Interviews of the Margaret MacVicar Memorial AMITA Oral History Project, MC 356
Massachusetts Institute of Technology, Institute Archives and Distinctive Collections

Sheila Widnall – class of 1960

Interviewed by Kira Buttrey, class of 2023

June 3, 2021

Margaret MacVicar Memorial AMITA Oral History Project

Professor Sheila Widnall (SB Aeronautics and Astronautics 1960; SM Aeronautics and Astronautics 1961; SCD Aeronautics and Astronautics 1964) was interviewed on June 3, 2021 by undergraduate Kira Buttrey (SB Biological Engineering 2023) via a videoconferencing app. Professor Widnall was at her home in Lexington, Massachusetts and Ms. Buttrey was at her apartment in Cambridge, Massachusetts.

Professor Widnall grew up in Tacoma, Washington, with a father who rode bulls in the rodeo and a mother who was a juvenile probation officer. Watching planes return to land at the nearby McChord Air Force Base inspired an affinity for aircraft that continued throughout her long and distinguished career. Professor Widnall earned her SB, SM and SCD in Aeronautics and Astronautics at MIT before becoming the first woman appointed to the faculty of the MIT School of Engineering.

During her decades on the faculty, Professor Widnall chaired numerous MIT committees, bringing a focus on academic issues such as developing students' communication skills and increasing the number of women admitted to the Institute. Her work defining a formal process for departmental reorganization led to so-called "Widnall reports," while her academic research resulted in naming a fluid dynamic phenomenon a "Widnall instability." In 1979, Professor Widnall became the first woman to serve as the chair of MIT faculty, a position she held for two years.

Professor Widnall's string of "firsts" continued in 1993, when President Bill Clinton appointed her Secretary of the Air Force; here she was the first woman to lead a branch of the American military. She returned to MIT in 1997, where she was appointed Associate Provost and worked to improve academic integrity.

Professor Widnall has earned numerous honors for her academic work and leadership. Among other honors, she is a member and past Vice President of the National Academy of Engineering (NAE); served as the president to both the American Institute of Aeronautics and Astronautics (AIAA) and the American Association for the Advance of Science (AAAS); and has been a trustee of the Carnegie Corporation and the Sloan Foundation. Notably, in 2018, Professor Widnall served as the co-chair of the National Academy of Sciences, Engineering, and Medicine report on the impact of sexual harassment of women in STEM.

Since retiring as Institute Professor Emerita in fall 2020, Professor Widnall has continued to work with faculty colleagues to prepare recommendations for organizations such as the NAE. In the summer, she takes part in sailboat races with her husband, William Widnall, also an MIT alumnus and distinguished former member of the AeroAstro faculty.

BUTTREY: I want to thank you again for the opportunity to interview you for AMITA's Oral History Project. I know you've done many previous interviews, so I appreciate your taking the time for this one, too. I'm looking forward to going deeper into a few topics, including your undergraduate experience at MIT, and the many things you did to bring more women students to MIT and to make women's education at the Institute an equally rich one as their male counterparts'.

In 2020, you were interviewed by Karen Arenson [SB Economics 1970; undergraduate editor of The Tech; retired *New York Times* reporter who focused on coverage of higher education] for the Institute's InfiniteMIT project [an archive of Institute history launched as part of MIT's sesquicentennial celebration]. The transcript is available online. I highly recommend it to anyone interested in learning more about you and your many accomplishments, especially since we won't have time to talk about all of them here.

You spoke there about your childhood in Tacoma, Washington, and how you grew up near McChord Air Force Base and always had an affinity for planes. I was wondering, during that period of your life, what was it about airplanes that interested you—so much so that you wanted to study AeroAstro in college?

WIDNALL: Well, it's very exciting when a fighter plane is flying over your house on its way to land. We were on the final approach to McChord Air Force Base. I don't know where they were coming back from—Korea, Vietnam—but they were coming back and flying over our house to get to the base. It was very exciting. I made that choice [to major in Aeronautics and Astronautics], essentially, after my freshman year. When I was a freshman, I didn't really have a particular choice to make. But coming into my sophomore year, that's the choice I made.

BUTTREY: In your interview with Karen Arenson, you mentioned that you weren't expecting to find so few female students when you arrived at MIT. Did you actively think there would be more women, or had you not really considered—

WIDNALL: It just never occurred to me. I went to a girl's school. My high school was a Catholic girl's school. My class was all women. I did have to go to the public school to take physics so that I could qualify for MIT, but it was not really an issue I thought very much about. So I guess I was a little surprised. There we're only 20 of us in the freshman class. Twenty women.

BUTTREY: Do you remember how many men?

WIDNALL: Oh, around 1,100. A number like that.

BUTTREY: Coming from an all-women's high school, to what extent were you aware that women were underrepresented in STEM?

WIDNALL: I was only a freshman. I didn't think of the word “underrepresented.” I just thought of me, and pushing forward. My mother was a juvenile probation officer. My father rode bulls in the rodeo. My parents were extremely supportive of my career goals, so I just pushed forward.

BUTTREY: Speaking of pushing forward, would you mind talking about the first physics test you took at MIT?

WIDNALL: I don't know if I can remember that. Well, I guess I am remembering it. I got a very low grade. I got something like a 30 on the test. That was below class average. And I sat down and I looked at the test and I said, “Oh, that's the way they want me to think.” And that was a real educational experiment. I understood what MIT really was all about, in terms of learning the structure of the problem and then using the tools that you have to make a prediction about the outcome of the problem. So, actually, my first physics test was incredibly educational. It kind of set me up for MIT.

BUTTREY: I find it so impressive that you were able to take that experience and turn it into an “Aha” moment.

WIDNALL: Well, I was fortunate to be able to do it. But again, I looked at it and I said, “Oh, I understand what MIT needs me to do.”

BUTTREY: Do you think that you already had that perceptiveness when you arrived at MIT?

WIDNALL: Yes, I do. Given my parents, who were very supportive and very unusual. I guess the other thing I should say is the faculty was very supportive. My calculus instructor brought me cookies for an exam. And, as a sophomore, I had very good advisors in the department who encouraged me to go to graduate school and worked with me on their research. They were very supportive of me.

BUTTREY: What were the rest of your undergrad years at MIT like?

WIDNALL: They were fine. I mean, I was either the top or the second-to-the-top student in our class. I received some of the final awards for graduating seniors.

BUTTREY: That's amazing.

WIDNALL: It really was amazing. They were very supportive of me. And I did work hard and I did enjoy the material. I guess the other thing that was important is that every summer I was able to work at Boeing, in Seattle; I had a summer job in the aerospace industry. That was very valuable. It taught me a lot of technical things that I didn't learn in class, so it fit very well with my goals.

BUTTREY: Were there any real challenges that you remember encountering during these undergrad years? It almost sounds like undergrad was just kind of a breeze.

WIDNALL: No, I think maybe my biggest challenge was helping some of the other women students who were having real problems, kind of falling apart. They had housing problems, they had course problems. I was trying to be helpful, but that was obviously of concern.

BUTTREY: I do find that personal things are the more difficult kinds of challenges in college.

WIDNALL: Yes, they are.

BUTTREY: Did you have much free time outside of classes? And if you did, how did you spend it?

WIDNALL: Well, I had a normal life [as an undergraduate]. I dated. I had boyfriends. I went to fraternity parties.

BUTTREY: What was that social life like?

WIDNALL: Oh, it's just exactly as you might expect. I had a series of boyfriends. I didn't have any single boyfriend for the four years, so I used to go to fraternity parties and have some fun.

BUTTREY: What was a fraternity party like if there were only 20 women in your class?

WIDNALL: Well, the women at the fraternity parties, a lot of them came from Wellesley [College], so there were always a lot of women at parties. A lot of the girlfriends of the fraternity guys came from Wellesley, or maybe someplace else, but Wellesley was a big part of that.

BUTTREY: Why did you decide to get your master's and then do your doctoral work at MIT, rather someplace else?

WIDNALL: At that point, I felt that MIT was my home. The faculty had been so supportive. My advisor, Holt Ashley [MIT SM 1948, PhD 1951, both in aeronautical engineering; MIT faculty member from 1951 to 1967, researching aeroelasticity], said to me, “You should go to graduate school,” and I said, “OK.” I was getting a lot of support from the faculty to continue into graduate school, master's degree, PhD. It was very straightforward.

BUTTREY: Going into the doctoral work, did you have a goal in mind for what you wanted to do afterward?

WIDNALL: When I finished? No, I don't think I did. I think the goal itself was the program: “Get your PhD.” And then, it's hard to remember, but MIT offered me a faculty position. I was the first woman faculty member in the School of Engineering. So again, I'm saying that MIT was my home. So when I was offered opportunities to stay with the community, I always accepted. It wasn't my desire to leave MIT and go someplace else. I did have a lot of summer jobs in the industry, but my desire was to stay at MIT. That was my home.

BUTTREY: Is that when you started thinking that you may want to become an academic?

WIDNALL: Yes, I think it was a kind of natural transition-- I finished my PhD, and then I became a faculty member, and then I started teaching. So it just was step by step.

BUTTREY: Would you mind briefly summarizing your thesis work?

WIDNALL: My thesis work had to do with the numerical calculation of unsteady aerodynamic forces on wings, and putting together a process for doing those calculations. So it was numerical. And, of course, in this day and age, it was probably something you'd give the sophomores to do. But then, people were not really using computers. So it was the beginning of the use of computers to do fluid mechanics calculations.

BUTTREY: How did you choose that topic?

WIDNALL: My advisors. Those were the areas that my advisors were in. Professor Holt Ashley. Professor Marten Landahl [MIT Research Engineer 19540–1956; MIT Aeronautics and Astronautics professor 1960–1999, researching turbulence]. They were brilliant faculty members. Those were areas that they were working in, so it seemed like a natural thing to do.

BUTTREY: If I have the timeline correct, you completed your master's a year after your bachelor's, and then your doctoral degree three years after that. That seems like a very quick turnaround. Was that the norm?

WIDNALL: I don't know whether it was the norm. Four years for a PhD is not unreasonable. It all fit together. A lot of it probably came from the support that I was getting from the faculty.

BUTTREY: What made these faculty members such good mentors?

WIDNALL: I don't know, which is actually amazing, because a lot of people say male faculty don't support women. But they did, they supported me. I think it's because they thought that I was good at what I was doing, and we had a common interest in fluid mechanics, so we worked together on all kinds of exciting problems.

BUTTREY: After graduating with your doctorate in 1964, you were hired to teach at MIT's School of Engineering. And as you just mentioned, you became the first female faculty member there. How did you split your time between your research, teaching and administrative roles?

WIDNALL: I think the typical faculty member spends maybe 50% of their time teaching and working on Institute issues like faculty committees, theses supervision, and things like that, and then 50% of their time doing their own research. I think that's a typical pattern for faculty.

BUTTREY: Did you follow that typical pattern?

WIDNALL: I think so. You know, it's really hard to remember, we're talking 60 years ago. And, of course, I had two children, so I had a lot of other things going on. But I think it all worked out.

BUTTREY: How did you manage those family obligations while taking on all of the demands of your research and teaching responsibilities?

WIDNALL: I don't know whether it's possible to do this anymore, but I was hiring au pairs. I had a lot of au pairs who came from Norway and spent a year in the United States. They were living with us, they were taking care of the children, and I was able to go full-time into work. I think there were four or five of them.

I had one English student, a graduate student. She lived with us, and she split her time between taking care of the children and doing her own work. So I had good support. And a little later, we moved into the apartment building at MIT for married students. I think I had [help from] the wife of a graduate student. She took care of the children while I was going to do the work that I was doing.

BUTTREY: It still sounds incredibly challenging to have had two kids and a career like yours.

WIDNALL: Yes, it is challenging. No question about it.

BUTTREY: Are there things that you would say still need to change when it comes to women in the workplace, including at places like MIT?

WIDNALL: I think it's very difficult. Our women faculty today are trying to get help from MIT to develop funding for people to take care of their children. Child care is a big issue among our women faculty. I'm getting a lot of emails about this from the various meetings that they're having.

BUTTREY: As anyone doing research on your career will see, you've served on numerous MIT committees. Did you have an opportunity in any of those instances to advocate for policies designed to improve options for working parents?

WIDNALL: No, I actually didn't. I was more focused on academic issues. I guess one issue that I think you'll want to hear about is the increase in the percentage of women students at MIT, because I actually believe I was responsible for that.

BUTTREY: I would love to hear about that.

WIDNALL: That's really important. I had a really good friend, who's actually a neighbor, who was the professor of graduate education in Electrical Engineering. His name was Art Smith [MIT professor of Electrical Engineering starting in 1959; became Acting Dean for Student Affairs in 1990; served as Dean for Student affairs 1991–1993]. (He's actually had two daughters go to MIT.) He did a study of the relationship between the math SAT score and the senior grade point average. What he found was that there were two clouds, one for men and one for women. What we determined from that is that the math SAT under-predicts the performance of women relative to their success as a student. What we did—I know this sounds kind of crazy—was we added 40 points to the SAT scores for women. And the percentage of women students at MIT went from 26 to 38% in one year, when we added 30 or 40 points to the score for women. That turned out to be a success. The percentage of women went up, and the quality of the women students agreed with the prediction of that statistical plot. So that's where we went. So we're up to 38%. And then we kind of snuck a little higher. Every year we go up another point or so. But that had to have an effect on the percentage of women who felt that MIT believed they could do the job. And at that point, I think MIT probably have the highest percentage of women students in science and engineering. Nobody else was doing this. Everybody else was down at 15% to 20% [women in their freshman class].

BUTTREY: Was there any pushback for these changes that you were making?

WIDNALL: You know where the pushback came from? It came from male students who had been just admitted to MIT. We would get letters saying, “My friend, John, didn't get into MIT, and he's as good as I am. And you didn't let him in because you're letting all these women in.” It was really funny. That's what I remember as the largest pushback, that it came from male students whose friends did not get in from high school.

BUTTREY: And not pushback from the friends themselves?

WIDNALL: No, not the friends themselves. Maybe they didn't know about it, but it was the students whose buddies didn't get into MIT. I thought that was really strange. By then, I was on the admissions committee and doing all sorts of things at the senior level, in faculty committees. We always said we wanted to increase the number of women students, and I always said that the women we should admit are the women who have been applying. It's not that we weren't getting enough applications, it’s

that we weren't measuring them properly. So we just increased the number of women students—and it was dramatic. It really was dramatic.

BUTTREY: How did those woman fare once they got to MIT?

WIDNALL: I think they did fine. I don't remember the statistics, but there was no pushback. The admissions office was very, very happy to go along with this. The chairman of the faculty was very happy, all the faculty committees, the departments. We didn't get any pushback from within MIT, except for the male students. It was a success, and I'm really very proud of that. I do take a lot of credit for doing it. My friend Art, he did the study. I was on the admissions committee and I took that study forward and said, "OK, this is what we should do. We should add 30 or 40 points to the math SAT score for women students to bring them up to the same region as the male students in terms of being successful at MIT."

BUTTREY: Which makes sense, MIT being so data-driven.

WIDNALL: That's right. We're data driven.

BUTTREY: I feel that I owe part of my being here at MIT to big changes like that.

WIDNALL: I'm not sure that any other university was doing anything like that.

BUTTREY: At many engineering schools, women are still underrepresented in engineering--

WIDNALL: Yes, they are.

BUTTREY: Do you think that similar changes would work at other schools today?

WIDNALL: I guess I do. MIT is now roughly 48% women; it's very close to 50%. So MIT is unique in the percentage of women undergraduates. And then, of course, many of these students study science and engineering. We have several engineering departments where women are a majority of the students at the undergraduate level. I think Chemical Engineering at one point was 83% women. And Materials Science had a very high percentage of women. It varies by department.

BUTTREY: The admissions committee was by no means your only committee appointment; you served on many. How do you think your presence changed what was going on in each of these committees?

WIDNALL: Let me back that up a little bit. I was on the admissions committee. I was the first woman to be chair of the faculty. Actually, the thing that we did, which you probably benefited from (or maybe didn't benefit from), was that we changed the curriculum. We put in the writing requirement, the CI-M [Communication Intensive in the Major]

requirement. We changed the two terms of chemistry requirement to one term of chemistry, one term of biology. We really changed the curriculum.

Another thing I did as a faculty member had to do with the fact that MIT would be challenged with different issues that would come up, so they would form a committee of faculty to make a recommendation. I was chair of something like three of those committees. They were all called the Widnall Committee. I can give you an example. At one point, the provost stepped forward and abolished a department. Well, the faculty went bananas; you don't abolish a department. They formed a committee on what procedures should be followed and asked me to chair. If a department is to be reorganized or even abolished, what happens to the faculty? What happens to tenure? What happens to faculty positions? We made recommendations on what should be done and how the process should be evaluated. Was it the right process that was done?

There were a couple of other committees that addressed very, very important topics. I guess I was chairman of the committee that combined MIT'S medical activities with the Harvard Medical School. We formed something called IMES [the Institute for Medical Engineering & Science].

BUTTREY: I've heard of that.

WIDNALL: I was the one who formed that; that was my committee. That was typical. When MIT came up with a really challenging problem they would often form a faculty committee, and I was chair of three or four of those committees. Of course, that's very important. I think the relationship between the faculty and the administration at MIT is very important. You can't have the administration just telling the faculty what to do. You have to have a combined interaction and decision-making process. That puts it all together. That's why faculty committees are so important.

BUTTREY: I understand that a lot of the work you did also made the undergrad experience more well-rounded—incorporating more study of the humanities, including a writing requirement.

WIDNALL: Yes. The thing about the change in the curriculum is that we did a survey of the faculty and we asked them, “What percentage of your time do you spend writing?” And the answer we got was 40%. Well, we thought that was not possible.

BUTTREY: Did you think that was high or low?

WIDNALL: It was high. But we did take it as an indication of how important they thought it was. So now students are giving oral presentations, PowerPoints, writing final reports, running experiments that they have to document with final reports. This CI-M requirement is extremely important. You must have experienced that, right?

BUTTREY: I have.

WIDNALL: It's very important. When you leave MIT, you've got to be the first to the blackboard. You've got to be able to stand up and give a technical presentation to your group, to your company, to the outside world. That's just a very important part of being an engineer.

BUTTREY: That's the most challenging part for me. I do appreciate having classes that help develop these skills.

WIDNALL: It's not easy, but it's a really important part of education.

BUTTREY: What other major changes have you seen at MIT?

WIDNALL: Oh gosh, that's such a big question. MIT is connected to the outside world. Faculty are involved in outside activities, government activities. I served as Secretary at the Air Force [1993-1997, appointed by President Bill Clinton]; that's a typical activity for a faculty member, to take a year or two off from MIT and do something on the outside world. You serve on external committees. We're very, very active in outside professional activities, and things like the National Academy of Engineering.

In my department [Aeronautics and Astronautics], I work with faculty to make sure that they are elected Fellows of various international and national committees. We want to give visibility to the MIT faculty. We want them to participate, not only in what goes on at MIT, but what goes on in the nation, in industry, and also in the world, so we really encourage our faculty to have a very active outside activity.

BUTTREY: Are there any changes you'd especially like to see MIT make moving forward?

WIDNALL: It's been a crazy year. All I want to see is, I want to see us get back to being the MIT that I know. It's just online learning, and people not coming into the office, and it's just been awful [during the first year of the COVID-19 pandemic]. I think MIT is truly unique, and I think we need to maintain that uniqueness. The science, the engineering, the political science, the activities, the Sloan School [of Management]—all of those fit together to form a truly unique institution.

BUTTREY: How did or didn't your MIT education prepare you for your roles outside of academia? In particular, directing the Office of University Research for the U.S. Department of Transportation and being Secretary of the Air Force?

WIDNALL: I think it prepared me very well. I had leadership positions at MIT, like being chair of the faculty, and being chair of various committees, as I've mentioned. So when I took on these positions, I just felt that I could do this job. And the departments were very

supportive. The Air Force was very supportive. They're very protocol-focused, so they treated me like the secretary. That's basically it. They treated me like the secretary.

I got along with all of the [Army's] senior officers, and I was very, very welcome. The fact that I was an aerospace engineer, I think, was very helpful. I was in their field, I designed airplanes, so they thought that was groovy. And I designed spacecraft, and those are important issues for the Air Force. So I had a lot of knowledge about what they were doing and I could contribute to that.

BUTTREY: What were the major cultural differences moving between MIT and the Air Force?

WIDNALL: I didn't see any cultural differences. The Air Force has very high standards. I guess one of the things I should point out is, one of my biggest accomplishments at the Air Force was for bringing up an Air Force values statement. That's very important. I stole it from the Air Force Academy, but I brought it up for the Air Force as a whole. I think that changed the way that the Air Force looked at itself. Not just flying fighter planes, but having a set of values that really spoke to what we expected of our people. The values are integrity, service before self, and excellence in all we do; those are the Air Force values that I brought up from the Air Force Academy and spread over the entire Air Force—and that's the value statement that the Air Force has. That has a big impact on the people there, because if they're in an organization that has a set of values that are as deep as that, they know what kind of an organization they're in.

BUTTREY: Thank you for that.

Not long ago, in 2018, you co-chaired a report by the National Academy of Sciences, Engineering, and Medicine on the impact of sexual harassment of women in academia. You also played a role in overseeing MIT's report on the same subject the following year. For those who don't know, could you summarize what those results were and why it was so important?

WIDNALL: Well, I think it's a very important topic. And I think a lot of the literature showed that a few, and I'm going to use the word few, a few professors take advantage of the power structure to take advantage of their women students, to pressure them into having a sexual relationship. I mean, it's outrageous. There certainly are a few examples of faculty who have done that. That's the most serious issue. Less serious but also important is just treating women poorly, insulting them, not paying attention to them. We felt that we needed to make this a priority for universities, so the National Academy of Sciences, Engineering, and Medicine formed this committee that they asked me to co-chair with Paula Johnson, who's the president of Wellesley. We co-chaired this committee, and I think it produced a great report.

MIT is following up on it. They have an internal set of committees that is dealing with a lot of the recommendations that were made. I think it had a big impact. In some sense, MIT may be the best university for following through with some of our recommendations because it's been the most public, and most visible with respect to its response to the National Academy report.

BUTTREY: Were any of the findings surprising to you?

WIDNALL: No, they weren't surprising. The real question is, what do you do about it? How can you put it in a structure? Again, it goes back to values. How can you put it in a set of values for the university that would ensure that faculty behave properly towards their students? That's extremely important.

BUTTREY: I saw that the report gives seven recommendations to bring about change. What do you think is necessary to do to motivate institutions to adopt these recommendations?

WIDNALL: Well, again, I think the visibility of this issue is very important. And I think the faculty and administration of the universities just have to indicate their commitment. I think MIT has done a very good job. We have five internal committees that are dealing with different parts of this. Dealing with student-faculty relationships, dealing with values, dealing with some of the details of behavior of individual students and individual faculty.

I think we've done very well. And I think the other thing we've done is we have identified a few individuals who have outstanding behavior in this field, and we have brought them into senior administrative positions. For example, the head of the Chemistry Department was a particularly strong faculty member. I think his name is Jamison. [Robert R. Taylor Professor of Chemistry Timothy F. Jamison] He had a record as head of chemistry for really dealing with some very difficult issues and doing it properly. He is now associate provost, to continue to deal with these issues across the whole Institute. That's just an example of what we did in terms of identifying a faculty member who really was doing a good job, and then figuring out a way to take that individual and give him the ability to do that across the whole Institute.

BUTTREY: One of these recommendations stood out to me, which was to diffuse the hierarchical and dependent relationship between trainees and faculty. It stood out because I'm on the Lab Values Committee for the lab I currently work in. These structures in academia have come up in our discussions a few times recently, and no one's quite sure what to do about them.

Do you have any recommendations for how these structures in academia might change?

WIDNALL: There's going to be a superior-subordinate relationship between faculty and students, there's no question about that. Faculty supervise students, they educate students, and they have to do that in a way that preserves the values of the Institute. One of the things about that report which I recommend is “the Iceberg.”

I think “the Iceberg” says a lot about the relationship between men and women. Sexual harassment as a visible activity, and as an almost invisible activity. Things happening that nobody is really aware of, it shouldn't happen, so you have to call attention to some of those activities, even though they're below the waterline. I think that “the Iceberg” really says a lot.

BUTTREY: For sure; the tip of the iceberg being the small amount that’s visible, with all these hidden issues underneath the water.

WIDNALL: The hidden issues are below the iceberg. We should pay attention to the hidden issues because those are the things that, on a daily basis, insult women or treat them poorly. It doesn't rise to the level of a jail sentence, but it's not proper behavior.

BUTTREY: Is there anything you'd like my generation of women students at MIT to understand about the progress made in STEM, and what kinds of issues still need to be addressed?

WIDNALL: Again, I think MIT has done very well. We have so many women students. What I would encourage them to do is just be yourself, work hard, choose your career, go for it. Don't let anybody stop you. And if you do get treated poorly, maybe do something about it. Try to figure out a way, because if you're treated poorly somebody else is treated poorly. Maybe there's something you can do to call attention to those individuals. Go see the department head, talk to other faculty, talk to women faculty. There's lots of things you can do. You don't have to just leave it in the dark.

BUTTREY: Thank you.

Before we go, I'm wondering how you've been spending your time since your retirement last fall?

WIDNALL: Of course, this is a crazy time. I mean this COVID thing. I haven't been to the office since March of 2020, so I'm just at home. I’m retired, so I'm not involved in too much, but I'm working with my faculty colleagues to prepare recommendations for our faculty to become Fellows of various societies, including the NAE. But it's been a pretty quiet time.

BUTTREY: Do you have any hobbies or anything you do for fun?

WIDNALL: Well, we're getting ready to sail. We're going to be doing sailboat racing in the summer.

BUTTREY: That's really fun. Have you done this in past years as well?

WIDNALL: Oh, yes. We've done it every year. My husband is a very good sailor. He was on the MIT sailing team, and it's his activity. We'll race every Saturday in the summer.

[William Soule Widnall, SB and SM, Electrical Engineering and Computer Science, 1959 and 1962; SCD Aeronautics and Astronautics 1967; worked on the Apollo Digital Simulation Group and later directed the Apollo Control and Flight Dynamics Division; MIT Department of Aeronautics & Astronautics faculty 1978-1985.]

BUTTREY: That sounds like a great thing to look forward to.

Thank you so much for taking time to do this. It’s wonderful to have had a chance to speak with you.