Marietta [Denver, Colorado]. They had this huge room with this mockup of the underbelly of the Orbiter. They had this manned maneuvering unit and a huge room where you could fly the manned maneuvering unit. It was all this hardware behind you. It was the most fun simulator I've ever been in in my life. You could just actually fly this thing. It doesn't exist anymore, I don't think. For these whole six months we were flying back and forth to Martin Marietta and trying to devise these procedures and come up with this. Finally in the end we recommended that, if they really and truly wanted to develop it, it was going to be another two years, at least. Which is about what it took them to come up with something after the *Columbia* accident.

ROSS-NAZZAL: That's a lot of work.

FISHER: Yes, but for me it was a real education. Because then later on, when I wound up being in charge of our Space Station Branch about a year prior to when we launched the first element, and then about three years before we launched the first crew—I had had all that history of watching all this development, which by this time nobody in the office had seen that. Everybody was used to the Shuttle: you got into your flow, it took you about a year to train, you had gone through a nice ASCAN training year with a syllabus for learning the Shuttle.

The way we learned Shuttle was we were sent over to SAIL [Shuttle Avionics and Integration Laboratory]. We worked at SAIL, and that's because there was no time in the

simulators for us. The simulators barely would stay up running long enough to get the first four crews that were announced in training.

ROSS-NAZZAL: You also worked in SAIL for a while. Can you tell us about that?

FISHER: That was really fun. That was where I really learned the Shuttle and the Shuttle procedures. I worked for STS-2 to 4. I worked at SAIL. For STS-5 through 7, I was a Cape Crusader. I did the first payload flows that we supported, because the previous flights up to then had not really had real payloads.

I just had some really interesting jobs. Each of those were, I think, extremely helpful in allowing me to be a good crew member when I flew on the Shuttle. Then I wound up being a CapCom for STS-8 and 9. My actual CapCom stint was for 9. Then I got into my own training. I had pretty much seen all the major jobs that our office has.

I was really glad I had, because just going straight into training without understanding what's going on at SAIL, what's going on in mission control, how does the Cape operate, and to really know the people, because you worked with them, you didn't just come over there for a meeting or something. That was really valuable experience.

ROSS-NAZZAL: What were your work hours like at this point? Was it long hours or was it quite comfortable for you?

FISHER: After being an intern and working 24 on and 24 off, anything looked easy to me. I was like, "They actually put time to sleep in your flight plan. They actually assume you need some

sleep to do a good job.” You had rules; if you were flying a T-38 you needed to be on the ground so long and have so much rest. You had a duty day that you were not to exceed and all that sort of stuff. So for me it was like, “Wow! Somebody actually cares about you and your health.”

But your days, they just varied according to what you were doing. If you were at SAIL, their shifts would go 7:00 to 3:00 and then they usually worked two shifts a day, so we usually had to cover. Like if you were on for a day covering, you might work a really long day. One of my favorite memories was when they took a dinner break, and I ran home to go water-ski. I said, “I can’t get my hair wet, can’t fall, because I got to go back to work, and I don’t have time.” I did it. I went skiing and back to work, didn’t get my hair wet.

ROSS-NAZZAL: Who was your first officemate when you came into the office?

FISHER: Dan Brandenstein. That was so funny. We walked in. I had been on the cover of *Redbook*. That was a time when they were doing normal people on the cover. I’ll backtrack. That was probably one of my most favorite experiences I had prior to coming to NASA. It must have been about in May, I think it was. I got a call, and they wanted to do regular people on the cover. Out of the six of us, they asked me to do it. I am still friends with the lady who did the interview. All these years later we’re still very, very good friends.

They flew us to New York. I was so sick the night before. I had a fever of 103. I was so disappointed because I’d been so looking forward to this. I rallied around the next day. They did makeup. They were focusing at that point on working out. What was your exercise routine? I’m trying to say politely what I couldn’t. “Hey, look, I just got off of doing 24-hour shifts for

the last couple years. My workout regime is eat dinner and sleep.” I think I started working out truly in the sense of working out when I got called for my interview. Bill said, “Okay, you got to go out and go jogging.” He started playing *Rocky* theme music for me.

It was ironic. Here I am being asked what’s my workout routine. There’s no time in my life for working out. That was what they wanted to focus on. It was kind of funny. They took literally 800 pictures. I think I had two different outfits on. It was like being a model for the day. It was just kind of fun.

That night they had arranged for us to go to the theater. Jason Robards was in a play. I’ve forgotten what the play was now. We got to go backstage and meet him. They had us in a limousine that took us there. I remember getting out of the car. I had on all this makeup. As I told you, I didn’t wear makeup. It’s really weird how people treat you differently. As I was getting out of the car they didn’t know who I was. There’s just people standing on the street. Because you’re coming in a limousine and all made up, they all think you’re somebody. You could see them trying to figure out, “Now who is she? Do I know her?” It was just really a funny experience. But it was neat. You were asking me something.

ROSS-NAZZAL: About your officemate.

FISHER: Oh, my officemate, okay, so I was on the cover of *Redbook*. Dan got to be on the cover of some military magazine, some Navy publication.

ROSS-NAZZAL: No comparison.

FISHER: He wanted to consider that a comparison. So we called ourselves the cover office. It was so neat, too. When you got there, there were two desks in every office. This was before the office got huge-huge, and we were all crammed into every nook and cranny. This was when we all had the third floor of Building 4 North. You came in and your desk was there and your little calendar. Everything was all nice there. I remember I picked up the calendar of where I was supposed to go. I looked at it, and I didn't have a clue what I was supposed to do. I couldn't read any of it. It was all in NASA acronyms, and I had no idea what any of it meant.

ROSS-NAZZAL: Was that your first couple days?

FISHER: July 5th, that morning we arrived there. They have your schedule on your desk. "Dan, do you know how to read this?"

Oh, I forgot the funny story. In my interview week I had my eyes dilated for my eye exam just before I went for my interview with the selection committee. I remember I came out into the sunlight with my eyes dilated. I couldn't read where I was supposed to go for my interview. I didn't want to be late for my interview. I remember stopping this person and saying, "Excuse me. Could you read this for me?" I always wondered who that person was, because I didn't realize till I got outside that I didn't know where I was going. I'd never had my eyes dilated before. So I didn't know that you wouldn't be able to read after that.

ROSS-NAZZAL: It's so painful.

FISHER: Yes, so Dan and I shared an office. The cover office.

ROSS-NAZZAL: When the '80 class came in did you guys have more officemates at that point?

FISHER: I don't remember how that all worked out, come to think of it. I think we slowly had more people in. Eventually we wound up getting the whole upper third floor. I think originally we didn't have the whole third floor. We kept expanding. I don't remember all the details of exactly how that all worked out.

ROSS-NAZZAL: Your class was called the Thirty-Five New Guys. I've heard that Judy Resnik had some involvement with that and the T-shirt.

FISHER: Yes, remember she and Jim arrived early. Jim was actually a little bit of an artist. Has anyone of our group shown you our shirts?

ROSS-NAZZAL: No. You'll have to bring one in.

FISHER: I'll have to bring one to you. They designed a Shuttle. There's 35 people all over the Shuttle: on the outside, EVA, hanging from the arm. We have the blue version and the red version of this shirt. So they were the ones who did all of that. Also because they got here early, they tried to sequester better office stuff than we did.

I remember Judy had this—she and Jim were in an office together. They had gotten this red recliner chair. I used to keep it after the *Challenger* accident. I always made sure that chair stayed. It's still up in the office. Because I went on a seven-year leave of absence, I told a few

people the story that that was a chair that somehow Judy managed to get. You know how it is in an office where you all get a certain amount of equipment, and somebody else has something way fancier than everybody else. That chair is still up. I'm not sure which office it's in right now.

ROSS-NAZZAL: You guys will have to get a little marker or something to put on there.

FISHER: It's a red leather recliner. Burgundy, not bright red.

ROSS-NAZZAL: Now I'm looking at our clock. I notice your watch is a little ahead. It's about a quarter to. Do you want to keep going or you want to stop?

FISHER: We'll go to 12:00. What if I take you to about when I got selected for my flight? That's an interesting story too. Then we could pick up from there, because I've had a pretty what I would call nontraditional path in the office.

I've told you all my jobs that I've had pretty much up to when I was assigned. That was interesting. I started to feel like when I was around 33, having been a doctor and studying all these charts about how your ability to conceive really dies off, and not knowing when I was going to be assigned to a flight. Bill and I decided we need to make a commitment to having a family if we want to do that and let the chips fall as they may in terms of flight assignments. I wound up getting pregnant. Kristin was born July 29th of '83.

I was a Cape Crusader, and we fly T-38s. It's really inconvenient to fly commercially when you have to go to Orlando and drive that long drive. I don't know if you've done that

before. I didn't want to tell anyone I was pregnant as long as I could, because that would keep me out of things the least time possible, and also until I knew if everything was going to be okay. I'm kind of small, and I wore my flight suit a lot. I don't think people really knew I was pregnant. So I was flying T-38s up until about I was probably four, four and a half months pregnant.

I was always very careful and made sure I had the oxygen on. Perhaps not one of my smarter decisions in retrospect. But it worked out, and Kristin is fine. Because I was a Cape crusader and for STS-7 I was the lead crusader, I really didn't want to not be able to do my job. I felt being able to fly T-38 was pretty important.

Finally somewhere in there I told Mr. Abbey that I was pregnant. I remember I flew to the Cape, and I got the word that you're coming back commercially. The rest of my flights were commercial after that. Which I understand, once you tell people formally, they're responsible for the decisions. In fact I remember one trip where I was heading back, I think, on a Sunday morning in my flight suit for some reason. I had just finished some all-night tests, and I was trying to make it home. I was driving, probably speeding a little bit. This officer stopped me. I'm in my flight suit, and I'm very pregnant. I said, "Oh, for sure he's going to have pity on me." No. So I wound up working. There's some really interesting photographs of Sally and I doing testing at the Cape together, because we were getting ready for her flight and we were testing whatever their payloads were at the Cape in the payload processing facility of me while pregnant.

Let's see. Kristin was born in July, so it must have been the beginning of July. Bill and I get called over to talk to Mr. Abbey, which is real unusual. He said he wanted to assign me to a flight. Did we have any reservations particularly? Bill, too. I'm probably the only person who's

been assigned to their flight about two weeks before they deliver. I doubt that's probably ever happened in the history of the space program since, which I thought was really neat that he showed that confidence in me. So our crew was announced. I was assigned with Rick Hauck and Dave Walker, Joe [Joseph P.] Allen, Dale Gardner and me. I remember I delivered on a Friday. I was so happy. My whole pregnancy had been really easy.

We had our cargo integration review. I remember I was at work all day Thursday. I started to suspect I was going to go into labor that night. Bill had already taken time off several times thinking we were going to have the baby. That night he decided to work at the ER—he was working in the ER. Sure enough that's the night Kristin decides to come. I had worked all day that day. Went in and had a pretty pretty long labor. Then she was born. I wasn't even going to stay in the hospital. After doing medical training, I don't want to be in a hospital unless I'm in an accident or something where I have to be. So I had decided I wasn't staying there.

We were delivered about 9:30 in the morning. We're staying in this recovery room, because the plan is for me to go home. Bill is asleep on the floor in this recovery room. I'm asleep. All of a sudden I remember Dave Walker coming in. He had this little basket, which is in my room to this day. Right now it's sitting up in my bedroom. He said, "Bears for the bairn and the bearer who bore her," or something. Dave Walker was always coming up with these things, this little note there. He's the first person that shows up. Finally it hits me. This is probably not one of my smarter decisions. I probably ought to get one night of good rest before I go home, to take care of a baby and do all this.

Now they're scrambling trying to find a room for me and everything. We did that. But then that was on Friday. Monday, I was just feeling so happy and so good. I was assigned to a flight. I had my new baby. I decided to go into the Monday morning meeting with my little

doughnut to sit on the chair. I showed up for the Monday morning meeting. It was just neat. Just to say, “I’m here and nothing’s going to change.” It was neat.

So for the first couple weeks—luckily Rick had just flown. They were all off doing all their postflight stuff. It kept him out of our hair for a little bit. Our training wasn’t real intense at the beginning. I really wanted to CapCom. Rick didn’t want me necessarily CapCom. He wanted us to start training, and I successfully told him that I thought that was part of training. So I wound up—I guess Kristin was about four months old where I was pulling those weird shifts—I forget which shift, whether I was orbit one or orbit two. Long days. Now everything’s nice and they acknowledge that you might need to pump breasts, because I was breastfeeding. But I was just sneaking off by myself doing everything. It was kind of weird. It’s so much nicer now that people are so supportive. Most restrooms you go into now, at least on the site, there’s a partitioned area where you can do things like that. That was a bit of a struggle.

Then I didn’t really take any formal leave. If I didn’t have training I didn’t come in. If I had training I came in. Probably about two months like that, and then training picked up and went to full-time. I had a wonderful lady who came to our house and took care of Kristin. She wound up going to the launch with us. We used to go over to their house for Thanksgiving and Christmas, and we’re still very close friends with them. They became part of our family. That was how I got assigned to my flight, and the beginning of training. I don’t know if that’s a good place to stop and then start.

ROSS-NAZZAL: That’s perfect.

FISHER: One other thing. I just forgot. It was along the lines of you were asking how we were accepted by people when we first came. That was one thing that I was very pleasantly surprised about. Everybody was warm, receptive. Carolyn [L.] Huntoon was assigned to the women. I don't know if other people have told you. I think she was our unofficial person we could go to if we had any unique problems or anything with publicity or any of those kinds of issues that came up, things that we had to figure out, like urine containment for the launch. That was the first time they were encountering how we were going to handle urination for women from launch to orbit; we came up with a concept for diapers, which now actually I think both male and female use. So Carolyn was the person who was our unofficial mentor to help us and guide us through all that. Which I thought it was nice that Mr. Abbey had thought to do that.

ROSS-NAZZAL: Have you read [Richard M.] Mike Mullane's book [*Riding Rockets: The Outrageous Tales of a Space Shuttle Astronaut*]?

FISHER: Oh, yes.

ROSS-NAZZAL: What did you think of what his thoughts were initially about the women astronauts coming on board?

FISHER: Well, I enjoyed his book, because it captured a lot of what it was like to be in that group of people. We just had our reunion last May for—was it [STS-]122? Yes, and some people I think were offended thinking that he told things that he shouldn't have told. I don't know. I wasn't offended by it. I thought he captured what it was like to be in that era, the kinds of things

that the guys would say. For example, my crewmates would tease me—less so probably Joe and Dale, more Dave probably. Every time we would do a transatlantic abort, they would say, “Well, we’ll trade Anna for camels, and then we’ll all get out,” or something like that. Nowadays people would think that’s probably not very politically correct. Then Dave gave me this neat collection. I have this neat collection of camels, all different kinds. This was just as we were training and joking. These are guys who were trained in a different era. They flew. They were pilots in Vietnam. They saw all kinds of things. I had gone to medical school. In histology class as they were doing their slide lectures, they would stick in *Playboy* centerfolds. I had seen all this. It wasn’t anything new to me. That didn’t offend me. I understand it’s just a way of just breaking the ice. Other people were perhaps not as open-minded as I am about those things. So we’ll see.

ROSS-NAZZAL: Great. Well, I think this would be a perfect place to stop.

[End of interview]