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Lucy Jones (LJ): Today is Thursday, October 9th, 2003. My name is Lucy Jones. I am a graduate assistant for the Florida Studies Center. We’re continuing a series of interviews with USF faculty, students, staff and alumni to commemorate 50 years of university history. Today we are interviewing Dr. Peter Betzer, who came to USF in 1971 as an assistant professor of marine science. Currently, Dr. Betzer is dean of the College of Marine Science. Good morning.

Peter Betzer (PB): Good morning. How are you Lucy?

LJ: Good. Thanks for being here.

PB: My pleasure.

LJ: Let’s start off by talking about when you—how you came to be at USF.

PB: This is an incredible story, um, very improbable. I was selected when I was in graduate school to give a lecture in Japan, so I was the representative from the University of Rhode Island, and on the way over, a—somebody from the National Academy of Sciences found out what I was doing and asked me to please speak at the plenary session, which was a big deal. So I said, “Sure, I’d be glad to do that,” and it was sort of odd because I was a graduate student and all the other people speaking at the symposium were eminent researchers. So I really didn’t belong, but anyway I still did it. I gave the talk and afterwards, um somebody came up and they said, “I’m Ken Carter. I’m from the
University of South Florida, and we’re looking for a Chemical Oceanographer, that’s what you are. Why don’t you apply?” And I said, “That’s incredible. Where is the University of South Florida? (LJ laughs) I didn’t—you know, I’m sorry. Anyway, um one thing led to another and so, I came here. I was really completely unaware of it, and um, at that point of course the marine science at South Florida was only five people. Pretty small.

LJ: So, when you arrived and um—what was the campus like when you arrived? Did you start in Tampa? Was it in Tampa?

PB: No, marine science has always been in St. Petersburg. There’s never been a, basically a marine science department or college anywhere but in St. Petersburg. Um, so we were here and just call it a campus. This just to use the term campus, I think, somewhat loosely because basically everything that the University of South Florida had in St. Petersburg was compressed out onto the peninsula that sticks into Bayboro harbor. So, we had two buildings, one of which is still standing, the merchant marine facility, which was built like a fortress in 1941, I believe, and then a wooden building, which the termites had actually, by the mid ’80s, had attacked very well—thank you—and was collapsing. So, all of the undergraduate programs and the little bit of marine science that we had were, um, operated out there in the peninsula. So, it was quite a bit later that, in the mid ’70s, that even the ground was broken for the very first facility that was basically part of the new campus.

LJ: So you were here for that?

PB: Yes, oh yeah. Yes, I was here. As a matter of fact, it’s so long ago that the governor of the state was Graham who came for the ground breaking of the facility as well as the dedication of the, um, what is now um—sorry, gee, this is terrible—Davis Hall. It was renamed so I can’t even remember or think of what is was then, but it was quite something to have the governor there. And, it was the little—you know, we’ve been fortunate to have our—the city and the business community sort of enable the university to advance, and the property that the campus expanded to had been purchased by, um, a group called St. Petersburg Progress¹, which was a business community.

So, they paid for all of the property. It was probably the better part of a million dollars. The harbor was disreputable. It as a wreck; it had a huge shell hash mound in the middle of it. There was some yacht repair facility, old machine shops, a bar called the Stick and

¹St. Petersburg Progress, Inc. is a private, non-profit organization formed in 1962 for the purpose of stimulating business growth and redevelopment in downtown St. Petersburg. In the early 1980s, it partnered with the City of St. Petersburg and formed a full-time, professional staff to lead strategic planning for rebuilding the downtown area. In 1997, the name changed to St. Petersburg Downtown Partnership.
Rudder. I mean, it was really a very sort of a down-and-out part of St. Petersburg. Today, I mean people today would be just stunned to imagine that back then that’s what this thing looked like. So, the transformation has been unbelievable, and of course, later on the city stepped in to buy additional properties, and I’m guessing another 23 acres or something. So, we’ve never been blessed by having the state buy the land. We’ve always had our business community or city have to purchase the property that allowed the university to expand.

LJ: Now you, you’ve been involved with some of these community and business organizations in St. Pete over the years, personally.

PB: Yes, yes that’s true. Right.

LJ: Was one of them St. Pete Progress?

PB: Yes. It’s been recast as the St. Petersburg Downtown Partnership, but um, in the mid ’70s, we started working fairly closely with John B. Lake who was the publisher of the St. Petersburg Times, um and actually was a person who, along with Nelson Poynter and several bank presidents, really, um—over lunch, over one luncheon, graced the money to buy the property around Bayboro Harbor. Now that’s impressive because it—they did it without anybody knowing they accumulated these parcels and then gave it to the state. And, um we—over a couple of years, were able to convince Jack, John B. Lake, that the marine sciences really offered a great hope for St. Petersburg to become really a big research center and a magnet for top-notch, top-quality scientific types.

Fortunately, he bought on to the vision, and they—that group has been, over the years, probably the single biggest contributor to the University of South Florida that there is. There’s an endowed chair in marine science. There’s a coastal science fellowship that they’ve given. There’s the—they contributed to the Garrels [Memorial] Fellowship. They, uh, let’s see—I’m trying to think, what was it—oh, the [C. W. Bill] Young Fellowship in marine science was almost completely, um given—they gave 125 thousand [dollars] to that so, when you include the state matches in, um—it’s way over a million dollars. It’s probably over two million dollars to the University of South Florida just from this

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2John “Jack” Lake worked publisher for the St. Petersburg Times. He not only helped in the growth of USF St. Petersburg, he also helped the growth of St. Petersburg itself. The Dali museum and the Tampa Bay Devil Rays relocating to St. Petersburg are due, in part, to his vision and work.

3Nelson Poynter established the Modern Media Institute, which was renamed the Poynter Institute after his death. He was the majority stockholder for the St. Petersburg Times (now Tampa Bay Times) and the chairman of the board for the Times Publishing Company. Upon his death, his shares were given to the Poynter Institute.
business group. And, in fact, they enabled the US Geological Survey⁴ um in 1988, where we won the national competition. But, without them, there would have been no win for St. Petersburg or the University of South Florida. We couldn’t have done it without them.

LJ: So what was your role with working with them? Were you a liaison between the university and the group, or were you a—what was your—?

PB: Well I was, I guess—it was distinctive in the sense that, um many business people have a natural mistrust of academics, and probably with some justification, because I think we tend to take longer—academics tend to take longer to come to decisions than the business people who are um, refreshingly direct and efficient and so on and so forth. So, I enjoyed that environment a lot, and they were nice enough to sort of humor me and let me be a part of the group. And, they really sort of took up the cause of marine science and really very much helped South Florida at a time when, um South Florida was not considered, and really it still isn’t, as one of the main players in the state university system.

There always was the University of Florida and Florida State. And for instance, there was quite a conflagration discussion about our PhD program in marine science, and the business community again entered the fray on behalf the university. The university wanted the PhD program but the board of regents were saying, No, no. You know, we have one already at Florida State. You don’t need one down there, and so on and so forth. And again, um at that time Carl Riggs was the vice-president for academic affairs at the University of South Florida. Even though he advanced us, there was still a lot of resistance, and so Lake and the Downtown St. Petersburg Progress really helped them a lot.

LJ: That’s unusual for business people to concern themselves with a PhD program.

PB: Yes. Very unusual. But, what they realized was that without that we would never have the imprimatur of basically a top-notch research group. So they were willing to go to war basically over this because they saw it as major crossroads in our evolution. Without it, we were going to be always limited and relegated to second-class status, and so, um Lake in particular was incredibly aggressive with people. I, you know, some of the

⁴The US Geological Survey (USGS) is a civilian mapping and biological science agency that collects, monitors, and analyzes the nation’s water, energy, mineral and other natural resources as well as natural hazards, issues, and problems. The agency’s scientists develop new tools and methods for understanding the Earth and its processes in order to deliver timely, relevant, and usable information.
stories I’ve heard [about Lake] are amazing. They didn’t tell us what they did, they just went and did it. So this is very, um—I know he had a tremendous effect.

LJ: Right. What was it that the business communities just—why did they support the marine science program to such an extent? Was it the redevelopment of the harbor and the jobs that were coming in, or what was it?

PB: Well I think—I think that if for instance they had, uh—I think what they saw, and this is again, this is just my view of the history, which is admittedly imperfect or with blinders or whatever um—what they saw was the one change they had for academic stature or tremendous technical achievement was our group. It was something that St. Petersburg had. St. Petersburg having lost the fight for the university that Tampa didn’t, they felt like, you know what, we can make this thing shine. We can make a big deal out of this. These people are good. They get federal money. They have people that want to come and see them. It’s a way to bring in technical people to our community; our community is short of technical people.

Um, I’m not sure why Jack Lake and Howard Nicks and on and on and on, all those people were all agreeing, all decided that we were the answer to whatever problems, but they really wanted us to be, um to be stellar. So, they did everything they could to help us out including even meeting with—we had several reviews of our program when we were embryonic at best and still sort of—you know, it wasn’t clear exactly that we would become a major force in marine science and oceanography. And at one time Miami um, got the PEPC Commission\(^5\) to have a review of us and also Florida State was behind another review, and I think the idea was “let’s get them while they’re not quite where they ought to be,” and um, so they met with the reviewers.

I can remember two different occasions where they met with some people who both of—they were in Na—these people who came were big time. They were in the National Academy of Sciences\(^6\). There’s only about 1600 of those people in the United States of America, so these are, um eminent people. They were actually quite impressed with the fact that the business community here was giving their time, and their money, and effort to making this a better place. That helped us immensely in terms of profile in the outside world just as much as it helped us getting the PhD program, and also with regard to our fellowships.

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\(^5\)The Postsecondary Education Planning Commission (PEPC) was created by executive order in 1980 and abolished in 2001. It was tasked to look broadly across universities and community colleges to make recommendations to the Department of Education and the legislature.

\(^6\)The National Academy of Sciences (NAS) was established in 1863 as a private, nonprofit organization of distinguished scholars. Membership is by peer election and is based on outstanding contributions to research. NAS members provide independent, objective advice on matters relating to science and technology.
We have, I think, 17 endowed fellowships that we hand out every year. One of those is named for Jack Lake, so when he retired from the Times, the Times Publishing Company basically started an annual fellowship fund in his honor. They said it was marine science because that was, that was group that he liked better than anything except baseball, and so, um—. We had that coming out of the Poynter fund for about, hmm gee, ten years or so, and then they agreed to endow it. And so, when the last capital campaign that USF had, uh—we have now an endowment in excess of 250 thousand that’s creating—you know, generating earnings to support a student. It’s the John B. Lake Fellowship, and we give it every year. His family, his daughters, his wife, um sometimes the grandkids come. They meet the young person that gets the John B. Lake Fellowship, and it’s a wonderful continuity to sort of—this um, support in this program that started with almost nothing.

LJ: So, let’s backtrack a little bit and go back to when it was a little bit of nothing.

JB: Nothing, yeah.

LJ: From when you first came here, and you came as a, just a beginning professor, fresh out of graduate school.

JB: My first job.

LJ: Your first job.

JB: And it was only going to be a two-year job. My wife and agreed that we would probably leave after two years. So what can you say? It’s the best two-year job I ever had.

LJ: (laughs) Stretched out 30.

JB: (laughs) Thirty-one years later. Oh, we’re still in our first two-year job. (still laughing) Jeez. Yeah, so much for our judgment.

LJ: Well what was it? (both laughing) There must have been something that, uh kept you here.
JB: Oh, well okay. I mean, the people was what kept me here, was what attracted us in the first place. There’s very bright young people here, very tremendously capable people who had top-notch research programs who were doing remarkable things basically in glorified broom closets with no support and getting, um national attention. So I sort of figured, wow this is a—they may not have much support or help from the university but um, this is the group that if we turn to and work together, we probably can do something spectacular here. And, it was very different philosophically than going into a big, giant program like it’s Scripps [Institution of Oceanography] or Woods Hole [Oceanographic Institution] because there you’re part of a well-oiled machine that’s been around for over 100 years. And you’re sort of like, well you could do something spectacular and it’s still like, Oh well, yeah we expected that out of you because you’re at Woods Hole or at Scripps, and that’s our tradition.

Well, there were no traditions here. And in fact, um the dean at the time that I came—the dean of the College of Natural Sciences, Theodore Ashford—was convinced that the university had made a major mistake in terms of starting a marine science program. He told me in one of the first months that I was here that I had made a big mistake, that I should have joined the chemistry department. And, that if the university was structured correctly, that all of us in St. Petersburg who were in marine science, who were good scientists—and he said we all are—should be taken back to our parent departments, whatever they are: biology, physics, chemistry. And, that’s how we ought to do it.

So, anyway, they—you can tell that we were—our, whatever it was—, our future was tenuous at best. And fortunately along came—we got a lot of good support from a person named William Taft, who was a director of sponsored research. He was very good at providing matching funds for the, for federal agencies. So when we needed a piece of instrumentation—we had almost nothing, we really didn’t. Well, I was to sort of just move forward. He was tremendous. So, he always put up half of the money for a big piece of—a big instrument. Um, that really helped us with federal agencies because they see cost sharing and they say, Hey, these people are serious. And, so that enabled us a lot.

And then the other person at USF that really did it, really made a huge difference was Carl Riggs, the vice president for academic affairs. And, uh, in fact, he—in ’78 they had to pick USF and all the other universities had to pick their area of excellence. Each of the state universities was told, pick one area, the area that you think is going to be preeminent, and we will give you special money. And, astoundingly USF picked marine science. Okay, so this is the main campus picking this little group from St. Petersburg, which now numbered, I think, nine people, nine faculty. And, the long and the short of it is, we almost doubled our faculty in one—I mean, we got eight new faculty positions and extra support money and everything else.
And from that, from that time on because of the response from the outside world—one of the people who wanted it, um to come and join us was Robert Garrels. Robert M. Garrels is arguably one of the top three people ever—the world’s ever seen in geochemistry. I mean, he’s really one of the great gods of geochemistry. He was in the National Academy of Sciences. He had been at Harvard University. He also had been at Northwestern University, um and he wrote a letter and said basically that he would like to apply for one of these positions. And, his colleagues were so stunned that there was another member of National Academy who was forced to write a letter recommendation for him—I think somewhere I still have this, and it would stun you. This guy’s name was Wallace Broecker and he, he’s incredible. He’s a very famous guy. And, he wrote a letter basically, I think to Riggs, saying: Dear Dr. Riggs, if you think you could convince Robert M. Garrels to join you at the University of South Florida then you ought to roll a red carpet all the way to Evanstown. (LJ laughs) In other words—

LJ: Right.

PB: This—Garrels had lost his mind. (both laugh) Um, I think Wally’s changed his opinion, but that was—that gives you some feeling for what we were up against. And, so—but once Garrels got here and other really good people came then we were, you know. We really—that was really the impetus for sort of taking off and moving forward. Ah, that was really, I’d say the event. Shortly thereafter we got the PhD program, and since then we’ve, you know—it’s, from then on it was—we’ve been mostly going up.

LJ: True.

PB: I think. That was an incredible thing. And through all of this, the neat thing was that Carl Riggs—who was the, of course our university academic affairs person—was a good friend of Jack Lake. There was a very close connection between, um the university’s academic group in Tampa and the St. Petersburg Downtown Partnership. So, there was a, you now—I mean, I know that Riggs encouraged these—this association because he realized that the state would never provide, and it’s still true of course that resources are necessary to make an excellent university. So without the business community basically, and private donors, corporate donors, we would have never gotten anywhere or not very far. And so, he saw having these people as a big positive, and indeed it was. I mean, Lake was a driving force behind the endowed chair of marine science, which was endowed in November of 1982.

7 Robert Garrels was an American geochemist whose co-authored book, *Solutions, Minerals, and Equilibria* revolutionized aqueous geochemistry. Prior to becoming faculty at the University of South Florida, he held positions in higher learning institutions such as Yale, Northwestern, Scripps Institution of Oceanography and the University of Hawaii.
More than that—this is amazing though—people always talk about the competition between St. Petersburg and Tampa. What’s not widely known was, he also endowed—he helped—he was a major force in endowing a chair in engineering, which was the second chair endowed at the University of South Florida, like in computer science. So, he was a very regional-driven person. It wasn’t just all St. Petersburg. Although he loved marine science, he still had a bigger vision about what this region could become, and he worked very hard for it, so. I haven’t seen too many, um you know—he, he was—I don’t want to say he was unique but he was um, truly remarkable in that sense. Way out of his style.

LJ: So you were fortunate to have his support.

PB: We were fortunate. Oh yes. Oh yeah, yeah. I don’t think I can emphasize that enough because I don’t—it’s not clear. Of course, you can’t do the experiment over. You know, try it again. Let’s try it without John B. Lake and the business community. But, I’d say at the very best, we would have been significantly impeded.

LJ: (laughs) That was good timing for you because didn’t you become chairman of the department about that same time that he endowed the chairs?

PB: Yeah, I lost the elections. (both laugh) Yeah, in 1982. Yeah that’s right. That was a new era for me. Um, yes, yes I became chair in ’82.

LJ: You stayed chair for a good many years until becoming dean?

PB: Yes.

LJ: So?

PB: Right. Yes, it was. Well, it's been a very exciting period. You know, I mean, there's an awful lot that’s happened that’s very positive. You know, we’ve continued to have tremendous support from the business community. We won the national competition for US Geological Survey Laboratory, which, uh may be one of the few times in the history of the University of South Florida that, um in one competition they defeated Columbia University, the University of Rhode Island and, um a triumvirate of North Carolina groups: Duke, North Carolina State, North Carolina.
They all lost out to us, and everybody in the country was stunned. They could not believe it. How could that place beat those people? There’s no way. And um, and it quite simply was because of the business community. Everybody, they got everybody together including the chancellor of the state university system, the legislature, President Borkowski\(^8\), everybody jumped in. Even the banks were there. The city got the property the land, and donated it. This was a model, you know, of how a uh—basically a community can really effectively relate to a university and make something that’s essentially impossible happen.

LJ: What has been the impact to both the university and the community of having the USGS [US Geological Survey] center here?

PB: Well let’s see. Our graduate program was significantly enhanced and has been since they’ve been here because they have some very well-known people who—great scientists who serve on our student committees. They support a lot of the science that goes on here. Um, in fact, my last graduate student when I was—you know when you were talking about being chair forever, one of the things I had to do because we didn’t have any new space is I gave up all my laboratories to a new faculty member, Paula Coble. And, so I had no space to do research, and yet I had this wonderful new student, Lisa Merman. The US Geological Survey gave her a laboratory to use, and they built her the clean box\(^9\) and systems that she needed process her samples. They are [the] people who served on her committee, and they supported her research. For three years she was supported by, basically, that group, so she would have never gotten her master’s degree without the US Geological Survey.

Um, so for us, it’s been a tremendous thing, and it’s a model in another sense that um, we just purchased a brand new x-ray diffraction system so that we can analyze indescent (sp) archeologists. I know you know how important x-ray diffraction can be, we just bought a 130 some thousand-dollar system. We don’t have any space for that. We need one, but we don’t have the room for it. So, yesterday I went over to a luncheon that the USGS had, and here’s a room. They have a room for this beautiful new system. We purchased—so they have a technician that runs it. They’re going to maintain it. So we basically have shared this thing. We don’t have the money for technician, and we can’t afford to maintain it, but they can. So we’ve gone together and this is just—we share a scanning electron microscope, a transmission electron microscope, the list just goes on and on and on and on and on and...

\(^8\)An interview of Francis Borkowski is available as part of the USF 50th Anniversary Oral History Project collection.

\(^9\)A clean box provides the researcher access to the sample while protecting the purity of the sample and excluding contaminating matter. An example would be an air-tight box that included long gloves made of air-impermeable material and sealed to the side. The researcher would have access to the sample via the gloves.
on. They use our machine shop, and basically it’s a wonderful collaboration where neither group could basically afford to have quite as much in the way of scientific wallop, and by going together, we accomplish a lot more.

Um, for the community—good golly. I bet you there’s been five major national meetings that have come here in. I mean I’m talking about 600 or 700, 800 people coming to St. Petersburg because of our being able to go together with another group, making a pitch to a national group like the Oceanography Society, like the, um the Geological Society of America. You can just go down the list. So, there’s a whole host of national meetings that we’ve been able to pull in here that we otherwise would have never gotten. They would have never come here, and now, um we’re having a big—we’re having the meeting for Southeastern United States to the Office of Naval Research this coming May. All of the leaders of the oceanographic institutions of the United States of America will be here for three days in November 10th, 11th, and 12th. They’re coming on a regular basis and in large part it’s because we have this incredible association with the USGS.

And the city, I mean they started with six people. Now there’s 100, 110. They started with one building. They now have two buildings, and they’re about to build a third building. This is the largest facility they’ve got in Southeastern United States. This is the center, the epicenter of their water research, their coastal geology group, their remote sensing. It’s a very powerful group. We have—if we play it correctly, we can use it as a springboard to get other agencies like NOAA [National Oceanic and Atmospheric Administration], expanded coast guard, DOE [Department of Energy], EPA [US Environmental Protection Agency], you name it.

We can do it, and basically the community has what, 100 people who are relatively high paid, technical people. You see them at the Florida Orchestra. You see them in the art galleries downtown. This is—these people are part of fabric of a community. Lake was smart enough to recognize that. He knew—at that time I didn’t appreciate that. But he knew—guy was—he had the vision, so he knew what would happen if we could attract—like I said, this is a wonderful [opportunity] for our community. There’s no question. If you go ask the business community, they just—they’re really excited about it. The Hilton

10 The Oceanography Society is a professional, nonprofit, tax exempt organization founded in 1988 to advance oceanographic research, technology, and education. Membership is open to individuals, businesses and organizations from any nation.

11 The Geological Society of America (GSA) is a professional society with the mission of advancing global geoscience research and discovery, promoting stewardship of Earth and the geosciences profession.

12 The Office of Naval Research (ONR) is an executive branch within the Department of Defense that provides technical advice to the Chief of Naval Operations and the Secretary of the Navy. It coordinates, executes, and promotes the science and technology programs of the US Navy and Marine Corps.
hotel has to be because I think without the USGS, they’d probably be um, they wouldn’t be healthy at all. The biggest number—the biggest renter of room/nights for Hilton, as far as I’m aware—visitors that come to the US Geological Survey.

LJ: It’s just down the street.

PB: Right across the way. It’s an easy crawl.

LJ: (laughs) So you’ve been involved in bringing a lot of these organizations here but what do you see as your biggest achievement at USF personally?

PB: Um well, I don’t know. Maybe that—getting the business community to basically become a part of our future. That was important. Um I actually—I guess there’s sort of two things that I guess I would be very proud of. One is a program called the Oceanography Camp for Girls\textsuperscript{13} that was started in 1992. The idea was that there’s no shortage of bright women. What there is a shortage of are bright women who choose to go into science. The idea was, if we have a program, we could attract young women at a time when they are—they still could be influenced by a very positive experience with role models that are appropriate. And so, we started out with the Pinellas County school system and began—we brought in about, I think the first year maybe 30 young people. And then, they spent three weeks with our—basically, we have a graduate-only program, so our graduate students are from all over the world, so and, um quite diverse.

So they had an unbelievable opportunity to go out on oceanographic vessels to do all kinds of neat stuff, and mangrove systems and on and on and on, completely paid for, no charge. And they got to meet with, what I consider, the brightest group of young women that the University of South Florida has. Um, you can tell I’m not biased. Um, so the great thing is that the—these kids, they have reunions, they’re tracked. They come back and what we know for sure from the data that we’ve collected is that this program has actually made a difference in terms of the courses that the women take in high school. They take more math and more science. And so that—that in and of itself is worthwhile.

The average woman in America right now, without mathematics, is giving away an average of over 5,000 dollars a year to one who has some mathematical facility, so we’re talking about actually influencing people’s lives. There’s 30 of those a year times—we’ve done this [for] 13 years. That’s a lot of money. That’s a lot of difference. The great thing

\textsuperscript{13}The Oceanography Camp for Girls is a three-week, hands-on program designed to give girls within the Pinellas County school system real-world experiences in both the laboratory and field environments. The camp was formed to encourage girls to pursue math and science studies at an age when there is typically a drop-off. The camp is at no cost to the families.
is that the parents of these young people were so impressed with the program that over the last 12 years, I’ve worked very hard to endow it. Because I always felt like, well if we had state support, the state would eventually run out of support. If we had Pinellas County support, we’d run out of support. If we had support from the National Science Foundation, which we did for a while—. It was actually judged a model program for the United States, and we got model program money from NSF, now that’s big. Um, and then they changed their—completely changed their philosophy and said, Doing young people isn’t any good any more. We’re just going to do teachers.”

So, fortunately now this program is endowed so we have enough money in an endowment to actually pay all of our mentors for the whole summer program, all the preparation and everything else. This is going to go on in perpetuity. And, so that um—having every year a go because I really like going to the wrap-up session where these young people present their research, and you can see the experiences that they’ve had and watch how they react and relate to our graduate students. And um, you have to go to see it to believe it. It’s people—people in many cases crying because they don’t want to leave. They don’t want to leave our students and go back to whatever it was that they were doing. And so, I um—you know, I feel very good about that. There’s no question that would not have happened if it hadn’t—if I hadn’t worked very hard because I raised—we never had a fund raising officer in the college. I had to raise all of that money we got, you know. It’s not that I didn’t have help, but it was help on the outside. It wasn’t help from the university.

LJ: Right.

JB: So, that’s um—. The other thing that’s, I think, stunning is that um—obviously the USGS victory was a big deal, but the other thing in, within our group that I’ve done that I think has probably made the biggest difference is actually getting professional engineers in our group. And we had two major state initiatives that fortunately Peter Wallace, Peter Rudy Wallace who was speaker of house, and Chancellor Reed believed in what we were doing. And so, we got nine positions for professional engineers to come in and basically focus on developing new sensors, chemical optical sensors for not just marine sciences, medicine, forensics.

And um, they have, this, this program—this engineering group has done astounding stuff, in which last year was an ad—Enterprise Florida14 picked out something that they wanted to advertise technology in Florida. The thing they picked out was the laser-scanning system that our people use, [that was] invented to look for explosives on ship hulls or to look for things in harbors or ports, on pilings in the bottom of the harbors. Um, it was

14Enterprise Florida (EFI) is a public-private partnership between Florida’s business and government leaders that is funded by both the State of Florida and by private-sector businesses. Its mission is to expand and diversify the state’s economy through job creation.
invented here. It wasn’t invented, obviously, to do this. It was invented to take a look at the evolution of sand waves on the continental shelf, but our people realized very quickly, hey we can rotate the laser. You can look up just as well as you can look down, and the—this is being tested as we speak. If it works well—and it will almost certainly work well—then it will be in every port in the United States of America within probably a year and a half. Our people did that.

This is a university group whose focus is on research and fundamental discoveries, but what’s really neat is a lot of this stuff they’ve done can be applied um, not just to homeland defense but also to medicine. There’s some very powerful things they have done. There’s a wonderful new sensor they have out that for the first time we’ve got a chance to really understand what the carbon dioxide budget\textsuperscript{15} is in the ocean, which we have had—scientists have had—. They’ve known what they want—needed to do but they haven’t been able to get a sensor that would allow them to make the measurements, and we now have that sensor. It was out and tested in the last seven weeks at sea in the Ka’imimoana\textsuperscript{16} on the Western Pacific. So um, this is very exciting. So they’re doing amazing stuff, and um I’m very proud of this. I don’t know why, I had nothing to do with it other than get the positions. But, but if we hadn’t gotten those positions there, we would back in the um, way back. People are now coming. We actually have people coming all the time here. Coming in to see these people.

LJ: Fantastic.

PB: Yeah and one of our women engineers just gave a presentation, was invited to give a presentation in Minneapolis um, by Intel, Boeing, Rogers and McDermott Corporation. Basically she, it looks like, has invented a new chip, a new way to do electronic chips without silica. So, we, you know, we’ve lost all of our factories to China and India. All of the chip factories are not in the United States, okay. Well, if you change the material, and you change the technology, and it’s cheaper, better, faster and more reliable, guess what?

LJ: Uh-huh.

PB: We get them back, and they lost them. She may have made the biggest discovery that has been made in years in the United States. It’s just possible. They’re in the process of

\textsuperscript{15} The estimated tolerable amount of carbon dioxide that can be emitted worldwide over a specified period of time. Staying within the budget gives the best chance of limiting global warming and keeping climate change within tolerable levels.

\textsuperscript{16} A NOAA oceanographic ship converted from the T-AGOS class U.S. Naval Ship Titan, the Ka’imimoana was deployed as a data collecting ship from its Hawaii homeport from 1996 until it was decommissioned in 2015.
patenting that right now. That’s very exciting because it’s not—and we’re not talking millions, you’re talking billions.

LJ: Right.

PB: So, anyway, yeah. In fact, just before I came over here I went and talked to her. Her name is Heather Broadbent, and um, a remarkable person, very self-effacing, quiet. You’d never know that, that—what was lurking deep in the recesses of that girl’s mind. I’m, I’m thrilled. I mean, she had the president of Rogers Corporation run up to her say, “All I can tell you is patent that right away. Patent that. Get that done.” So, you know, I think it’s big. We’ll see. So those are the um—those are the two things that I guess that I’m proudest of, other than the USGS thing, which I think was a um—the first time USF, I think, ever won anything in a national competition. I mean a national academic competition if you know what I mean. I don’t mean football, basketball—

LJ: Right, right.

PB: I kind of forget that. I’m talking about other stuff where you’re going up against heavy weights in the academic world. That, that was a very satisfying thing.

LJ: So in building your department, obviously, first recruiting people was different than it is recruiting people now.

PB: Oh yeah.

LJ: How has the composition of the department changed over the years?

PB: Um, oh we didn’t used to have any women, which was very embarrassing. The first woman scientist that had was 1980 um, I believe ’86, Pamela Howard Muller. And now, I believe that we have—six of our thirty faculty are woman, and the last is um, distinctive in the sense that she is the only African-American female chemical oceanographer in the United States of America. Ashanti J. Pyrtle is distinctive, and we were very fortunate to get her to join us. And the, uh the hire before her was also African American: Michael Howell. They are hopefully going to help us change the diversity in our graduate student population. We’ve always—we’ve been blessed because it’s been easy to get um, Chinese, Brazilian, Venezuelan, people from the Caribbean, European. We have no shortage of people from those arenas, and we have a very international group including former Soviet Union students, and so on and so forth. The problem is that we do a terrible
job, as does everybody else in the geosciences, with recruiting African Americans. So we’re trying to change that. And of course, the first thing you have to change is the faculty, so we’ve been lucky to get two really good African-American faculty members. And now I think we must have eight or nine African-American graduate students. Before we had two. In one year we went up seven, okay.

LJ: That’s fantastic.

PB: And we um, we have a big grant proposal; that’s the royal we. Sunny [Jiang] and Mike have a major grant proposal into the National Science Foundation to start an REU program, a research experience for undergraduates that’s focused on minorities. Michael and Sunny, because of their connections, were able to Southern University, Fort Valley State, Hampton State, Savannah State. You go through the litany of historically black institutions in America, they’ve all signed up. Okay? They all want to come here: mentors and top-notch undergraduate scientists. So, they can come here for the summer, relate to our people, and the great thing is, ah we have biologists, chemists, physicists, geologists, engineers. So whatever your scientific discipline is, who cares. Mox nix aus. [It doesn’t matter] We can do it, and that hopefully will make a big difference in terms of getting um, young people interested in marine science and specifically enriching our program with capable young African Americans.

I mean it’s—probably most of them go into law or medicine or some other thing, so um —. So I see that we—to answer your question, we’ve shifted in two major ways: we’ve added more women scientists which is great, and we are now diversifying at least from the standpoint from the African American scientists. We have—we have a Native American [and] one, two, three Hispanic professors. We have never had really a shortage of [ethnicities] in other arenas. It was the African American arena where we just were striking in terms of our, the imbalance, but that’s true of all the geosciences of the last year so. The data that was presented—it’s depressing. Out of the whole United States of America, out of 390 post-doctoral fellows in geosciences and oceanography, I think it was six, six African Americans in the whole United States. That’s it. That’s it.

Yeah, so, I mean, you know—they probably get a phone call every day about, Hey wouldn’t you like to apply for a position, or Hey, if you come here, we’ll give you a— because they’re so few. So that’s how—I mean it’s incredible that we were able to get Michael and Sunny to come to South Florida. And, I think they will be—they already are. I mean, Sunny had three, three minority [students]—all of her graduate students are minority students. So we—that’s one of big reasons all of a sudden it’s taken a huge jump. Anyway, that’s uh—I don’t know—I hope that answers your, or answered the question the faculty.
LJ: How—. What, what kinds of jobs are your graduate students moving on to? Um, once you’ve trained them. How are their careers progressing?

PB: Oh, let’s see. About a third—a little over third—we’re just doing it—it’s like we were just doing a program—getting our program review documents, and in fact going over to Tampa today for our PhD program. About 35 percent of our students, the students who get PhDs, go into academia. So, we have people at Penn State, Georgia, Skidaway Institute of Oceanography, University of North Carolina, Wilmington, uh on and on and on. The interesting—oh the University of California, Irvine. The interesting thing is, if you look at what the ones I’ve just looked through, some of the things they’ve done, and they’re um, they’re very, very good. One guy was just promoted after only two years as an assistant professor. I’ve never even heard of that. I was promoted after four, and I thought that was as fast as you could go. And um, I meant nobody here is—I don’t know anybody here that was ever promoted at two, never. Anyway he got promoted in two years.

Sunny Jiang at Irvine is uh, was given a chancellor’s award for mentoring undergraduates in research, and this was [at] UCal Irvine after like three years. She got a chancellor’s award. Our oldest daughter teaches at Santa Cruz, and she received a chancellor’s award for teaching. She was the only person in the Art History department, and they’re, they’re rare. So you if you get a chancellor’s prize, uh for something and in the California system, let me tell you something—you’ve done something. So I figured, you know, these are very good people. So anyway, that’s, that’s—that takes care of a little over a third of the people.

We have other people who work for federal agencies. We just had a young person go up, and he’s heading up the um, basically the, for the National Oceanic and Atmospheric Administration. He’s heading up their group that deals with how you apply real-time data systems to coastal areas. So like in Tampa Bay, we’ve got a real-time data system that does currents and tides and winds. All of the ships, the major—the tankers, the freighters, they all use it. And um, these kinds of systems are in Houston. They’re in New York, uh San Francisco, so on and so forth. And the group that’s in charge of um, most of them is NOAA. So this young guy who worked on the port system, which was done by one of our faculty members, with NOAA um, they hired him. And now he’s running it, this whole deal for the whole United States.

Anyway, that’s sort of—I guess gives you a flavor. I’d say that was another, at least another um, third of the people. And then there’s a bunch of them that are, that have gone back to foreign countries. They’re working in universities in foreign countries like Korea.

17The National Oceanic and Atmospheric Administration (NOAA) is a scientific agency that focuses on conditions of the oceans and atmosphere. It monitors the Earth’s systems and through research and analysis of data, NOAA provides forecasts and predictions of these systems over time.
We have several in Korea, so not all of them stay. And then some of them were—the recent ones are still in post-doctoral positions like at Woods Hole. Ruoying He just got a, ah—competed—there’s a—at Woods Hole because they’re so big and prestigious, they have a very competitive post-doctoral program. And, Ruoying He just received—I know within the last probably four or five months—one of their, one of these really big deal, post-doctoral awards. And he’s now got, I guess two or three years of support at Woods Hole.

Um, (pause and softly clicking tongue) gee, and anyway, that’s—that’s about—I mean our first PhD—let’s see. Our first PhD was ’84. Oh yeah, Bruce Barber¹⁸, who was ah, was at the University of Maine for quite a while and was actually responsible for um, creating a major aquaculture facility in the state of Maine. There’s another person, Tom Cuba¹⁹ was the second, and he actually has his own company in this region. It’s an environment consulting company that he runs. That sort of gives you some feeling of the gamut of what our PhDs do.

Um, our master’s have also been—our master’s program—we have about as many master’s students as we have PhDs. One in particular that I told you about, David Burns is a very famous person who has company in England, Blue Water Recoveries I think is the name of it, in Midhurst. He found the Bismarck²⁰. He also um, found the Darbyshire²¹, which was a major bulk carrier that was lost at sea with all hands aboard. Not only did he find it in the Pacific Ocean but he determined that it had a fatal design flaw and testified in front of the House of Lords in England and said, “You know. You have a fatal design flaw.” And, they all—they didn’t take him seriously. But what they found out later was he knew what he was taking about, and they had to redo the bulk carriers. They took them all off of the oceans. They redid them and then they put them back out.

He’s discovered some major treasures in the deep ocean. I mean, he—five tons of silver off the gulf—the coast of Oman I believe. Also, anyway—he’s a remarkable guy. One of my first students. [He] has a whole bunch of patents. He became a, you know, a business technocrat and has been very successful. And then we have many people go on from our master’s program. There’s a young guy named Goodbred²² who got his PhD, I believe at VIMS [Virginia Institute of Marine Science] and is now very rapidly ascending the

¹⁸Bruce Barber is now a professor at Eckerd College and is a courtesy professor at USF in the College of Marine Science.

¹⁹Tom Cuba has been hired all over the Tampa Bay area as an authority on ecosystems, including projects in Dunedin and Pinellas County.

²⁰The Bismarck was a Nazi battleship. At the time of her launching in 1939, she was the largest battleship ever built by Germany and two of the largest built by any European power.

²¹The Darbyshire was an ore-bulk-oil combination carrier lost at sea, south of Japan, on September 9, 1980, during Typhoon, Orchid. She was found in June 1994. It was the largest UK ship ever to be lost at sea, and structural flaws were determined to be the cause for the sinking.
academic ladder of the universities—the State University of New York at Stonybrook. He’s going to be a superstar. The guy’s really good, so. I mean, we can’t say, Well he was our PhD student, but what [we can say is] he got excited here, in our master’s program and went on.

Cindy Heil\textsuperscript{23} is another good example. [She] was here as master’s student, went to the University of Rhode Island to the graduate school of oceanography—which is arguably one the five or six best in the world—got a PhD, and has come back here actually and was just offered the job to replace Ken Steineger in the Florida Marine Institute\textsuperscript{24}. She’s going to be heading up the ride tide division, so all of a sudden she’s catapulted from being a new, a relatively new PhD to running a whole division within this—this is the major environmental marine science lab for the whole state of Florida. She’s going to run the whole thing. I mean, not the whole lab, but the whole division, red tides.

There’s some—I mean, we have every reason to be as proud of the master’s as we do of the PhDs. They’re good people. Though not a—I guess the bottom line is, it’s not a huge number, it’s the quality. And these are sort of like a long time in the brewing and baking. A lot of, you know, a lot of interaction between our faculty and the students. That’s the key to the whole thing. That’s why it works.

LJ: How are the interactions between the faculty and the faculty?

PB: Pause it. Yeah, let’s see—. If you’ve got 30 faculty then you’ve probably got, probably 30 times to the cubed uh, interactions. For the most part, the interactions are really productive. We have sort of—the interdisciplinary nature of our science is such—and everybody talks about this now, but the only group who’s ever done it for a long time was ours because that’s our field. It’s that sort of field. So, research teams such as those that have gone to the Antarctic, and you may have read the articles by Jose Torres, who’s one our faculty members who published about seven or eight articles in the \textit{St}.

\textsuperscript{22}Steven Goodbred Jr. got his MS at USF, went on to get his PhD at VIMS, and is currently working as a Professor and Chair of the Earth and Environmental Sciences department at Vanderbilt University with a specialization in the Himalayan rivers and deltas of South Asia and the mountainous desert coasts of northern Peru.

\textsuperscript{23}Cindy Heil returned to Florida to oversee a 5 year multi-investigator grant on Florida red tide at the University of South Florida (USF)’s College of Marine Science from 1998 to 2003, then went on to the Fish and Wildlife Research Institute and then became a senior research scientist at Bigelow Laboratory for Ocean Sciences.

\textsuperscript{24}The Fish and Wildlife Research Institute monitors marine and freshwater resources, wildlife and habitats; develops and implements conservation and restoration efforts for plant and animal species; provides technical support during human-related or natural disasters occur and monitor red tide.
Petersburg Times um—. They published every word he wrote and [the] beautiful color photographs.

Anyway, he sent these things back from an icebreaker that he was in in the Antarctic over two different seasons. So he and Kendra Daly, Ted Van Fleet, Gabriel Vargo, Ken Fanning—so basically ocean chemists, ocean biologists, you know formulated a, a—looked at specific problem and then attacked it from the standpoint of chemistry and of various flavors of biology. This is how mostly our people um, function.

For instance, the uh—some of the real-time data systems that we talked about in Tampa Bay are also in place in continental shelf. And so, one of the big mysteries about—that Florida has about its fisheries is the gag grouper. Um, and the only way that you’re going to figure that out is by knowing what the current fields are out there. In other words, where do these little larvae get invected or carried during their lifecycle? And so, to really do this correctly, you need physical oceanographers or the applied physics people with mathematical backgrounds working with the biologists. Um, so that’s happening right now.

The questions about red tides: how does it start, and why, what drives it, what maintains the populations, why do these populations crash? And actually we know the answer to the latter. This is [a] really complex situation, which requires physical oceanographers, chemical oceanographers and biological oceanographers. So the answer to question is: to really be successful, a marine science group has to be really capable of interacting on a regular basis because otherwise you don’t—you’re left with the elitists who sit and write equations on a chalkboard. And we have—we have one of those, and he’s very good. And he can [do that] because he’s world famous; he can be that way. But, for the most part, what I refer to as the bench-topper field scientists are people who have to understand the system [and] need other people to work with them. And that’s, that’s basically what happens.

Um, are there—? You know certainly are um—. What are the others? There’s natural envy or whatever about certain people being more successful than others or perceived as being more or less. That happens. But for the most part I’d say that the collegiality in the group is very, very high indeed. And uh, we have one group of seven faculty actually, the paleo-oceanographers. So the people that are dealing with ocean history and sort of unraveling the record, the long-term record of ocean temperatures, and basically life forms, and fossils and everything, this is a group then, that has one lab and a whole host of instrumentation. The great thing is now they’ve gotten um—they’ve attracted a very, very capable group of graduate students because the students look on the web and they say, Whoa. This is really powerful. If you want to do this kind of research, this is one of

25 The gag grouper, mycteroperca microlepis, (also known as velvet rockfish or charcoal belly) is a species of grouper found in the warmer waters of the Atlantic, including the Gulf of Mexico.
the maybe two or three best teams in the world, right here, right now. It happened within five years. It’s just (sound of finger snapping) like that, and so that’s very exciting.

And, the new ocean drilling program—the old ocean-drilling program where you know, they went and bored holes in the ocean and took a look at the composition of the sediments and the fossils. That lasted from 1967 until just this year [2003]. The new, integrated ocean drilling program, which includes Japan and the United States—and they hope the Europeans—has just gotten kicked off. And, for the first time we have um—basically our scientists are a major part of the inner circle of this group, all the way from top to bottom: [from] the people who decides who gets funded to the people who do the site surveys and decide “where do we drill,” so on and so forth. Almost every uh, major committee of IODP [International Ocean Discovery Program] has a member of the College of Marine Science from the University of South Florida on it, and we’ve never had that before, ever. We’ve never been in such an influential position, which is astounding. Really good. And uh, but it’s sort of a new way to—I mean, mostly people have individual labs. You know, this is a chemistry lab, that’s a biology lab, this is a—um, this is different.

This is different, but what’s neat is that it’s worked out very well. The faculty that are involved don’t care at all about the fact that it’s—all their labs—in fact they’re rather proud of it. And they also—you see them—they’ll go in and they team teach, or they’ll have a course and all—they use a part of the lab for teaching. You’ll see this big clutch of students around and one of them in there working with them [the students]. And it’s uh, it’s really nice because they can just—they can actually—they’ve designed a very extensive curriculum with a lot of flexibility for the students. It’s not like you have two or three people who are burdened down with trying to do everything for all of the students, and to track the students, and get research grants, and on—you know the story.

But with seven, seven people, this is a luxury that we’ve actually have never had. I think it’s a wonderful model for how to—if we can in future—proceed, you know, with sort of focus, some focus area say in marine optics or um—molecular biology is another, would be another realm where we, we have some particular expertise. And with the engineers, the sensing wizards in there, it makes it a whole lot better, a lot easier, a little more competitive when we’re going to take people on that we never could before because the technology—they realize we’ve got the technological wallop to do things that other people can’t do. It’s great.

LJ: How are the interactions between the um, the college and the rest of the campus, the marine science and the rest of the campus?
BJ: Oh this is—. Yeah, you know what? It’s really exciting. For a long time, I think we were in a sense, I don’t want to say walled off, but sort of this was like, Oh yeah, that’s the wet heads over. You know? Um, which was too bad because—that wasn’t true for everybody because there’s always been really good interactions on the faculty level. In particular, I would say the historians um, David Carr\textsuperscript{26} and Ray Arsenault\textsuperscript{27} were people we really enjoyed and respected a great deal.

But um, we—the undergraduate program here never had an environmental science component and know does. And we’re seeing now—I just saw, just signed off on a major research proposal to National Science Foundation that deals with robotics. And um, and it’s Deby Cassill [and] Alison Watkins, I think. She’s a brand-new faculty member in business who turns out is a computer wizard. A couple of our engineers and um—they all got together, and they’ve written this thing. You know what? Two years ago there was no way. Some of those people weren’t here. And now also—I just heard yesterday that um, Deby Cassill, the biologist, has a couple of students that are working in the US Geological Survey laboratory.

So this—there is a wonderful sharing I see happening, starting between the facilities that we have and our people with the environmental science program. And so, I think that—I’m confident that there’s going to be wonderful linkages developed um, and we’re happy to have that. We think that’s really great. And, so maybe the um—we’ll become a, you know, a better partner and more effective part of the St. Pete campus. You know? It’s hard when you don’t have um, natural academic linkages to, you know—and there wasn’t much science here. I mean, I mean there just wasn’t—by design.

LJ: Uh-huh.

PB: Not my design. Somebody else’s design, but—so it makes it a little more difficult to interact. Now I see that—and especially with our—Karen White\textsuperscript{28} here, who I think is fabulous new person. There’s every reason to think that there will be that the interaction that we need to make a better place out of it is going to be, you know, encouraged and underscored by um, somebody that’s very good.

\textsuperscript{26}An interview of David Carr is available as part of the USF 50th Anniversary Oral History Project collection.

\textsuperscript{27}An interview of Raymond Arsenault is available as part of the USF 50th Anniversary Oral History Project collection.

\textsuperscript{28}Karen White was the Regional Chancellor of the University of South Florida St. Petersburg from 2003 to 2009.
LJ: What are your goals for the College of Marine Science in the future?

PB: Well of course you always want to see a group advance. I guess, you know, it’s—to answer that is to sort of say, Well I really have sort of an agenda. Um, yes and no. To advance to the place, yes. Do I know exactly what I want to do? No. Because in large part, a lot of the things that I do are driven by the faculty because they are—I mean, my philosophy is, I am an enabler. I try to help the faculty, and so that—you can sort of—there’s a variety of routes that can be traveled. On the other hand, there’s some commonalities, and one of things that I’m working on right now is to get the uh—there’s a NOAA group in town. And we’re working—they’ve indicated they would like to come down to the St. Petersburg campus, and so we’re working very hard to find a place for them and also to work with our federal legislators to make sure that there’s some budget support for that group to come.

But, I think that the hard part, the hardest part has been done in terms of attracting and showing that we are—we can be effective with federal um, you know partners. And um, the way I see sort of our science going is more and more into the way of partnerships. And, I think that certainly one of the major goals I have is to try to get as many of those done as I possibly can because they all will help our graduate students and our faculty. It will help this campus, and again, to bring in more meetings, a greater variety of meetings, and so on, and so forth. Um, so that’s a major goal. That doesn’t exactly mean more faculty for us but it means a better you know, more opportunities for everybody.

LJ: As a final thought, do you have one last sentiment you’d like to pass on to faculty, student, staff, colleagues or anyone at the university?

PB: (pause) Uh.

LJ: That you haven’t had a chance to say already?

PB: I think those have already been—yeah, those have been knocked out, eight tapes so far, so—(LJ laughs) Um, let’s see. You know, actually it was interesting when, you know when I first looked at this campus in 1971. I was thinking, Wow, this was a big mistake. What am I doing here? There is a, I guess, tremendous excitement in sort of taking something from basically the very beginning and then watching something grow, and flourish, and everything. There’s a tremendous satisfaction and joy that comes from building something like that. And you know as well as I do that in many cases that the expectation of those of us who are at USF, it’s not that, it’s not that. I mean people on the outside are um, probably don’t think that we can, but I guess the thought I’d have is that
[you should] never underrate your ability as an individual to make [and] to have an impact, and [to have] an effect in a very positive way on—(tape cuts off).

End of interview