

Interviewee: Dr. Paul Chu  
Interviewers: Steven Loyd, Christina Lee  
Date/Time of Interview: May 17, 2019  
Transcribed by: Christina Lee, Priscilla Li  
Edited by: Sarah Jin (7/14/2019)  
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Background: Dr. Paul Chu was born on December 2, 1940, in Changsha, Hunan in China. He grew up in Taiwan and attended Taiwan Provincial Cheng Kung University, graduating in 1962. After receiving his Bachelor of Science degree in Taiwan, he served for a year in the Nationalist Chinese Air Force. Then Dr. Chu traveled to the United States to complete his Master of Science degree at Fordham University, earning his degree in 1965. In 1968, he completed his Ph.D. degree at the University of California San Diego.

At the University of Houston, Dr. Chu currently serves as Professor of Physics to this day, as well as the T. L. L. Temple Chair of Science, and Founding Director and Chief Scientist of the Texas Center for Superconductivity. He also is an Honorary Chancellor of the Taiwan Comprehensive University System, and President Emeritus and University Professor Emeritus of Hong Kong University of Science and Technology.

Setting: This interview was conducted on May 17, 2019, in Dr. Paul Chu's Office inside the University of Houston Science Center.

Key:

PC: Paul Chu  
SL: Steven Loyd  
CL: Christina Lee  
--: speech cuts off; abrupt stop  
...: speech trails off, pause  
Italics: emphasis  
[Brackets]: Actions [laughs, sighs, etc.]

Interview Transcript:

SL: Houston Asian American Archive at the University of Houston Science Center in Dr. Paul Chu's office on May 17<sup>th</sup>, 2019. I am Steven Loyd- [CL: I'm Christina Lee.] and Dr. Chu, let's start off with where and when were you born?

PC: I was born in the, Hunan China, in 1940.

SL: Great.

PC: Long time ago. [CL laughs]

SL: What was your childhood like?

PC: I'm sorry?

SL: What was your childhood like?

PC: Couldn't remember too much because we left uh, Taiwan when I was pretty young. Yeah. But in Taiwan, when I was uh, we moved to Taiwan in 1949. And I still have fond memory of the days back in Taiwan.

SL: What was – what was Taiwan like back then?

PC: Very poor. But uh life was simple, not so complicated. We don't have all those uh, fancy advanced gadgets. So our, our leisure time was trying to go out and uh, catch fish and swim, swam in the river. So that's life. It was happy.

SL: What did your parents do for a living?

PC: My father actually originally was a pilot in the United States. And then he decide to go back to China to fight the Japanese war. And that's how he went back to China. And that's how we were born in China, you know.

SL: So your family is originally from Taiwan and went to China for that reason?

PC: Oh, no. Oh, they were originally from mainland China [SL: Mmhm.] and uh, then later on moved to Taiwan when the communists took over in 1949.

SL: Alright. And your mother?

PC: My mother originally was a uh, was a teacher after graduating from normal school, in, in Taiwan, or in China, and that's equivalent to teaching college and then later on, have family, so she just taking care of all of us all these years. Until later on, they both move uh, returned to the K-, returned to the United States, yeah.

CL: Did you have any siblings?

PC: Yes. We had a pretty big family, uh with the brothers and sisters. I'm the third among the, uh the uh childrens, and I do have, yeah, we have seven of us. I have an older sister, older brother, and then one young brother and three young sisters.

SL: What kind of principles did your parents raise you on, would you say?

PC: [laughs] I, I think pretty strict, in the sense. But then since we have so many um, brothers and sisters, I think they were too busy to enforce the, disciplines. So we were pretty happy.

CL: Did you feel that as an older sibling, there were times where you had to take of your younger siblings, or...?

PC: We all do. I think for example, I think the - most of the burden rested in my elder sister. That's the oldest in the family. She did lot of things to take care of the younger ones, including me you know. But actually, three of us, the oldest three, we were quite independent. We tried to take care of the younger ones, you know.

CL: What were some things that your family did to celebrate your culture, especially when you were a child?

PC: I think basically during that period of time, Taiwan was pretty poor. So j-, we just celebrate uh all those holidays in China, you know, that's what we did. The rest of the time we just work and play. [laughs]

SL: What were you – what were some responsibilities that you kind of had to assume as one of the older siblings?

PC: Oh, take care of – take care of the younger ones. You know, for example, sometimes especially the youngest one, at that time, and we basically - mother had to uh, to get everything ready for the families so then so we took our brother, the youngest brother, out there and play. [laughs] So that's what we did.

SL: Where did you go to school?

PC: Uh, actually grammar school. I did spend two years in mainland China for the grammar school before we moved to Taiwan. And after moved to Taiwan, I started to – at the g- at the fourth grade in grammar school. And so, just continue.

CL: And, to clarify, grammar is kind of like elementary school?

PC: Uh, that's correct. Uh that's from Grade 1 to Grade 6, [CL: Mmhm.] yeah.

CL: Did you have a favorite class or a favorite memory of school, did you like it?

PC: Actually I liked it. It, um, it's interesting I – I mention, I only went to the second grade and then, and then we just started on the third grade, so then the family move to Taiwan. Of course, at that time, I would like to uh, go to the second part of the third grade, but in Taiwan it's different. It's either- it's just follow what we have here. Fall semester and spring semester. They don't go to uh, part one of third grade, part two of third grade. So when I went there they only have either my choice was to go to the uh, first part of third grade. That's repeating what I had before. Or else I had to go to, well, I decide not to do that. So I decide to go to first part of fourth grade. Of course when I went there, didn't know anything okay. So that was disasters when the first test happened. I still remember I got only 40 uh, 6 points out of hundred. [laughs] In the main – in mainland China, previously, with that kind of grade, they had to put you back down to, to, to the third grade instead, you know. But I found out so happy, so happ- I was so happy that uh, they would not put you down to lower grade. So once that was sure, so I went back and told my father in Taiwan, six point out of hundred is the passing grade. [laughs] In mainland China, in the old days, it was not. Unless if you get, uh if you get fifty percent, then you stay in that grade without promotion, okay. If you get lower than the uh, fifty percent, it's demotion, okay. But Taiwan, there was no such thing, because there were already obli- how do you call it, obligatory education, you know. So there's no up or down. I was so happy. Went back and told my father. My father was so mad. [laughs] Said it's impossible, but I said don't worry, I will not be, I will not be demoted. So there was quite something, quite a, a lesson for me. But a good thing is, you know, after studying, then the second test, I immediately got to very top, you know, so, that was happy. [laughs]

SL: And you ended up at Cheng Kung University?

PC: Oh that's years later.

SL: Yeah, yeah.

PC: Yeah, that's correct. I end up at Cheng Kung University. At that time, in Taiwan, not too many universities, not like today, they have hundred and sixty something, okay. In those days, basically there were only a few universities or colleges together and Cheng Kung University was the second best. The best was Taiwan University you know, then. So yes, I went to that school and that school actually was supposed to be very good in uh, engineering, yeah.

CL: Did you know from a young age that you were interested in engineering and science?

PC: Yes. Uh I did, there were many reasons. In those days because through the interaction with my father, he always felt China was very weak, backward scientifically. And the United States, very advanced. And he attributed all of this to science and technology. So he always encouraged us to learn more about that, you know, so, so when time comes, it's very easy for me to make a decision to get into science.

CL: And what was your experience like at university?

PC: Oh actually, it was pretty good. I think all along my life I felt very fortunate, I always had good teachers, even in uh grammar school, in high schools, and then in college in Taiwan. And then later on, in the United States, I always lucky to had good uh, teachers. Since you ask me about college, in college I remember, in those days in Taiwan and uh, material was to speak, very poor. In Cheng Kung University I want to do some experiment, just to tell you one example. But to do that experiment, it turned out, it was - it had something to do with physics. Condensed matter physics and solid state physics, like transistors and so on. But to do that experiment we need very pure crystals. In Taiwan we couldn't - we did not have that, so they had to, one of my teachers decide to get the crystal for me. And he uh, to be exact, Germanium single crystal. Very pure one. In order to get that, he had to get it from Japan. To get it from Japan, you had to use foreign exchange. At that time, Taiwan's foreign exchange goes to zero. Government had to loan it, so he had to apply for foreign exchange. I didn't know that, only later on I realize to get that. And to buy that little crystal, I remember used thousands of, of *hundreds* of Taiwan dollars. Tens of thousands of Taiwan dollars in those days. So he did manage to get the crystal for me. When I want to do that experiment I was a junior in Cheng Kung. When I got that crystal it was about time to graduate. So I never do that experiment, but the teacher got me the crystal. That was quite impressive. I still remember that day.

CL: Did you have any mentors in your university?

PC: I think you may call all those teachers, we consider as mentors. But in Tai- Taiwan or in that part of the world in the old days I think the relationship between teachers and students are much closer, you know. We talk about not just knowledge we talk about how to behave, and so on. So you know, according to the Chinese, um uh, one of the famous educator consider said "being a teacher [mumbles in Chinese]" [laughs] I'm thinking in terms of Chinese. First, any propagate, any-- the knowledge okay, uh second is uh, solve problems. No, no, no, it's essentially propagate knowledge. Second, to teach the student how to do things. The third part is try to help the student explain their uh, uh, un- not understanding, uh explain their questions, you know. So, three major things. So in that sense, um, during those days the relationship between, uh, students and teachers very close. They - teachers doing geometry, chemistry, physics, okay, history, and so on, but they also tell us how to behave, how to have a, uh, satisfying life, you know, okay yeah.

CL: Do you think that's very different from the way American teachers interact?

PC: Uh, unfortunately, I don't know how they do in high schools and so on, because I didn't go to high school in this country. And then, once I go into, uh when I came to this country I was already in graduate school. In graduate school, the teacher just teach you how to do things, you know, how to write papers. We never talk about how to uh, live, those things, we don't. But this also a little bit of an exception, I was told. There are some teachers, really uh tell the student how to do things, how to live and so on. But unfortunately, I didn't quite do that, you know because, I just tried to finish my degrees as quickly as I can and then try to do something. So I spend, uh for example, when I went to UCSD, uh University of California San Diego, I spend less than three years there, and just doing my experiments and get things done and then find a job at Bell Labs and work at Bell labs and continues going like that. Uh I think my personal experience um, it's not representative. But uh, but I do, I, I was influenced by some of these uh teachers, I may call mentors, you may call them mentors and so on, yes, I, I was influenced by them, but by watching them. And uh, in that sense, I feel very lucky.

SL: While you were in China, you were in the Air Force? Is that right?

PC: Oh yes, in Taiwan. [SL: Taiwan.] Yeah because in Taiwan, all college graduates are supposed to serve uh, to do some service in the military at that time. So I did spend one year in military, in the Air Force. Right.

SL: How was that like?

PC: Oh, that was great for me. Because I was lucky, but some of the people are not as lucky as I was. Because once you are assigned to be, uh, uh, to be in the army, for example, in those days in Taiwan, the army some of them were sent to the offshore island, to defend Taiwan, you know. And uh, because like, Kinmen is very close to mainland. So they sent frontmen over. And we sent frontmen over to catch them, you know doing all that kind of things. So in that sense, quite dangerous you know. Years later, in fact only two years ago, I went back to Kinmen, Jinmen, Do you speak Chinese at all?

CL: I'm Korean.

PC: Oh, I'm sorry! [CL: No, no] Oh, this is, uh, Chinese chau- chauvinist. You see an Oriental face and you assume automatically must be Chinese. No, sorry, you know I, uh, yeah, so, so. I was very lucky. I was in the uh, in the Air Force. Actually Air Force, not exactly the Air Force but rather it's the aircraft, anti-aircraft uh branch of the Air Force, so I uh, the, the headquarters was staged in Taipei. That's the major city, so I had a great time over there, yeah. But some other people not so happy [laughs].

SL: And what did you do after that?

PC: Oh, after that. After that, then I came to the United States.

SL: Mhm. [PC: Yeah.] And you went to Fordham University?

PC: Yes, I came I went to Fordham University. The reason I went to Fordham University because one of my classmate went there, so I - also in addition at that time, there was a Nobel Laureate at Fordham University. In the uh, he was the discovery of uh, uh, I - now I don't remember. I think it had something to do with astrophysics you know. Professor Hess, H-E-S-S. So I went there and uh, but unfortunately when I went there he just retired [laughs] but still I went there and I found, I met a few very good uh, professors out there. So actually, uh, so I immediately worked there in his lab doing experiments. But one of the unusual thing is that I was lucky I went there. I became one of their best students, okay. But in the same time, they also felt for my future development I better go to UCSD, you know. Right now, I felt many of the people get this good student they would like to keep that student in his or her lab, you know. But I met this kind of professors at Fordham University actually wrote me a glowing um uh, recommendations. So I went to UCSD. The reason I knew this is a few years ago we had a class reunion and the professor actually told me the story when he cleaned up his office and he found the letter he wrote for me. [device starts beeping] It's really nice.

CL: Did you find there was uh, pretty good cultural trans-transition when you moved from Taiwan to the States?

PC: Uh, I think uh yes. The only thing I felt that in this country people are much more independent you know. Because in that part of the world, of course the world is changing, okay, but in those days the, the young people are very well sheltered by their parents. So we didn't have to worry anything. We never had to worry about tuition, and so on, okay, but in the United States, young people worry about tuition, even though you can get it through scholarship or student aid but they worry about it. That in that part of the world, they don't, in fact, that kind of culture to a certain extent I'm sure in Korean American family, they take care of the younger people you know. [laughs] I don't know your situation, but I do know in

most of the uh, uh, American family, or what I call American, basically born, uh, born here and they are more independent, the parents feel that after 18 you should be independent. At least that's my understanding, which can be biased and incorrect.

SL: Did you apply to any other schools besides Fordham?

PC: Oh yes, I applied to five schools. I think I got them all accepted uh, I got accepted to all of them, and then I decided as I mention I have uh friends uh, at Fordham, so I decide to go to Fordham. And also, because I feel that Fordham had a pretty good rep- reputation at that time.

CL: So, did you have to, finance your own education or worry about that?

PC: Uh no, I did not, and I was lucky, because at that time, my period of time, even now, in the United States, if you are in science or engineering, you get scholarship. So all schools I applied, I fortunately got scholarship. Not much, okay, but sufficient, you know. I think uh, at the time, it was two hundred dollars per month, and for nine months, so it was eighteen hundred per year. But for me, it's enough. When I was, when I was in Taiwan in service before I came here, month's – monthly salary is about ten US dollars. If I had ten US dollars of course I had to live in Taiwan at that time, so when I came here I was so happy I had two hundred dollars a month.

CL: When you were completing your education in the States, did you keep in contact with anyone back in Taiwan?

PC: Yes, I do. But many of them also came to the United States. You know, but I still have uh, I still had uh quite a few – not that many – but quite a few in the Taiwan, yes. We kept uh, communicating with each other, yeah.

CL: How did you do that?

PC: Oh, just those days we didn't have uh Internet or anything, just writing letters. Probably you don't know what it is, we call it Aerogram, you know, you must not have - uh essentially, it was uh, mails. But it's uh, that mails essentially just an envelope uh it's uh, you can purchase in the post office and you write it and seal and just like that. Not a note paper inside. So just like this. It's an envelope, and uh and the letters all together as one piece, you fold it.

CL: Were people curious about your life in the States?

PC: [laughs] I see. No, not quite, to a certain extent, yes, um, after the High TC- high temperature superconductivity – yes, I got a lot of interview [inaudible] discuss here.

SL: And so you got your Master's degree at Fordham? How long did that take?

PC: Uh, one and half years. Yeah.

SL: Okay. And where did you go after that?

PC: I went to UCSD, and uh, I forgot to tell- no, I should tell you. One of the reasons I was, I went to UCSD at that time instead of Berkeley, instead of UCLA there was a reason, at that time. UCSD was new at that time. And there are lots of young, rising stars at UCSD. And uh, in addition, this – they don't have uh, any requirements. If you get your thesis done, you graduate you know. So actually, when I went there um, based on the time and the courses I took, I was not qualified to get the Masters' degree, but I could get a PhD. Because PhD depends on whether you have finished your thesis. And I did. Actually I finish all that in around one and half years. But then after that I bump into my wife, okay. So I was courting her,

and so that delay for a year and half. So finally I graduate uh, around, around 3 years, approximately, yeah.

CL: How did you meet her?

PC: She...is an unusual young lady. And actually she - because her father uh, was an, was one of the greatest mathematicians in the world, you know and she's very bright. She actually went to UCSD as a graduate student but she was something like 18, 19 years old. So that's why I was impressed by that, you know. And so um, so that's how I met her. Yeah.

SL: Where is she from originally?

PC: She was born in China, but she came to this country when she was uh, a few months old. So basically she's more American than probably, than you, for a long time. Except, because her family still kept the language. So she speaks uh, Chinese very well. Mandarin, very well. But she could not write.

SL: What's her name?

PC: May Chu. M-A-Y. May Chu.

CL: Did you feel any sort of cultural difference when you met her?

PC: Uh, yes. I think we were complementary to each other in the sense you know, I'm quite sure we got married for so many, many years, okay. I'm quite sure I have changed something to her, and uh, adapt to the married ways of life and vice versa. But we felt this always good combinations so I know both sides. Although, not 100%, but at least I know more than many of my contemporaries from main- from Taiwan or from mainland China. And she also feels that way because of our, our marriage, she learns a lot of things about Chinese.

SL: And what- what year did you get to UC San Diego?

PC: Uh, 19- uh 65.

SL: What was kind of the atmosphere on campus at that time?

PC: Oh, you! Actually, right now, they had a big celebration in fact, today about you know, on campus, I forgot for how many, how many...UCSD when I went, they did not have undergraduate. They start off on higher graduate school. Original they had a very famous school, Scripps Institute of Oceanography and they expanded that into a general campus. And uh, you know, until when I graduate, even now, if you look at National Academy membership, UCSD is only second to UC Berkeley. Berkeley has a long history, right, but UCSD, if you look at history, if you don't count Scripps, Scripps of course just, very very old, in the turn of the century, when UC sets up, they already had Scripps over there. And, but the, but then the other things they did not have it until the 60's. So then, um, but now it's really unusual at that time. Or yeah, because they did not have ordinary restriction, so I said, let me go there, you know. It turns out I was not disappointed. It was right place to go. And uh, they have lots of professors at that time when I went, that's many years ago, 1965, they already had uh, two or three Nobel Laureates on their faculty, you know.

SL: What was your thesis about?

PC: My thesis is on superconductivity, just like what I'm doing now, but a little bit - quite a bit different. At the time we tried to find a general path how to superconduct in transition temperature va-varies with the elements in the periodic table, so, um, my, my, professor, or my mentor, using your word, and he was a giant in that field. But unfortunately, in 1980 he passed away, and he was also one of the candidates for

Nobel Prize at that time. So I was impressed by him you know. And one of, in addition, he never barred us as students uh, he - I still remember when I - when he first agreed to accept me as a student, I asked him what is my thesis topic? And he said "why should you ask me that, that's part of your thesis." So that's his approach, you know. But once you get something, then he will call you even at night. [laughs] That's his ways. And when you need any help, he would help, help you. And of course the reason I bump into him, is - one of the reasons was that uh, because I went to UCSD in 1965, I went there in the summer and I tried to uh, take the, the second language, foreign language to satisfy the requirement at that time. So I went a little bit early. I took the German course but then after I went, they decide to cancel the requirement, so I did not take it. But anyway, one day during the summer, one day I was locked out the building. I didn't know how to get in. Then I was wandering around all of a sudden there was a gentleman coming inside out. And I said, "sorry I got locked out," no problem. He opened the door. Then later I found out, that was the person, so Matthias, so I decided to work for him, you know later on. And then the other reason was that he - uh in those days when we went to UCSD, suddenly you can look for your thesis advisor but usually it, it was the thesis advisor tried to pick their student. And a few of them, two of them, I remember, one of them was uh, uh Walter Kohn. Walter Kohn later on got Nobel Prize you know in condensed matter physics, yeah solid state physics and actually he one day dropped me a note, come in talk to me. I reviewed your photos, I would like to accept you as a student. I think as young people we are always ask around "How is this professors?" or "Is this as famous?" so on and so forth, because I look at the book, you know, I look at the uh author index, you know. His name was there. Um I said this is good!

But then that's the good thing, he's a very strict professor. He would uh require his students to attend his seminar every week. And he will not give his students any time to prepare for their qualifying exam, because he felt like his students should be good enough without putting special effort to prepare for the qualifying exam. And then the third things is that he is very nice, he will give one month to his student for vacation, but without pay, okay? And uh, that's during the summer. And then I said, "oh that's all good, and he was so famous, I'd really like to work for him." But then I, I said, if he doesn't - he did not allow people to have time to prepare for the qualifier I said I was not that good, probably, I would not pass the qualifying, and then the rest is meaningless. So then I said I also need the money at the time, because summer, you save some money. Because in S- in those days, in San Fr- in California, because they, uh, they pay you fifty percent, you know the, the uh, the RA-ship and so on but in the summer they pay you a hundred percent. So you save some money, you can pay for your tuition. I said I do need that money. Then I said, that's, that's a no, that's a bad thing you know. But I said he's good. But then later on I immediately ask my friends, I said, "Who is the professors who doesn't bother student, who is good and famous but doesn't bother students and uh, and have lot of money to give the student for a scholarship?" They said Matthias. [inaudible] That's the person, that's how I turned out I worked for him you know. Original thinking was that after one year, maybe I can switch back to do theory, because Walter Kohn is a theorist, to do theory and Matthias is an experimentalist. I said I would do that. But then later on, to make the story short, finally I - because after a year I really got so much data, Professor Matthias basically told his postdoc I probably could graduate if I write it up, you know, so I said okay, I'll stay with them. Yeah. It's interesting.

CL: So you stayed with Professor Matthias?

PC: Right.

CL: How do you spell that?

PC: M-A-T-T-H-I-A-S.

CL: And who was the professor that you thought about working with?



PC: Oh, uh, um, Cohen – oh no, not, uh, Walter Kohn. [CL: How do you?] Walter Kohn. Walter, W-A-L-T-E-R, uh Kohn, K-O-H-N, Walter Kohn.

CL: Thank you. So, you were in California, and then you got your PhD [PC: Right] and then?

PC: And then I went to Bell Labs uh, for one and half, oh no, for two and half years.

CL: So when and where was that?

PC: That's 19, immediately after I graduate, 1968. I went to Bell Labs, I stay there until uh, two, 2000. Oh no, not 2000, uh, 19, uh, 19 uh 19...70. '70, yeah.

CL: And what did you do there?

PC: Oh you mean Bell Labs?

CL: Yes.

PC: At Bell Labs I was basically, uh, member of staff over there. Staff member over there. I was doing research and at that time Bell Labs is the center of the world for condensed matter research, you know, all that. And I was very lucky over there. I knew many of the famous uh, physicists in my field over there, so that really help. Then, after that I went to Cleveland State. The reason for that was that uh, at that time, during the Vietnam War, so there was a Mans, a Mansfield Amendment passed at that time. At that time they decided, any of the contract, defense contract, even Bell Labs actually was heavily supported by uh government contract, I think many people didn't know. Actually a lot of uh government grant contract going in. And so this - but then Mansmend, Mansfield Amendment, Mansfield was uh, I forgot, is a House Speaker or something, a big person. And later on he became the US Ambassador to Japan, you know, Mans, Mans, Mansfield Amendment. Mansfield Amendment saying that anything, any uh, research from defense department has to do work directly related defense. Because of that requirement, Bell Labs operation has some financial pressure, you know. Actually at that time. So, so because of this pressure and I was also thinking because in the old days when you go to uh, industrial lab, you establish yourself, then you go to uh universities, you know. But when this happen, and then all of sudden Cleveland State University, Cleveland in Ohio, at that time, they want to build up their universities. So they, their the physics department chair is a friend of Bell Labs' senior vice president Millman, so Sid Millman ask me if I would like to go to academia, uh, to university, to try to, to be a professor, assistant professor. So, I think about it, I said, okay, I, I would like to go you know. So when I went for interview and they told me that uh, they have money for the program and so on, so I agreed. But when I went, Ohio decided not to develop any more PhD program. Because of that, so then later after a few years I came down here.

CL: How did you find out about an opportunity in Houston and how did you decide to come here?

PC: Oh. Probably you should ask your father or your grandfathers. Because at that time, Houston's full of opportunities. Because the oil boom in those days. And you know, there was a collapse, uh oil price collapse in Houston. Before then, everyone in Houston thought only - anything under the sun, the sky is possible. So it's totally different in uh, you know from those in the, in the Rust Belt, in Ohio, for example, or Cleveland, yeah.

SL: So what did you do at UH? How did you get to UH specifically?

PC: Oh, I just transfer my grant from uh, Cleveland State to Houston. And Houston was very nice, agreed to uh, they had a position for me. So I came in and immediately I was professor came in, at the times oh, and I build up everything, yeah. So.

SL: And so, you established the Texas Center for Superconductivity? How long after coming [PC: Oh, that's uh, let me see.] to UH was that?

PC: When I came, that was 1979, you know, and Texas uh, almost no, 1980...almost ten years later, yeah.

SL: So you worked as a professor for ten years?

PC: Uh let me see...79, and 80- actually, 79, came down here as a professor already and then the discovery was 1987. [SL: Mhm.] So, so, less than ten years.

SL: Mhm, okay. What was your impression of Houston in general?

PC: Oh, I think it's a can-do city, a long time. Especially during those years. And later on, because there was a downturn, because Houston, because the oil price coll-collapse, yeah. For example, I still remember they tried to build up a neighborhood. That's where we stayed at the time, even now. When we moved into that neighborhood, one of our neighbor actually had his helicopter in out for work. Then later on the neighbors complain, so he stopped doing that. So doing that, but once the oil price drops, he disappeared. [laughs] He moved out, I think he was very, still very well to do.

CL: Have you been in the same neighborhood since you moved to Houston?

PC: Uh, I think in Houston, I, I did not mention that. Earlier we had another, we moved to another, southwest Houston, then later on we build our own house in this neighborhood. Since 1983, or '84, we stay there until today. Yeah.

CL: I didn't ask this before, were you married by the time you came to Houston?

PC: Uh yes, already.

CL: What year did you marry?

PC: Uh that's a long time ago, okay long time ago, let me see, 1968.

CL: So while you were at Bell Labs?

PC: Yes. We got married and then we moved to Bell Labs, the year when I graduate.

SL: Do you have any children?

PC: Two.

SL: What year were they born?

PC: Uh one was 19...uh let me see, 1974, the other 1981.

SL: So what were...what were your experiences at UH early on?

PC: Oh I think it was very nice, actually. You know, I felt whatever I had done U of H has given me lots of, I give U of H lots of credit. And that's why when something happen in 1987, and at that time I could go anywhere, and actually uh UC Berkeley gave me an offer. Very nice offer. Because originally when I was in high school, uh not high school, in graduate school, I was thinking one day if I can become a professor at UC campuses, one of the UC campus, not necessarily Berkeley, any of them, I would be very, very happy. But turns out later on, UC Berkeley gave me an offer. Then I talk to one of the persons that I respect a lot and basically his advice was to follow he said your - the significance of your work is not where you do it, but what you do with it. He said, well...I still remember his, if you go to Berkeley,

Berkeley you cannot beat Lawrence Berkeley. Lawrence is a giant in physics. Uh, responsible for high energy, uh nuclear physics, nuclear bomb and so on. You go there, but if you stay in Houston, they are so nice to you. If you are good you should be able to create something for yourself and for the university. So I said okay. I stay here, actually University is really nice, so I stay on. I don't regret. Yeah.

SL: So you think UH has given you a better opportunity to personally excel than a lot of other universities would?

PC: I feel that certain part, yes. But not everything. In terms, I should not say that, but it's also part of my own responsibility. In the sense, for example, people at Rice, you know, I think one of the Rice strength is the quality of students, you know. And I think you have high quality of students. Maybe not everyone, but proportionally speaking, you have more than here. This school has some good, good one, but proportionally speaking, not all of them. I think that's one of uh, weaknesses, you know. And the uh, the student qualities. But then, why that quality of student is not as good as Rice, I think two reason: you are a private school, and small. So you can be selective. Here, we have a responsibility to the state to educate as many students as possible. So sometimes you get good students, but proportionally speaking, it's much - is not as good as your university. Your mission is different. One day, actually asked me would I like to become your university president, when I was the president at Hong Kong University of Science and Technology. They actually ask me that. Well, but the thing is they, they, I think your university has always had good university uh presidents and all that. So I looked into your university, your university actually from day one aiming very high. Try to be excellent. Probably you don't know, when the university inaugurated, they had the Nobel Committee Chair in the inauguration platform, okay. So it was aiming that high. And here, our university here, U of H, was working class from day one. And they improved. They are moving up quite nicely. But it's different characters, okay.

SL: So how did- how did you become president of Hong Kong University [PC: [laughs]] of Science and Technology?

PC: I never want to become president of any universities. Because I was very happy here, everything. But then at the moment of weakness, so I became the president of University of Hong Kong uh, Hong Kong Science and uh, Hong Kong Science and Technology. Um, many reasons, okay. Because they were ask-after me, actively and earnestly, you know. So at the moment of weakness, I agreed to go for a visit. When I visited them, I think the whole uh, island was so enthused and tried to get the university up. And I also talked to some of my friends. I thought about it several reason when you go somewhere, you have to f-create some reason to make yourself to believe in it. One is I said, a university president, one of the major reason is to bring the university to a higher level. And that university is young, you know. Full of momentum. No historical baggage. So if you want to move some - the university up, that is golden opportunity. And then the second thing, and I felt that Hong Kong was undergoing a uh, economic transition at that time. And then the Chief, uh, executive, that's what they call their head, you know, and prior to the return to China they called governor of the island, and they really felt that the uh, China, eventually open their door, and Hong Kong will have a very important role to play in the economic transition. So they want to maintain, they want to make high tech their goal. If you're going to go high tech, of course that's Hong Kong University of Science and Technology will be the important thing. And then the other thing, and uh let me see, because I felt at the time, at that time there was lots of misunderstanding between the United States and China. And between the mainland Chinese and the Chinese in Taiwan, okay. All those things, I said I was born in mainland China. I grew up in Taiwan, and I was working in the United States. I watch the three sides, I know the, the good thing and bad things. Maybe I can act as an ambassador, try to help smooth out this relationship. So I think, maybe it's worth our while to think about this possibility.

Then finally came they asked me when I went over there, immediately they took me to meet with the chief executive and also all the ministers okay. I was so impressed, because that bunch of people the highly educated, highly motivated, they are very good in Chinese, as well as very good in English, with some British accents okay but they are very dedicated people, try to make the island a success. So I was impressed, so I went – so I came back talk to my wife, and then finally the offer came, they said they would like to give me a 15 years offer, okay to be the president, [laughs] I thought 15 years, 15 years I will not have teeth, I could not walk straight, okay all that. So too long because every term is 5 years. Okay - three. So I said, “too long.” They came back and said “what about ten years.” I said, “still too long.” Then finally they said, “five years,” you know, uh I said, “let me ask my wife”. My wife said, “tell them, three years, send them off.” Okay so I said, “three years.” They said, “no problem, we’ll work on it.” You know. So now you can see how the system is so flexible effective, you know. So three years they worked out basically they still, officially it’s almost like 5 years, but 3 years you can start, you don’t have to move on you know. Okay going like that. So it’s quite nice, you know at that chance. So that’s how I got hope and then three years, then later on five years, and then later on add one year one year and finally when I return it’s eight years. So, never regret, it’s a great opportunity for life. It’s really, you know at that time, lots of people go into uh China or Hong Kong at that part of the world, they all want to visit Hong Kong. And when I was in that position, I met many of the head of states of different countries, okay, so that’s quite interesting. So, it’s a good lifetime experience.

SL: So, you were president as well as working at UH at the same time?

PC: Yes.

SL: What was that like?

PC: [laughs] That was - this is usual, this is also unusual. I-I think you guys knows my background, you don’t need this interview, you don’t. Yes, um because at that time, really life here is very nice you know. Very nice. The same - by the same token, at that time because high temperature, superconductivity was so uh exciting. Also many of the head states visit the United States they like to come down here to meet with us. And although you know this is maybe I’m bragging a little bit, but I never – I was never a chairman, okay, not even a dean let alone vice president, president of the university and then I became president in over there. [laughs] It’s really unusual. But in terms of experience, I was quite confident. Because here even as a center. I have to be heavily involved in fundraising, talking to the government, and different level from state, city and also the federal government. So, I have lots - in addition as I mention, many of the head states, heads of state when they come to this part of the world and they would like to visit the center. So I met all these things, and you become president, that’s all you do anyway you know. So, so okay then in 19- in 2001, the year when they finally make me the offer and I agreed to go, because basically, you know at that time, in a sense, my career was quite smooth, quite nice in the United States. Some people said, “Are you stupid?” You know, “why should you give up that,” you know? Then I said, people say you cannot have the cake and eat it too. And I was thinking, “Maybe I’ll try that”. In fact, I asked one of the presidents in China, and he said to be a president you have to be 100% time devoted to it. You may survive. If you want to be a good president and also good researcher, you cannot survive. You, you may even lose your life you know and all that. When people said that, I said maybe I could do it. So I talked to the university. I said everything is in public, and finally the two universities agreed to give me this joint appointment. And then the interesting thing was that, I told Hong Kong, I said, you don’t have to pay be 100% time, you just pay me 75% of my salary, give me 25% time to do my research, here

university agree you know. They said, there's no part time president of any university. If you are the president, you will be 100% time. At least in our view, and - but if you work hard enough, and you can - the rest of time you do whatever you want. So basically during that period of time, I almost come back once a month you know, spend time working here, and then over there, I - I didn't do research. Because I worry. Because once you are the president, you have lots of money going through your office, if uh even government agree you do something - actually they want build- duplicate my lab over there. I said, "I don't want to do that." There are several reasons. One of the reasons that the US government said you are using federal government money and you are working over there it's not proper. So I don't want to have my research over there, just here. And also for them, it's unfair if I take some money to do research over there. Then what about my faculty member? They - it's quite natural they would think if you didn't take the money, the money will be ours you know. So I don't do research over there, but every day after working hours, something, at night I would call my lab, so we communicate through the phones and do things. So that manage quite nicely in fact uh during that time, my publications still pretty good you know.

SL: Can you describe your research in the field of superconductivity?

PC: Yeah you know superconductivity is the one kind of properties of materials. When you cool it certain, below certain temperature, it will lose all its resistance to electricity. Because usually, you pass current through a material, because of the resistance. So it generates heat, that's a waste of energy. So it was - it has been a dream of people, of physicists, try to find a material which can go to high temperature and pass current throughout without energy loss, because right now when we look at the electrical grid, you lose around 10% of the energy. If we can recover that 10% of energy, the world, we can cut down many of the, of the power plants and that will save the environment. In addition, it can do all sorts of wonderful things. Without superconductivity, would not have MRI machines you know. And also other standard uh, uh method to determine the constants, physics constants determine thing - uh - so it's a very important both from science point of view and also from technology point of view. So that's what I try to do, what I try to do is can we raise the temperature, uh we call it transition temperature, that below which the superconducting becomes no resistance to electricity, we try to do that. If we can find a material hanging here, become superconducting, that will change the world completely. This not just for power transmission, you can also use it for public transportation, okay, in addition this material has possibility of levitating material you know and now in fact, now we're in the process of talking about building a little magnetic levitating train downstairs for - as a platform for the general public, in our office.

And I think you might have heard of uh, Elon Musk talking about the super loop you know and that's essentially you put something down from here, it can go to London very quickly you know, you come back down, and all that. So it can change many, many of the things. You can also use it to launch satellites for example. All kinds of things. Right now, it's uh, okay it's so great, how come I haven't seen it? Because you have to cool, and cooling it, it's uh challenging, that takes energy already. Right now, actually it's still better than using the conventional technology. But the problem is that uh when you cool, uh it's very cumbersome, you know. So one of the things we are doing here is to raise the transition temperature by different method to see whether we can do away with the liquid cryogenics, that's one thing. And then the other thing is that uh can we use it, for uh, for um medical purposes for imaging, not just MRI, but other method of imaging. Actually, my colleagues, some of them are doing that in the center, and uh - so there are lots of possibilities. And we're looking into it. But one of the major things that now we're putting together, is that try to see whether we can use what we have here and to - for benefit humankind, because we are all as researcher, we always try to get the best, the highest TC, get the room temperature superconductor you'll see it you know in newspaper and all that. Actually right now, we get, we don't, we have not get at that point, but actually it's pretty close if you apply pressure, it can become superconducting at 260 degrees Kelvin, that's pretty close to room temperature, but with a pressure equal to the center of the earth that's about 200 gigapascal. You know how can you use it, you

cannot. So right now my lab is doing many other – many things, one of them is can we retain this space high pressured space without pressure, if we get that, that'd be great. Now we did some experiments, and some other material, it shows this is possible. But possible to, between poss- possible and become reality it's a big gap you know. So we'll see what happens. And the other thing is that as I mention, being a scientist, you like to do everything the best you want to. But from the application point of view, that's not the way of doing things. You optimize all the factors, you are doing - studying business, you know. The final thing, the final result, how much uh cost. Can you reduce the cost minimum and get the benefit high, in terms of cost, dollars, and so on. So, recently, I feel that's a possibility. We don't have to get such an ideal material to get it working and actually now we are having a project, try to consolidate a renewable energy together with high temperature superconductivity and petroleum industry and so on together to get it- to get it going.

SL: What sort of advancements have made in superconductivity since you've, since the TCS has come to be?

PC: Okay. First, one of the major uh benchmark was a transition temperature. When discovered, basically broke the liquid nitrogen threshold. Liquid nitrogen temperature is 77 degrees Kelvin. And we brought it up to 93 degrees Kelvin. That means below that temperature, it's already superconducting. Prior to that time, superconductivity you have to use liquid helium to do and liquid helium is very rare, expensive, and inex- inefficient to cool things. So that was a breakthrough. And then after that, we continued to raise the temperature, just our lab we raise the temperature up to 164 Kelvin that's pretty good, but 164 we have to apply the pressure. Again, the pressure is 132 gigapascal. Uh that's about uh 32, is 32,000 uh atmospheric pressure, so it's still very high. And then recently, some people in Germany, and also in geophysi- in Germany, they found out if you squeeze hydrogen sulfur, sulfur and you can get the superconductivity around above 230 degrees Kelvin, and again above 200 gigapascal. But very recently people in Geophysical Lab they claim they got the things looking at lanthanum hydrogen 10 and they apply pressure above 230 gigapascal to get the transition temperature up to 160, that's one I mentioned earlier. So that's what happened, okay.

Uh you said – that's, that's in terms of uh, uh transition temperature, so it's a big jump. Originally people thought, before our work, people thought you cannot get above 30 degrees Kelvin, based on the theory and all that. But now we really, after our work, really shows people that that's a possibility, you can continue on. That's in terms of the material part, and then other thing in terms of theory, there's lots of models proposed. Up to this point, there's no one commonly accepted model. So that's, that's the situation. So there's still lots of work for people to do, so there are lots of theories to know, without losing their job, you know people can still work on it and uh I think military area they also looked into this possibility for mine sweeping and all kinds of things doing this kind of thing. So in a sense, quite a bit – it also transform the material science, the landscape of material science. Because of this material, the whole world jump into it. They develop new techniques you know, for handling the material, characterization of the material, and also different theoretical model to explain many of this kind of thing. Because of this study of this material, other phenomenon were disc- were discovered, and for that, that's uh it has major impact in modern day uh science.

SL: So in addition to UH, and HKUST, you are also – you were also involved with Zhejiang University?

PC: Zhejiang University – ah you look into that. Yes, uh yes um, but not in a big way only minor because at that time, there was uh they try to establish a research institute, at Zhejiang University it's called Qiu Shi [1:08:00], by a very rich person from China- from Hong Kong. They try to do that. But my involvement right now is very marginal, it's not very big you know. And uh at the time, you know right now China's development in science and technology is phenomenal, you know, much, much more so than the United States.

SL: And Academia Sinica could you explain what that is and what you're involved with?

PC: Uh yes uh because this is a very elite group in Taiwan, and many of the members were also members of the National Academy members of the United States, you know over there, but they have to be uh Chinese origin, okay. Or they also have foreigners, but they call it foreign uh, membership. But somehow if you have uh Chinese origin, they just consider you just Chinese, okay. So over there. So my involvement basically I also involved uh in some of the, not day to day operations, but on an advisory board, I do that, yeah, help them to select their people and to make suggestion what's the best to move forward, and so on, to make the, the institute um more prominent. And they do very good jobs in that sense.

SL: How important would you say it is to collaborate with other institutions and other countries while you're working in the US?

PC: I think it's very, very important very important as you know science has no border. And this is very important. I'm really concerned about what's happening recently you know and uh that reminds me something of the, maybe your grandparents can tell you, during the 6- 50s, the McCarthy era, and that's a red scare, red scare and now it's yellow scare. You know, that's uh, that's a very bad for this country. And also for definitely not good for Chinese over there. And particularly uh um make the, the, Chinese American or Oriental American here, scared. I'm quite sure you must have read something at MD Andersen recently.

SL: MD Andersen?

PC: Yeah.

SL: Uh like what's happening there?

PC: Several people uh got investigated the detail I don't know, but some of them were forced to resign. Because their connection with the Chinese. Some of them may be justifiable, but some of them really not quite.

SL: Do you think current immigration policies have had an effect on the competitiveness of American institutions?

PC: I think so. I'll tell you because I served on the uh the committee uh of 21 uh from a few years ago in Washington DC. They have 10 people from academia, 11 people from industry. They are all very prominent, for example, the president of Stanford was there, John Hennessy. And also many of them for example one of them is from Johns Hopkins, that person was a Nobel Laureate in Life science, [sneezes] we discussed how to maintain the US uh [sneezes] prominence in, in all in the science field [sneezes] this was one of the things uh we discussed. And I think the most important things, it has to be open you know. Because science you, you, you, you [sneezes] if you confine it uh locally in the States, it's very closed. And this is actually to a certain extent [sneezes] this was the downfall of the Soviet Union in their science, they actually, they are very good in certain areas, but they are not open. You know. And this is also the strength of the United States. So during our discussion, a few of them [sneezes] in the life science field, they said, if you pick out the best [sneezes] life, life science mm laboratories in the United States, they are more than 50% of them were Asian American. If you start using this kind of rules, then you, you wipe them out, you also wipe yourself out. So this was quite serious at the time.

So we discussed, actually at the time, that's uh also during the O- the uh Donald Trump's election, when we finished the study, there was a report coming out, but unfortunately when the report came out, nothing was more important than Presidential advi- uh election, you know, so not much attention was paid to it. At that time, you know, also because after 9/11, the visa restriction was imposed. So many of the people have problem to get the Green Card, and so on. So at the time, we propose to uh relax the rules, to give the people, this highly educated people to, to do it. Because I told them, in Hong Kong, they did that too. At the beginning in Hong Kong, once you get your PhD, you're supposed to leave the university, or leave Hong Kong within, I forgot, you know maybe a week you should leave. Then later on, it's stupid, we spend so much effort and money train them, and we ask them to leave, so they changed you know. They said, in fact, they tried to ask them to stay and ask companies and so on, you also try to look into this part of resources, to use them. And they did that, now to use them. So I – that also happened at that time, so they decided to relax the rules and so on. And some people even proposed to make them citizenship and do something. Of course, that's very hard, that's very sensitive, that part so that part was not included in the report. So uh yes, yes I think uh right now the, the, the rules and so on that I know. I don't know too much about that, I did not pay attention to it. But if, based on the – what I read in the newspaper, then this country will suffer.

SL: What have been some of the biggest barriers to your success in your career?

PC: I feel probably it's my language, you know [laughs] no I feel I'm very lucky in this country. You know, I feel this opp-this kind of opportunity probably is difficult to happen in some other places, you know.

SL: Have you faced any discrimination since being in America?

PC: No, there are some nuisance happen, occasionally. Give you one simple example, when I first came to this country, I tried to look for, when I went to uh Bell Lab, one of the summer, I try to rent a house over there, just a room, at the beginning you know. And no not, not it doesn't matter, it happened in that part of the country. The young - lady was an old lady, very, very nice, so we decided okay, I'm going to move in this sum- I think it was later I had to go back for the summer at Bell Labs – I tried to get into the house, at the rental house, the lady was so nice that she tell me to wait and welcome me in and all that. So I said, okay, I'm going to rent it okay uh go back and get everything signed and so on. When I left, she said, "I said I, I told many of my friends, not all the colors are bad." You know. That – maybe I was oversensitive, so I decide not to rent it. Depend on how you interpret the situation, you know. So that was one of the examples. Yeah.

SL: How big of a problem to you think discrimination is for Chinese American scientists overall?

PC: I. felt up to this point, in my career, I haven't felt it as seriously. Okay, I have not – but I can see right now, it's serious. In fact recently, some of the people asked me this questions. I feel at this moment, the most uhhh the saddest– the most challenging group of scientists in the United States, in terms of ethnic background, is the Chinese, male. Okay, because if you talk about female, now there is, there is some protec- protection you know female. Of course, you know so they are the, the, the oriental males it the least protected one. Because they are pretty well educated, in terms of population lots of them. If you try to look into percentage wise, speaking in the sense you cannot complain. I'm talking about the Oriental male, because you look at the department different thing, lots of them, they say you are already overrepresented. But right now, it's other, ethnic group or minority group you know, coming in, say oh this is overrepresented, and all that. So it's a complex issue. And they are very difficult. Because some of my students, my college students, including Caucasian, they can get job very easily, because they are already US Citizen, you know but uh Oriental, they don't particularly they are Chinese at this moment. It's very difficult for them to do, but again like I said previously, if we don't solve this problem, then they



will leave this country. And go back wherever they came from, it's a big loss for us. We spend so much money, so much effort to educate this group of people. If we don- cannot make use of them, it's a total waste, it's bad for us, it's bad for them too. Myself, I so far I have to say I haven't received too bad uh experience. I have not you know –

CL: What would your advice be to younger Oriental male scientists?

PC: Yes. I think you know, I ask them to be more participative in all the, uh business. But again they are restricted, because now I am a citizen, I can participate in many activities, they are not even citizen, how can they participate, you know right? So it's a very tough situation, I just pray the two countries – will not conflicts. But in today's world, it's difficult. You know, when I graduated in those years, immediately Green Card given to me. But now they have to apply and wait for years, you know interviews, they don't know whether they'll get it or not. Because actually there are lots of technical opening in this country at this moment. But since they are from China, their chances close to zero. Particularly national lab is close to zero. In some other business, I'm not so sure, but the thing is, the following, like the things we're doing has some problem have some defense implication, so you know it's pretty tough you know.

CL: Has that been a concern that researchers you've interacted with have expressed?

PC: Yes. I can see even my students okay. So what do they do after they graduate from here, you know? They have to look for jobs. In the old days, university have lots of openings, universities more neutral in a sense you can get in the universities. Now universities to a certain extent, filling up more people, particularly if you look at university in the science department, many of them are Oriental already – if you look into quota or something, they're over represented. So to me, it's uh I don't know how to explain it you. You know it's pretty tough on them.

SL: What do you like to do when you're not working?

PC: [laughs] I used to have a gar- I used to do lots of gardening. Now even that part I don't do anymore you know. Many reasons. One it that uh not that much time, and secondly right now, if you ask me to crawl down continuously, it's tough on me. [laughs]

CL: Do you have any grandchildren?

PC: Yes I have two, from uh our daughter, and one is 8. The other is 9. It's all adoring, adoring they're very good, yeah.

SL: How have you balanced your work and family life?

PC: I'm [sighs] it's hard to tell you know, but the thing is I – I'm very lucky to have a very understanding family. When I don't do anything, come back and then we can chat and so on, got along well when I'm not there, they don't miss me.

SL: What languages do you speak at home?

PC: At home, very likely we speak uh – very often we speak Chinese, we felt for example, our daughter and son – I felt if I taught them English with accents, why not just teach them Chinese you know. [laughs] So from day one, I decide to do that. Sometimes, you know when kids go to school, they come back they immediately they will speak things in English, I'm quite sure you experience too, you do that. But then we continue to talk to them in Chinese, in the beginning they would respond in English. You either say, "I don't understand" or you and then you just doing that, and finally they'll just catch up. I'll tell you,

probably it's different from your experience, but our daughter actually here in the weekend, will send them to the weekend school study Chinese. Probably you do that in Korean right?

CL: Yeah.

PC: And then they, they really complain, I don't know if you're different, but our children, they complain about that. But the funny thing is our daughter uh after graduate from high school went to uh, Berkeley. She herself, register in some Chinese courses, and try to learn the language and all that. So now of course she even uh can read some Chinese things because she got interested in the culture herself, she's an ophthalmologist. But when she had time, she still do this kind of things yeah. So it depends. It just – when they're young, at least we hope they can do that, do something and therefore part of the culture will be embedded in them you know. And hope they can take the benefits of being biculture – uh bicultural that's what we do, because actually when I was here, I was – no when I was young, already here I was also heavily [sneezes] involved in the [clears throat] Chinese community [sneezes] educational activities. I was in charge of not in charge [sneezes], heavily involved with one of the Chinese uh weekend school. At that time. I was thinking [sneezes] what kind – what's the purpose of school here [sneezes] some of us, parents thought they should 100% Chinese you know, so doing all this all the other things, they have to make a living and all that. And some people said they should be half and half. And I said, they should be 100% American. With a Chinese character. The reason is very simple, and it's my biased view. I felt that you were born here, and if you go back to China or Korea, the local people will not accept you as one of them really – because you are basically different, you're American you know. So, so I taught all this young peo- parents, some of them even debated me, but I listen – at that time I was their board of director, I said let's go and teach them 100% Chinese uh American, and to be able to compete in American society, and the world but should take advantage of your culture, advantage, difference. Like thinking and different things to understand other part of the world. So that's what I do, and that's my belief, whether it's correct or not. This is subjective. Yeah.

SL: What are some of your product accomplishments so far?

PC: I see – it's hard to tell you know. You usually, when you try to get a uh great report, you don't get it from the person here or herself, but from somewhere else. So I'll leave it for other people to decide.

SL: What is a typical day like for you?

PC: Oh sometimes, okay, just tell you today, okay, actually all this turns out is not important but. still, because now we are trying to hire a distinguished professor here in the condensed matter physics for the Center and also for the Physics Department and of course, you when you hire someone distinguished, you have to spend the money, you know and then I-I just heard today, they said, oh because the package is too big, we don't have money. I said, you know you spend the money, not - there's no guarantee that your place will become great or something. If you don't spend the money now you don't even have the chance. So to me, that's uh, that's a challenge, so this morning, when I came in the first thing I said, make a appointment with the vice president for research because he has to up the matching fund, and if not, then make the appointment for me with the chancellor, uh not the chancellor, with the provost first. If still doesn't work, I'll see what I can go to talk to the chancellor. So that's my day, sometimes. But this is always uh shows that you already grow up, you know that's part of your responsibility.

CL: So how much time do you spend on your research if you have a lot of other things to do?

PC: Oh yes that's the toughest question. It's very difficult to compartmentalize that, you know. So usually you just mix them together. At this moment, I talk to you people, you know I always like to talk to young people. I feel this is a really - one of enjoyable things, and in fact I have to say, being in the university

usually we don't feel that old because we feel the environment doesn't change that much, I must be young. But I know it's not true, you know and this is important thing. So along to what your question is, we always mix things together, you know and then after this, before you guys came, I was you know working on other issues. In terms of experiments now, I do less manual work, but I'm still designing something here you know. You see on top of my table? And I still doing that high pressure climate you know. Because what we do as I mention, one of the things I try to accomplish it may not work, that - can we stabilize high pressure phases, which superconduct at very high temperatures. If we can do that, that's solve some big problems. So, so we look at that – that some of the material and so far so good. And unfortunately the TC is very low.

SL: What are some of your future plans, goals?

PC: Well the thing is I really hope you know - many of the things are beyond our control I can only hope but what's my future, I hope we can get the so called high temperature superconductor useful to mankind that's one my immediate goal is you know, whether I can accomplish it within my lifetime, I'm not so sure, you know. And also I feel that uh even though I still feel quite energetic but I can also see mind cannot beat age. But that's one of the things you guys cannot beat me but whatever I have done, you can beat me, except age, you cannot fortunately cannot beat me on [laughs] so you said what's the goals and hopes. I have lots of hope, one is just I hope the world becomes more peaceful. I really hope sincerely that will happen because when I look back, so many wars in the last few decades, what's the results – it just some city destroy, many people got killed, as their life been improved? No. you look at Middle East, all those things, so I just hope no more war, but in terms of career wise speaking, I hope the high TC can prevent human beings and by different ways that's what I'm still working on, yeah.

SL: Okay, we don't want to take up too much of your time, um is there anything else you'd like to add?

PC: No you guys are very exhaustive, I should ask you guys about myself [PC and SL: [laughs]].

SL: Well thank you so much Dr. Chu.

PC: Nice talking to you both.

SL: You too.  
[interview ends]