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## Interview with Margaret Kripke

Margaret Kripke Ph.D.

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**TEXAS MEDICAL CENTER**  
**WOMEN'S HISTORY PROJECT**

**Dr. Margaret Kripke**

Interviewed by: Natalie Garza  
Date: December 9, 2013  
Transcribed by: Michelle Kokes  
Location: Dr. Kripke's office

NG: This is Natalie Garza it is Monday, December 9, 2013 I am going to interview Dr. Kripke in her office on Kirby Drive. Can you begin by telling me your full name?

MK: Margaret Kripke.

NG: Do you have a maiden name or anything?

MK: I actually have a middle name and a maiden name. Margaret Louise Cook Kripke.

NG: Okay and when were you born?

MK: 1943, July 21<sup>st</sup>.

NG: Okay where were you born?

MK: Concord, California.

NG: Where is that?

MK: It's near the bay area in northern California.

NG: Did you grow up in that area?

MK: I grew up in northern California, not in Concord but a town called Healdsburg which has since become a great wine growing center of California. I went from kindergarten through high school in the same very small town.

NG: What was it like growing up there?

MK: Well it was pretty boring so I couldn't wait to get out and go away to school but I still actually have quite a few friends whom I went to school with and I just recently went

to a 50<sup>th</sup> high school class reunion. I still have friends who still live there. Being a small school we were fairly close and since it's such a beautiful part of the country a lot of people have stayed there or migrated back there after they retired.

NG: Did you have brothers and sisters?

MK: I have an older sister who is 4 ½ years older than I am so we didn't socialize much back in those days.

NG: Were there expectations growing up that you would go on to college and everything like that?

MK: Yes I was a good student in school and I liked being a student and I liked my studies and we were expected to be able to go on to do something. My sister actually went to a junior college and then went to nursing school and worked as a registered nurse for a number of years. I applied for and was admitted to the University of California at Berkley and so that was where I went. Not too far from home, it's about 70 miles from home. And that was the... I think I'm probably the first person in my immediate family to have a college degree, university degree and I think probably one of the few people in my family to actually have an advanced degree as well.

NG: Did your mom work?

MK: My mother worked. She was at home with me until I was probably 4 or 5 years old and then she worked part time and all the time I was in school she worked half time as a receptionist for a local physician.

NG: Did that influence you at all in what you ended up deciding to study?

MK: It probably influenced me in the sense that I was accustomed to having a working mother and so it never occurred to me that I wouldn't work and that it was okay to raise

children and work at the same time. So I think that influenced me a great deal. I have always been very interested in biology and in the natural world and my father had a great interest in nature and biology and you know flora and fauna and I think that's probably where my interest in biology came from initially.

NG: What did your father do?

MK: He did a number of different things. His last position was as the city building inspector in Healdsburg and he had worked as an accountant for a transportation firm and he worked for many years in a lumber company as a clerk accountant in Healdsburg. Both of my parents grew up during the depression so they didn't have a chance to have a serious education. But they both went to business school and they both did continuing education kinds of classes at the local junior college.

NG: How did he share with you his appreciation of nature?

MK: He was a great gardener and a fisherman and so you know we went places and he knew all the names of all the plants and all the birds and all the trees and I don't know we just grew up that way. Also when he was taking classes at the junior college we would sit around the dinner table and he would tell us about what he was studying so I learned about Margaret Mead and Ruth Benedict and Anthropology and Darwin at the dinner table actually because he was very excited about these things and was very interested in them so we kind of shared that, those topics over dinner at night.

NG: Was there anything in school up through high school that contributed to your interest in sciences?

MK: I just don't ever remember not being interested in biology, you know biological science of one kind or another. So you know I loved my biology classes and I'm sure I

drove my teachers crazy but I have just always been interested in kind of the natural world.

NG: So did you know you would pursue that in undergraduate?

MK: Well I was interested in doing something with biological or medical science. In those days I didn't really know what that looked like. I knew that people went to medical school but in those days not very many women went to medical school. It was very difficult for women to get into medical school. So I was interested in medicine. I didn't really learn about research until I was probably in my junior year of college and I took a zoology class at Berkley from a man who taught a class in classic experiments in biology and zoology. And I was absolutely hooked on the concept of research from that class. It was very inspirational to me.

I then had an opportunity to interview with some professors in the bacteriology department. In those days Berkley was in the same controversy that all universities are still in which is how much should you teach and how much should you do research? So they were making an attempt to reach out to undergraduates to try to mentor them and to do more in terms of teaching than their own research. So I got a letter during the summer from two professors in the bacteriology department saying, "What are you doing with your life and would you like to come and talk to us about it?" I said, "Yeah sure." I had no idea what I wanted to do. I really didn't know what I wanted to do and I didn't really know much about what options were available to me since no one else in my family you know was a professional in biological sciences. So I went to talk to the professors and said I was interested in medical things and so they said, "Well why don't you go to graduate school?" I said, "Great what's that?" That wouldn't work today obviously.

It happened to also be the era when the United States was trying to catch up with Russia from the space program. It was the post Sputnik era so there was a lot of money available for people to go to school and to study science in all types of sciences. So there were fellowships available for graduate students. So they said, "Well we'll pay your way to go to graduate school and you can do research. We can teach you how to do research." I said, "Gee that sounds really good." So that's how I went to graduate school. I was really so fortunate to be in the right place at the right time with professors who were really dedicated to try to help further my career. I don't know what I would be doing otherwise.

NG: Did you understand at the time what bacteriology was?

MK: Yeah I was really more interested in the medical aspects in the infectious disease bacteriology than I was in the physiology of bacteria for example. So that was the direction that I wanted to go and the professor with whom I had talked to originally one of them was actually a medical microbiologist by training but he was actually doing cancer research and that's how I got into cancer research. I went to work with him and he was interested in the parallels between infectious diseases and cancer. So that's how I ended up with a career in cancer research.

NG: What was his name?

MK: David Weiss.

NG: When they offered for you to go to graduate school was that initially just a Master's program or was it a doctorate program from the start?

MK: It was a doctoral program from the start. I did do the Master's degree on the way there but it was you know the intention was for Ph.D.

NG: Okay.

MK: I had a hard time explaining to my parents why after I graduated I didn't go to work or get married. Why I needed that other next degree but they were very supportive and never really questioned my decision. Although I think they were a little surprised that, that was the route that I was going to take.

NG: So was that the expectation of women at the time, your peers after graduation?

MK: Oh sure. In fact I seriously considered at one point writing a book entitled, "I Was a Teenage Spinster." Because actually some of my friends got married during high school. As I say my family was not super well educated. I don't come from a long line of professors or doctors or whatever so this as a profession was really sort of outside of their experience and so I don't think that was what they had anticipated that I would be doing. It wasn't what I anticipated either to be honest.

NG: Did you understand what the possibilities were for a Ph.D.?

MK: Yes I had talked to people. I really wanted to do research. That was what I wanted to do. It was very clear to me that the act of doing research is like to me it's like doing crossword puzzles you know it's solving problems and asking questions and devising experiments to get the answers and that was so appealing to me that I knew I wanted to do medical research.

NG: Going back a little bit to what you were saying kind of the expectations of women at the time Berkley was pretty progressive even then.

MK: Not for women.

NG: Not for women?

MK: No.

NG: No?

MK: Absolutely not.

NG: Can you describe your experience? Can you elaborate a little bit?

MK: Well there were very few women professors. I had almost no women professors in anything. The faculty was almost exclusively male. I'm trying to think if I ever had any women as professors as an undergraduate and I can't think of one. So it was a very male dominated culture.

NG: What about students in the classes were there other women students studying what you were studying?

MK: It's interesting because there were a fair number of students both undergraduate and graduate students who were women. Most of them were in social sciences and liberal arts. In the sciences there were other women in bacteriology, zoology and you know the biological sciences. There were almost none in math, physics, or chemistry. In fact my college roommate started out in life as an engineering student and it was so repressive. She was the only female in most of her classes as an undergraduate and she was really harassed (by the professors) because she was female. She ended up not graduating in engineering. She ended up graduating in mathematics which was a little more accepting I guess. But it was not, it was not... this was before the great you know revolution for woman in the country. It really preceded the women's liberation movement.

NG: Well there were some rumblings of social movements, certainly civil rights by this time that you were at Berkley and beginnings of the anti-war movement and the



beginning of the women's movement. Were you very much aware of that or were you very busy with school work?

MK: Both. I was very much aware of the civil rights movement. In fact that's probably coloring my political leanings since then. We were very, very involved in civil liberties, civil rights and you know I've read a number of histories since that time that point out that in some respect the women's movement came about after the civil rights movement. When it turned out that civil rights meant advancement for men the light dawned and so there are some parallels there I think. But yeah I sat in. I demonstrated. I marched for Selma Alabama. So it was a time of huge political activism on the Berkley campus. People were surprised or are surprised now that I actually graduated because there was so much going on in the political arena at that time.

NG: How were you able to balance those things?

MK: Well first of I never got arrested and I knew that I should never get arrested because my parents would not be there to bail me out if I managed to get myself arrested. So part of the balance was that my priority was really to finish to graduate from college so I wasn't going to be a freedom rider and go and live and work in the south and try to register voters. I mean the focus was really still on biology and on getting through school. So we did what we could but it never overshadowed the purpose for which we were at school.

NG: Were there many women in the graduate program with you?

MK: There were some. I didn't spend all of my graduate time in Berkley. I spent the first two years doing all my course work and getting that out of the way at Berkley and then my thesis advisor immigrated to Israel and so I went to Israel and actually did my

research in Jerusalem. So there were women in the program, the graduate program in bacteriology and immunology. There weren't a lot of them but for whatever reason there seemed... it seems that the field of bacteriology and immunology have always been relatively supportive of women. I don't know why. There are many famous women immunologists around the country. So it has been a field that has attracted women for some reason.

NG: Can you describe what research you were doing for your doctoral degree?

MK: It was about immunology and cancer and that's been a theme for my entire research career, immunology and cancer. I've studied a model system where there's one particular strain of mouse that develops a certain kind of cancer and so I investigated whether that was because there were immunological effects of the carcinogenic agent in that strain and not in another strain that didn't get cancer from that treatment. So that was kind of the focus of that work and I've had the opportunity to continue studying the immunology of cancer when I went to work and got a real job. It was in a very similar field. So I've really pretty much stayed in that field the whole time.

NG: At the beginning were you already doing research on UV radiation?

MK: No. No this was a completely different system but as part of my Ph.D. thesis I wrote of course a review of the literature. I did a very extensive review of the literature in cancer immunology. Which in those days was much smaller than it is now of course. But one of the intriguing systems was cancer induced, skin cancer induced by ultraviolet light, because it seemed to be an anomaly. It didn't behave the way that most cancer systems behaved. So I actually have a line in my thesis that says, "Somebody ought to study the immunology of ultraviolet light induced skin cancers." When I took my first

job I had the opportunity to do that because they had already set up a system, this was at the University of Utah, they had already set up a system of looking at cancer induction by ultraviolet light and several chemical carcinogens with the idea of looking to see whether patients that were chronically immunosuppressed from organ transplants had an increased susceptibility to cancer of various kinds. So the system was already there and I said, "As I side project I'm going to look at the immunology of skin cancers induced by ultraviolet light." So again it was very serendipitous that I had the opportunity to do that and knew that it, suspected that it might be interesting.

NG: So your transition to that you called it a process right?

MK: What?

NG: Or a system?

MK: A system.

NG: The transition to that system was not something that you were kind of pushed into it was something that you were doing you said as a side project?

MK: Yes.

NG: When you started out?

MK: Yes. I mean I was hired to run an existing project on the role of immunosuppression and cancer development with an eye toward transplantation immunology. So I thought on my own as a side project I would do this other thing in addition.

NG: So that was at Utah you said?

MK: Yes.

NG: Before well going back to graduate school first did you have any other mentors besides your advisor?

MK: That's a hard question. I had lots of people that I could go to for advice when I was a graduate student, when I was still at Berkley. So there were other people in the department there was one woman who was very supportive. When I was in Israel I was really working just with the professor that I went there with. I didn't know a lot of other people there. And there was a woman who was a few years older than me who was doing post-doctoral work. She was very helpful to me. She was... she served as a really good mentor for me. And so that's really about it until I came back to the United States.

NG: How long were you in Israel again?

MK: Two years.

NG: Two years and was that with Weiss?

MK: Yes.

NG: Before you went to Utah you had a position at Ohio State?

MK: I did.

NG: Can you talk about that for a little bit?

MK: Yes I had gotten married when I was still at Berkley and my husband was a mathematician and was writing a book so we went to Israel he was going to finish his book while I was doing my Ph.D. degree and he also decided to learn neurophysiology and take up work in a laboratory to learn how to do that. And I had... my daughter was born in Jerusalem while I was there as well when I was a graduate student. So when we came back it was his turn to decide where he would like to go since he had stuck it out with me for two years, traipsing around Israel. So he went to Ohio State because he

wanted to work; there he was changing fields he was getting out of mathematics and getting into neurophysiology and he had an opportunity to go and work at Ohio State. So I came along and just simply found a job with a new professor there who was hiring people. So I spent two years at Ohio State and then I was contacted actually through one of the, as I said there was a woman who was very helpful at Berkley. She actually pointed people in my direction for this job. And they were looking for someone to run a funded project on immunosuppression and carcinogenesis and the job had my name written all over it. It was a job that I knew I could do and was thrilled to do. I was kind of the perfect person to do this job having just reviewed the entire literature in that field. So it was really because I was offered a position there that we went then to Salt Lake City.

NG: So when were you married?

MK: 1966 I'm trying to think, yeah December '66.

NG: Did that put everybody at ease that you were now married?

MK: I'm not sure. I suppose it helped to some degree. I am no longer married to that person however and his name was Kripke actually.

NG: Okay so you kept the name?

MK: Yeah.

NG: Okay and you were at Utah for 3 years?

MK: Two and a half.

NG: Two and a half. And how was the environment there in terms of support for the project and you professionally as a woman?

MK: It is a very mixed answer. I was in the Department of Pathology in the medical school and the head of the department was the principal investigator on this project and

he was a transplantation immunologist whose is a physician pathologist but he was interested in transplantation immunology. So he had a research group with several people in it focused on that subject and I was part of that group. So it was incredibly supportive in that regard. When I left Salt Lake City the number of women in that department (it was a very large department) the number of women was cut in half. So there were not a lot of women faculty members in the medical school in Salt Lake City in those days. So that was different. But the work was fascinating, the project was really interesting and it had the support of the department head and so the work went very well.

NG: Why did you decide to leave?

MK: Because I got a very good job offer elsewhere and the first husband also got left in Salt Lake City.

NG: Okay.

MK: I had an opportunity to continue that work and move it to the NCI for the Cancer Research Center and have my own laboratory and do my own thing funded by the National Cancer Institute. I had known the director because we were in similar fields and the person I ended up marrying (my current husband) was also offered a position there and no one actually knew that we even knew each other much less we were looking for a place to go.

NG: So you knew him before starting the position there?

MK: Yeah. So those were the reasons and we had a wonderful time in Frederick both professionally and personally it was a great situation.

NG: Can you describe that institute because I was doing some research online and saw that it was a government agency?

MK: Yes in those days and to some extent it still is. Frederick was a government owned contractor operated facility. So our employer was actually a company called Litton Bionetics, I'm not even sure that exists anymore. But we were employed by a company and they were a contractor and they had the government contract to run this facility. It was on the grounds of Fort Detrick which was an army base where they did a lot of germ warfare in previous years. So I think when Nixon declared war on cancer they decided to turn part of that facility into a cancer research operation. So we were the new basic science program that went there to do basic science. So we had a lot of support and a lot of freedom to do what we wanted there. It's now different There are a lot of people from the NIH from the National Cancer Institute whose laboratories have moved out to Frederick. In those days it was really just us. There weren't a lot of people from the Cancer Institute there. It was all contractor operated.

NG: And how was cancer research kind of organized at that time? Was it very broad, general or were people looking at specific types of cancer at that time?

MK: Yes. Both. The program that we were in the basic science program, basic research program was really about cancer in general. It wasn't about breast cancer, or pancreatic cancer or whatever. My husband has spent his whole career studying the metastasis of cancer. Why cancer cells spread and how they manage to set up housekeeping and different sites in the body. So that's not too specific. It's not specific to any one kind of cancer but it is a program that's really general in terms of basic mechanisms of cancer. I was interested in the immunology of cancer and skin cancer was a model used to study that. Someone else was interested in cancer viruses and how you

know viruses contributed to cancer and so on. So it was mostly general in that program it was more cancer biology than specific kinds of cancer.

NG: Can you describe a little bit (and this may be a very broad question) your professional growth during that period and what you felt that you were contributing to the field while at Frederick?

MK: In terms of professional growth there are a couple of aspects of that. One is that I for the first time had to run my own laboratory and hire and fire people and have the responsibility of having a successful research operation that was totally my responsibility. So there was a lot of professional growth in terms of leadership and administrative capabilities which I had not been trained for and had not had up until then. It was kind of trial and error and during that period I actually became more interested in leadership issues and administrative issues. It was a very small, very close knit group of people and the director was a very good friend. He actually furthered my career greatly. He had me organize an international scientific meeting which I would never have done on my own. But he said, "I know how to do this. I've done it before. I'll help you do it." So I learned a lot from him about just how to do things in science and how to raise my visibility scientifically, kind of the political things about science. And so that was really helpful.

The other thing was that the work was going spectacularly well. It turned out to be much more interesting than I had ever imagined. I was in great demand in the field of photobiology, not immunology but interestingly photobiology, and also dermatology. Because there were a lot of things, there's a lot of immunology that happens in the skin that contributed to dermatological diseases. So that was kind of the beginning of people's



realization about how much immunology you really have in your skin and how that contributes to the health and disease in skin biology. And so it was a pretty exciting time in terms of the science and what was happening in the science. We did a lot of work in Frederick.

NG: What do you mean by a successful laboratory? What would constitute a successful laboratory?

MK: Well there are the visible measures like you publish papers and they are accepted by top ranked journals. You are able to attract really good post-doctoral fellows. I had a stream of dermatologists who went through my laboratory both in Frederick and also subsequently in Houston and that's very exciting because new people bring new ideas and new perspectives to the work. So who you can attract to come and work in your laboratory is also one measure of success. After I left Frederick the most important measure of success is can you generate enough money to support the work and support the people and support the laboratory? So we were successful in that you know we had lots of grants and we had money coming in and my students were able to travel to scientific meetings and you know present things in public. Because of the nature of the work we had a lot of recognition from the outside world for the work.

NG: I noticed that on your CV you have a lot of policy experience advising on policy. Did you start that at this time or later on in your career?

MK: I started actually when I was in Frederick. There again it had nothing to do with my work, it had to do with an issue of the day and the issue was chlorofluorocarbons and ozone depletion, which in those days was a big deal. The connection is that when you have less ozone in the upper stratosphere you have more ultraviolet light that hits the

surface of the earth. So the questions that people were interested in had to do with the biological effects of increased ultraviolet light as a result of ozone depletion. So the National Cancer Institute really didn't have much of a program in ultraviolet carcinogenesis and I at Frederick was who they trotted out to participate in some of these. The first one was a United Nations Environment Program panel, so it was again just serendipitous that I got into that. People were very interested in the fact that exposure to ultraviolet light might have immunological consequences might actually suppress the body's immune system. So people were very interested in that in terms of trying to give reasons for why we needed to control chlorofluorocarbon release into the atmosphere. So that was how I got into doing things with the Environmental Protection Agency and you know I chaired one of their review panels of a big document that they put together on ozone depletion and the biological consequences of ozone depletion and so you know that was the initial connection. Then they asked me to chair their Science Advisory Board so I did a lot of things in terms of policy for ozone depletion.

NG: How did you like that work?

MK: It was a whole new world to me, completely different world. I had never been acquainted in any form with the political process. So it was fascinating in the sense that I was learning something new on a minute by minute basis. It was disconcerting because it wasn't very scientifically based. It's not very rationally based sometimes but it was certainly a learning experience for me and I did enjoy it. Subsequently I did a number of congressional hearings and other things as well. So it was interesting.

NG: Do you feel that your work had any impact in the areas of ozone protection and all of that?

MK: I like to think that my work actually contributed to the outcome of the chlorofluorocarbon business which is really a model you know it was an international protocol that people agreed on that they would limit the production of these materials. And you know everybody knew about skin cancer already, that wasn't new. I don't think people were terribly excited about the few more cases of skin cancer. But they got pretty interested in the question of well what about your immune system if it really affects your immune system what are the human consequences of that? So I think we did help drive the resolution to get rid of chlorofluorocarbon use or to reduce it so that now the ozone hole is filling in and ozone is actually building back up again.

NG: Can you talk about your major research findings I guess the things that people know you for?

MK: Well I am known best for my work with ultraviolet light induced skin cancers and what we found was that these skin cancers are very highly antigenic which means that they are seen by the immune system. Most of the time things that are already within your body are not seen by the immune system because you are tolerant to whatever you grow up with. But these skin cancers are very foreign. They are as foreign as the cancer that is caused by a virus for example. So the question that I was interested in asking was how did they get there in the first place? If they are so foreign, if you can take one of these cancers and transplant it into a normal mouse and it will be rejected immunologically. The immune system will just reject it even though the mice are identical, identical twins. So we said, how does that happen? That these cancers will survive and grow and kill the original host when they are so highly antigenic that they ought to be destroyed by the mouse's immune system? The answer turned out to be that just exposing the skin to

ultraviolet light changed the immune system so the immune system didn't make the immune rejection reaction it made a suppression reaction.

The animals were completely tolerant to skin cancers and it was an effect of the ultraviolet light. Nobody at that time knew that ultraviolet light would have any effect on the immune system at all. It was inconceivable because nobody knew how much immunology there was superficially in the skin. So I guess unraveling the answers to how that happened was really the basis for what we did. Then we went on to show that in some cases this suppression of the immune system by ultraviolet radiation did affect the reactions to infectious diseases in some cases and so that was another line of investigation as well.

NG: Did people understand at this time already the impact of ultraviolet radiation in skin cancer, the relationship?

MK: Well it's been known since the turn of the century that ultraviolet light causes skin cancer. Nobody knew about the immunological component of cancer and how important it is. I mean it is, ultraviolet light not only causes, changes normal cells into cancer cells it suppresses the surrounding immune system in a way that enables that cancer to grow.

NG: So when I was reading the kind of research that you did and some of the things that you published it just seemed so radical to me that this was being introduced and how late in human existence that it is being identified and, is this kind of research leading to people promoting more protection from the sun and all of that?

MK: Yes.

NG: Because I remember growing up and nobody cared about...

MK: Right, right.

NG: ...how long we played in the sun and whether or not there was sunscreen or anything like that.

MK: We worked hard to get a suntan.

NG: Right.

MK: Yeah so part of this, part of the concern about skin cancer and protection did come from our work. In fact we did a number of studies supported by a consortium of European companies to look at whether sunscreens in their current form also protected against immune suppression. Did they protect both cancer but also against this immune suppression by ultraviolet light? So it did have an impact on that issue.

NG: And when did that happen that partnership?

MK: 80's 90's?

NG: Okay.

MK: I could tell you if you gave me my CV because it's in the publications.

NG: Why go back to academia in 1983? In '83 is when you started with UT/MD Anderson?

MK: A number of reasons. We loved living in Frederick. It was a tiny, tiny town and my daughter could walk to school and you know it was a really fun place to be but it's a place that continually redefines itself based on who is the current NCI director. It belongs to the National Cancer Institute they are still trying to decide what to do with Frederick and so at the time that we left they were talking about making it into a facility that would study HIV and we said, "We don't work on HIV and we're not happy with that as a program." So we said, "It's probably time for us to leave." Also, being employed by a contractor we had no tenure, no job security no nothing really. They

could fire us on a moment's notice and when you start thinking about the future of your children and the fact that they are going to have to go to college and so some of those issues come into play. So we decided it was time for us to leave.

People at MD Anderson had made overtures to us over the years and we always said, "No we're not interested." And we picked up the phone and said, "Yes we are interested." So it was time to leave. We had been there for 8 years and although it was great while it lasted it was becoming increasingly difficult. And I actually at that time was moving up administratively and was developing an increasing interest in having a leadership role which I had not been interested in prior to that time. So when I left I was actually director of the basic science program when I was there. So I came here to establish a new department of immunology. They didn't have a research department in immunology when I came. So I established that department and my husband established a new department in cell biology.

NG: So there wasn't anything like that in the medical center?

MK: Anything like what?

NG: The department of immunology.

MK: There was not one at MD Anderson. Yeah there were other immunology departments. Baylor had one and I think UT had one as well but there was not one at MD Anderson.

NG: Okay and why MD Anderson I imagine that there were other opportunities?

MK: It's interesting we really didn't even look because in the 1980's which is about the time that oil prices went to the bottom, we thought it would be extremely difficult to find two department chairmanships, have a place that would create two new departments for

us with all the resources that we needed in order to be able to move and that, that would be very difficult to find outside of Texas and outside of MD Anderson. Because MD Anderson had really been looking to try to build up their basic science programs, they had the resources to do it and so we really, we literally didn't look at any other jobs.

NG: How was it moving to Texas?

MK: Oh I love it. It's working my way back west. It's interesting we've just loved Houston we love being here. I'm not sure we'll move anywhere else when we finally decide to retire because we really like living in Houston.

NG: And how old was your daughter when you moved here?

MK: She was starting high school. Yeah she started high school here.

NG: Did you have any other kids?

MK: My husband has children from a first marriage.

NG: Did they?

MK: They didn't live with us.

NG: Okay. What was the Texas Medical Center like at that time?

MK: Smaller than it is now. That was 30 years ago as you know. MD Anderson was much smaller. I think MD Anderson at that point had about 7,000 employees it's got 18,000 or 19,000 at this point. So it was a much smaller place. It was still, I wouldn't say intimidating it was very intriguing to me at least because I had never been in a really large institution. I had never been in a freestanding cancer institute and actually one of the things that was a big attraction for us is they did real cancer there. Whereas where we were in Frederick there were no clinical programs. It wasn't a patient care facility it was just a research facility and here there were actually patients and real cancer and people

were really trying to cure cancer, so it was a completely different atmosphere. So we really liked being in the medical center. It was one of the real positives about moving here. I was not thrilled about the idea of moving to Houston because I'd been in a small town for the last 8 years so the idea of living in the 4<sup>th</sup> largest city in America was not terribly appealing to me and of course you hear terrible things about the traffic and the weather. But we just really like being here. We still like being here.

NG: What was the work environment like? You know, aside from the infrastructure.

MK: Well we are in a building by ourselves out on what's now the south campus and so we were spared from a lot of the local politics that go on in institutions. I guess that was a positive. The negative is that we were remote from other things that were going on so I think it was harder to establish research collaborations and to get to know people who were "in the pink palace" when we were not there. In terms of MD Anderson people were very supportive. There was a real southern hospitality atmosphere for us when we came I think. But it was difficult in the sense that it was very much... I had two concerns when I came here. One was that I was not an MD because MD's do tend to rule the world in an institution like MD Anderson and the second one was that I was female in a very, very male dominated culture. I was the first full professor female in a basic science department at MD Anderson ever, the first female department chair other than nursing at MD Anderson, and certainly the first female vice president, executive vice president at MD Anderson. So from that point of view it was difficult and I really took as one of my missions the idea that we needed to have a more supportive environment for women. So that was kind of one of my agendas after I became comfortable enough at MD Anderson to think that I could get away with doing something like that.



NG: How long did that take?

MK: A long time. You know for the first few years I was establishing my own laboratory, recruiting people for the department, you know just getting organized and getting integrated into the institution. But this really happened because the president, Dr. LeMaistre at the time, asked me to chair a committee. I get asked, because I'm female I get asked to chair all these committees. And I always say yes. So I was asked to chair a committee on the status of minorities in the institution. And I got the president's agreement that we should consider women a minority for the purposes of this study. So that's what we did. We looked at the status of faculty and other classified employees and how we were doing in terms of women and minorities in leadership positions. There were no minorities hardly at all in the whole institution so that was easy in terms of leadership positions and there were very few women, really few women. I turned in the report and said, "Okay here it is."

I'll never forget, it was one of the clinicians, a female radiologist called me up and she said, "So what are you going to do about this report?" I said, "Nothing I'm done. I sent it to the President's office and the executive summary was distributed around the institution. She said, "Well I think you ought to do something about it." I said, "Well let's have lunch." So I invited a couple of my other female friends around the institution to come have lunch and discuss that. The conclusion was that we really needed to get organized if we were going to do anything productive for women in terms of salaries, working conditions, whatever. I said, "I don't want any part of that. That's not what I do. I don't do that kind of...I'm not a women's organizer." Then I thought about it for a while and I thought, "Well if not me then who?" You know I'm a full professor, I have

tenure, I have an endowed position, my husband and I represent a third of the research at MD Anderson and short of committing a felony they won't fire me. It was such a liberating thought to me that I thought, "Okay I can do this. They aren't going to fire me, they won't fire me for trying to do something to promote the professional development of women." So I and my friends got together and started what was then the women faculty organization. We did a needs assessment. What are people concerned about? It was fun, it was really fun.

NG: Do you remember when that started?

MK: I could figure it out if I looked at my CV but off the top of my head no.

NG: And what kinds of things did you end up addressing?

MK: Extending the tenure clock for faculty members who had children or had significant illness. So part of it was tenure. Part of it was salary. We instituted a policy whereby we had a group of people who looked at the salaries for equity for all the women and minorities. We really were only trying to deal with faculty issues. We tried to make sure that there were more women on search committees and we made recommendations when they said they were announcing a search we would make recommendations for who should be on the search committee. We made recommendations that there should be more consideration of women candidates for endowed positions. So those kinds of things. They sound pretty primitive at this point but they were pretty important at the time.

NG: No I mean I think a lot of that work continues to be done and there's still a continued need for those things.

MK: There's still a need.

NG: Because in many places there is still no equal pay and things like that or attention to people being in leadership positions.

MK: Right that's the hardest thing to accomplish. That really is the hardest thing to accomplish is to increase the visibility and the numbers of women in high level positions.

NG: Did you feel like you faced obstacles or hostilities in your work and in advancing along the way because you are a woman?

MK: You know I mean there were a number of instances where I felt like I was not valued because I was a woman. But I didn't pay much attention to it. I didn't let it deter me from a course of action. And as I say one of my success strategies if you will was never to say no to anything. You know a lot of woman say, "Oh no I can't do that. Or I'm not going to apply for that. I just can't handle that at this stage of life," or whatever. I did things even though a lot of times it was really uncomfortable. I was really scared to do them but I just never, never let it bother me that yeah I think there were a number of instances of serious discrimination. It comes with the territory you know.

NG: Also though I think often as you say because you are a woman you often get asked to do a lot of things and I have heard that a lot. So in a certain sense there is more required responsibility on you and how do you handle that in terms of time to be able to do what you are expected to do with work but then also to serve on these committees and all of those things?

MK: Well I think one of the requirements to do this kind of a... to survive in this kind of a situation is you have to have a relatively high energy level. And you have to be able to really prioritize and you have to be able to be very efficient at what you do. If you're lacking in those characteristics it probably wouldn't work for you.

NG: I want to talk a little bit about the research that you were doing here in starting a lab here. What did cancer research look like in the medical center when you started at MD Anderson?

MK: I don't think I can answer that because I didn't really have a very good idea of what cancer research looked like in the medical center. I was out stuck in a building you know two miles away from the main campus. So I wasn't "in the Texas Medical Center" and I was busy doing my own thing. So I don't think I have a very good answer for that.

NG: But you have to keep up to date on what's going on in the field. Did you feel like you were contributing in the ways that you wanted to contribute?

MK: Yeah but most contributions were to the field not to the institution.

NG: Okay.

MK: You know, during that period I organized the Gordon Conference on Cancer which is a national meeting and I was President of the American Association for Cancer Research and President of the Photobiology Society. So all of the, most of my research contributions were to the field not so much to the institution.

NG: Okay.

MK: I mean I gained visibility for the institution because of my work. I don't think I ever did anything that affected the life of a patient at MD Anderson.

NG: And you didn't deal with patients in terms of your research?

MK: No.

NG: Okay.

MK: No not at all.

NG: What was it like balancing research and teaching and administrative duties?

MK: Well I won't say it was fun always, sometimes it was fun. I mean it just that's what it is. That's the job and sometimes it balanced well and sometimes I wished I had more time for one or the other. It was easier after my daughter went to college ... there wasn't that added domestic responsibility so that made life easier. But you know you have to be able to decide what things are important, how are you going to spend your time? I think it helps to be very efficient. I'm pretty efficient in terms of working and I think most women who reach that level are very efficient. They have to be very efficient and so you manage. You just manage.

NG: Do you enjoy teaching?

MK: Surprisingly yes. I didn't expect that I would because I really had never done any teaching before I came to MD Anderson. So one of the first things I did as the chair of immunology was to teach a course in basic immunology and I did most of the teaching myself and we also, I also applied for and received a training grant so we had funds to support graduate students and I became very heavily involved. There was an immunology program that extended to Baylor and UT Health Sciences Center so we became very active in that program as well. So I enjoyed it. I really did enjoy it. I liked even better the teaching of graduate students. You know the one-on-one laboratory experience of teaching graduate students. So that's the thing that was probably hardest for me to give up when I went into administration was I really liked the graduate students in the lab.

NG: And advising graduate students you had several students that were your advisees?

MK: Oh yeah.

NG: And when you were hired here, was it up to you to develop the program in immunology?

MK: Yes.

NG: Okay.

MK: A research program. It had nothing to do with the clinical program in immunology. It was research.

NG: What is your work now, can you describe that?

MK: Well I retired from MD Anderson about 6 years ago and I went back to work part time just to help out my successor to get things oriented. And then I was retired, completely retired for several years and almost a year ago now I took a job with the Cancer Prevention and Research Institute of Texas as its chief scientific officer. I had no intention of un-retiring but it just seemed like an important thing to do because they needed somebody and the organization was in danger of losing all of the funding for cancer research which I thought would be really tragic. So I applied for the job. So I've finally today, today I was finally able to do what I came to do in the beginning. We just put out this afternoon, requests for applications for new grants for CPRIT so that's very satisfying that we are now able to actually give out grant money again and I'm sure the research community will be very happy about that as well. So that's good.

NG: Is that the main purpose of the organization?

MK: Yes the Cancer Prevention and Research Institute of Texas was actually something that the people of Texas voted for. It has \$300 million dollars a year for 10 years to give out in grants to support cancer research and it's funded through state bonds and the money is only available to researchers in the State of Texas. So it's one of the

major sources of funding for cancer research in the United States. Because of the economic downturn and the difficulty that the National Institute of Health is having in terms of continuing to fund research programs, it's critically important right now that this continue. So that's all we do. We give out money and hopefully in a more responsible way that was done previously.

NG: Now you mentioned before about funding in terms of people who run labs and that's an important part of keeping it going.

MK: Yes.

NG: That's not something that they train you to do in graduate school.

MK: No they don't!

NG: So how did you develop the ability to write grants and being successful at it?

MK: You get all the help from your friends that you can. You rely on people who are more experienced than you are for one. The other thing that you do is that you volunteer to sit on a grant review body that reviews other people's grants. The best way to learn how to write a grant is to sit on a panel that reviews grants. So I was fortunate enough to be able to do that relatively early on. So I've sat on the American Cancer Society reviewing panel. I've sat on several National Cancer Institute review panels including ones for training grants and program projects and research grants. I sat on some for the Environmental Protection Agency. So that's really where I learned how to write research grants. Otherwise it's pretty much trial and error. It's more error than trial. More error than success these days.

NG: In your position now do you review the grant applications as well?

MK: No.

NG: You oversee the organization?

MK: I just administer the program. My major responsibility was to recruit people who chair the peer review panels and the chairs recruit the reviewers and the reviewers review the grants. So I'm a step or two removed from actually reviewing the grants. But we decide what grants, what proposals should be put out.

NG: So I just have a few more questions. The women faculty organization does that still exist do you know?

MK: It changed into a women's organization for the institution it became not just faculty so the faculty piece of it kind of got buried in the larger issues for women in the institution. But one of the things that I did before I retired was to create an office of women's programs, women faculty programs and we recruited an associate vice president to run the office and that program. I'm delighted to say has been very successful. Its whole reason for being there is to raise visibility for women in the institution and try to increase the number of women in leadership positions. So it exists in a different form.

NG: What about graduate students? One of the things that I've done is interviews for diversity in higher ed, kind of across the board and one of the main things that people say is that in order to have people in leadership we have to be educating them at the graduate level so that they can achieve those levels of leadership. Is there anything done in terms of recruitment or what is the status of women students at MD Anderson?

MK: Well I think in general there are more women students in graduate programs in the biological sciences than there are men and there are more women in medical school now than there are male students. So that piece seems to be okay it's just that they progressively drop out as you reach higher and higher in leadership positions. So it's not



that there are not enough women in the pipeline it's that the pipeline is leaking all the way down to the end. I think in general there is a push toward trying to get kids interested in science at the elementary school level ages to try to you know stimulate more interest particularly women in science and engineering and math or whatever. There are issues all the way along in terms of trying to change the situation both of women and minorities in high level executive positions. That's not unique to science as you know.

NG: And do you have any sense of why that is in the sciences? Or is it way too big to talk about?

MK: Yeah you know people have written whole books on this subject. And lots of them I think. It's hard and it's harder for women to do this than it is for men to do this because women typically have two jobs and not just one and that makes it harder. I saw this very much on the clinical side, women physicians at MD Anderson they have, if they have families at home and they also have a job they aren't going to spend their weekends and afternoons and evenings doing research. They have other things that they have to focus on so they can do the doctor thing but they aren't going to be physician/scientists. There are almost no women physician/scientists. There are very few. And it's because they have this other job in addition. So it's just hard. It's just harder.

NG: What about you how did you balance personal life, family life with a professional life?

MK: It was hard. I have a daughter who is very independent and very tolerant and so that helped. And very smart and so that helped a lot. I don't know you just decide what the priorities are and work long hours. It was difficult for me when my daughter was

very young because I wanted to be out. I wanted to go to scientific meetings and be doing all kinds of other things and I really wasn't able to do much because I had a small child at home. So my mother moved to Frederick, Maryland, and that was very liberating because my daughter spent a lot of time with her. I don't know you just manage. I think part of the message is that you can't do everything all at once in your life and there is life after the children leave home and you know you can have it all and do everything but sometimes you have to do it sequentially not all at once. So it's a matter of what stage you are in what stage of your domestic life you are in I guess.

NG: Are there any other achievements or organizations or memberships that you've been involved in that you are particularly proud of?

MK: Yeah I think that my service on the President's Cancer Panel was probably one of the highlights of my career and that was because it really changed my thinking about cancer research my perspective on the whole issue of cancer. I had an opportunity through that mechanism to really look at cancer broadly the whole problem of cancer. I came to the realization that cloning another gene or making another mouse model is not going to have a big impact on reducing the burden of cancer and that cancer research needs to be about reducing the burden of cancer. Not just about creating new knowledge... it needs to be more focused on the outcome of doing something important for cancer. And that is reason number two of why I took the job at CPRIT because I am hoping it will give me an opportunity to influence in some way how dollars are being spent for cancer research.

NG: When was this that you?

MK: When I was on the President's cancer panel? I was actually on the panel for 9 years. I was appointed by President Bush (43) for 3 years and then reappointed for another three years and then I sat there for three years when the Obama administration came over before they finally replaced me on the panel. So you serve until you are replaced by somebody else. I was actually on for 9 years. I went... I think I was appointed for the first time in '93, '96 and then again in '96 no that's not right. It's on my CV. I don't remember.

NG: So when you say it changed your perspective you mean it changed your perspective from looking at...

MK: At cancer research from the point of a basic scientist to looking at cancer research as a problem, a societal problem and it just changed my perspective. For example one of the things I would like to do now is to see if we can spend more money on cancer prevention. It was part of what I did in terms of sunscreens and so on, that was cancer prevention, but I really wasn't into cancer prevention particularly. But if you look at where the impact is on the cancer problem you have a much bigger impact if you can prevent or detect cancer early than you can if you are treating very advanced cancer at the end of the disease. So it's that kind of change in thinking you know just thinking about what genetic target can I identify that I can develop a drug against that would treat it, treat cancer "X" an admirable goal and people are working on it but probably 90% of all cancer research is looking at that and only maybe 10% is looking at how do we prevent cancer in the first place? Can we get chemicals out of our environment that would spare us from getting cancer? Can we do more about getting rid of tobacco (for example)? So anyway that's my soap box.

NG: So do you think that all of these I feel like there are a lot of movements now of natural foods and as you said getting rid of chemicals in every day products and all of those things, that those kinds of things are really important?

MK: Yeah I think so. I mean the problem is we don't know which ones are more important than others. Because a lot of this is not based on real medical evidence. So one of the challenges is to get the medical evidence. So there's a lot of stuff, there's a lot of stuff out there that is not at all scientific. So that part is not good but I think that people paying attention to better lifestyles by getting more exercise and eating better and those kinds of things are very beneficial. Not just for cancer but for lots of other things too.

NG: Is there anything else that we haven't talked about that you were expecting to talk about or hoping to talk about?

MK: I don't think so!

NG: Okay. Well thank you.

End of interview