Introduction

My name is Tim Davidge and I was a staff astronomer at CFHT from 1987-1992. I grew up in Calgary, Alberta, Canada during the sixties, which was an exciting time to be growing up if you're interested in astronomy because there was a lot of action going on in the race to get to the moon, etc.

I first became interested in astronomy when I was about three years old. My mother took me to the grocery store, she had to pick up a few things – and she parked me in front of the newsstand, she ran away and got whatever it was she had to get – when she came back, she saw I was still there, she was amazed – I was only three years old – and to reward me, she said, "Why don't you pick out a book and I'll buy it for you?" So, I looked around and I think this was around the time that the Mercury program was going full tilt, and I saw a book with a rocket ship on the cover. So, I asked her to buy that book for me and went home and looked at it. It had lots of really good pictures in it,

About a week later, my grandparents came over for Easter dinner. I remember sitting on my Grandpa's lap showing him this new book I'd gotten with all the cool pictures in it. One of the pictures was of a galaxy. I showed him this really cool picture of the galaxy, and he said to me, "You know, there just might be another little boy in that galaxy looking back at a picture of our galaxy." And I was hooked. And that's when I decided I wanted to become an astronomer.

So I did become an astronomer. I never did really grow up. But, here I am today in the CFHT library, being interviewed for this oral history.

I. Family Background

Liz Bryson: Enlighten me a little bit about your family background – any odd people in the family – scientists, mad scientists, prior to you, or was it just the book that hooked you? Was there any predilection for it in terms of your background that would make you more of a scientist than other children your age?

Dr. Davidge: I don't know. There are no scientists in my family background as far as I know. My dad was a surveyor, so very mathematically oriented. He did very well in science in school. My grandfather, on my dad's side, was a Methodist preacher who moved out west in 1912 from Toronto. And, he actually studied astronomy at the University of Toronto a hundred years ago. He had to take it as part of his Bachelor of Arts program, as a precursor towards getting his bachelor of divinity degree. As far as I know, he was the first in my family to take astronomy, but he really didn't influence me that much – I think it was just everything that was going on in the sixties that made me want to become an astronomer.

Liz B.: Did you have any school friends who also wanted to be in space or be in astronomy? Did you dress up at Halloween to be an astronomer?

Dr. D.: (Laughing) With a funny little pointy hat and stuff, I guess, for example. Most of my friends were really into space, just because it was the thing to do in the sixties, right? They were launching stuff into orbit all the time, especially towards

the late sixties, with the Apollo program. A lot of the guys I knew that were my age, ten years old or so, thought it was really cool that things were going on in space. But nobody really thought about becoming an astronomer. Actually studying the stars…they wanted to go up there into space, do space walks, walk on the moon, and play golf and stuff up there.

II. Youth – Calgary, Alberta, Canada: 1958-1984

Liz B.: Well, in your early years, were there any classes that taught about space, and did that inspire you or were they just pretty traditional and text book?

Dr. D.: The curriculum was pretty rigid and they didn't talk about astronomy at all. But, whenever there was something big going on in space, like Apollo VIII, for example, what they'd do is they'd stop classes and bring in TV sets into classes and we'd watch the TV programs. So, back in those days, going into space was a really big deal, and there'd be around the clock coverage on the major networks in Canada about what was going on in space, the latest space mission. We'd watch that in elementary school and in junior high school as well.

Liz B.: What was your first experiment as a child?

Dr. D.: I got a chemistry set when I was about ten or twelve years old. I made H_2 S (the rotten egg gas). That was the only experiment I ever did with that chemistry

set. My parents were quite happy when I ran out of the chemicals to make the rotten egg smell. They thought that was great, then they put the chemistry set away, and that was it.

I also enjoyed going out in the back yard with a pair of binoculars and learning all the constellations and the names of the stars.

Liz B.: How old were you when you did that?

Dr. D.: Eight, ten years old or so. I was fairly young and I went out and bought a book about the constellations, and I went out every night and tried to learn one new constellation a night. A little bit of discipline.

Liz B.: Speaking of discipline, what lessons did you learn from your family in your early years that carried you through in your scientific work ethic?

Dr. D.: My parents were very traditional Protestant work ethic type people, where you work very hard and apply yourself. That's the way I was raised, where you work very hard and you'll get rewards. I learned to be focused. Both of my parents were focused when they wanted to do something, say, save up money for a trip. They would focus on that and do it. I think that kind of discipline helped me in university. I could go out and carouse, and yet set aside time to also apply

myself to pass exams, and write term papers – things that had to be done to get through university.

Liz B.: Do you think this is true of your brother and sister as well?

Dr. D.: My brother and sister are very different. My sister worked as an accountant and then she married. And they're now retired. They spend half the year in Arizona and the other half in Calgary where they live in a huge house. My brother, he did not go on in school. He's actually much smarter than me, and when he was in school, he did very well. He just was never happy there. Now he runs a bakery. So, my family really did different things.

III. University Years – Victoria, BC 1985-1987

Liz B.: Let me skip over from this period from 1958 to 1984, and move to the time you've written down here that from 1985 to 1987, you were a geophysicist. Why that venue and tell me how you got to that point and from after you left Calgary.

Dr. D.: I was still in Calgary when I was a geophysicist. I studied physics and astronomy at the University of Calgary. I have a bachelor's degree from there and a master's degree. After I finished my master's degree, I did a lot of soul searching- what did I want to do with the rest of my life? It was two things: either work in industry, or go to graduate school and become a professional

astronomer. Calgary at the time, in the early eighties, with the oil industry there, there were a number of jobs for geophysicists. They didn't really require a strong geology background, which I didn't have, but they wanted a physics and math background, which I did have. So, I thought I'd try working for a living for a while. That's when I went into the oil industry, working for AMOCO. And I found after three years, it was a really fun time. Lots, of money, I made some really fantastic friends, and the work was very interesting, but I found I wanted to go back into astronomy. My heart wasn't quite as deeply into geophysics as it was making money in geophysics, as it was being in astronomy.

In 1984 I decided I was going to go back to school, and do a Ph.D. at U Vic.

Liz B.: You talk about, "It was really a fun time". First of all, tell me what you considered a really fun time, and then tell me, did you not consider going back to school a fun time?

Dr. D.: Look at it this way: a bunch of guys in their early twenties making huge salaries. Use your imagination! You're making big bucks, and work's only eight hours a day.

Liz B.: What did you do with this gobs of money?

Dr. D.: I had a house. And, I bought a couple of new cars. And I kind of did the extravagant lifestyle thing. But I found that having material things like that just didn't interest me as much as the humble poverty strewn existence of being an astronomer.

Liz B.: How did you during this time keep up, maintain your interest in astronomy?

Dr. D.: Geophysics and astronomy/astrophysics are actually very similar. So many of the techniques you use to look into the ground are the same that you use to understand the sky. As a matter of fact, many of the skills I learned, exploration seismics for example, imaging the earth's interior, I applied later on in understanding looking out into space. I used it in my astronomical research. Even though one is looking down and one is looking up, there's a lot of common ground there.

Liz B.: So, you moved back to Victoria…

Dr. D.: No, I'd never been in Victoria before…

Liz B.: OOOhhh…

Dr. D.: So, in 1985 I packed up…

Liz B.: What made you choose Victoria?

Dr. D.: First of all, it was much warmer than Calgary. Calgary is like the Steppes of North America, equivalent to the Siberian Steppes. I knew a couple of the people that ran the astronomy program there. One of the professors there, Chris Pritchet, is a frequent user of CFHT, and Russ Robb, who's a very good friend of mine. He ran the observatory in Calgary. They were both in Victoria. U Vic also had a very good reputation as a good astronomy school. So, all three of those factors: climate, knowing people and the reputation of the place drew me to U Vic.

Liz B.: What did you do there as a student? What kind of classes did you take? What drew you to those classes? And who was the most important mentor during this time?

Dr. D.: Okay, the classes: to get a Ph.D. at the University of Victoria at that time you had to take three full classes. You basically had to take what was offered. There were maybe six or seven graduate students at the time and they couldn't offer a full slate of courses. So I built upon many of the courses I took at the University of Calgary, things like Stellar Interiors and Evolution; in Stellar Atmospheres; in Cosmology; the Interstellar Medium. There was a course in Binary Stars, which was the topic of my doctoral dissertation.

The most important mentor I had at the time was my Ph.D. supervisor, Colin Scarfe, who basically gave me the freedom to explore astronomy. He allowed me to choose my own topic and enabled all of the things I did as a graduate student. He provided, I think, a very good foundation, he's a very down-to-earth individual, who knows how to supervise people and get the best out of them.

Liz B.: Tell me about a favorite time that you spent together.

Dr. D.: Colin and I?

Liz B.: Yes.

Dr. D.: We'd meet in his office once or twice a week and we'd sit down and talk about what I was doing. He'd let me ramble on (like I do from time to time), and he would offer very sage advice. It was just a pleasant kind of experience of two people interacting, trying to get a project, my dissertation, done…completed.

Liz B.: Do you still maintain contact with him?

Dr. D.: Oh, yeah. Very much so. He's still in Victoria.

Something else, I enjoyed too about being at U Vic, during the summers, in order to make money as a starving student, I worked for Colin on a program studying

binary stars. Using the telescope there at Victoria – there's a twenty-inch telescope on top of the physics building. All of this work would be done in the summer time because Victoria in the wintertime is a nightmare for astronomers. It's overcast all the time. It was fun to go out there and use the telescope, kind of commune with the stars, as it were.

Liz B.: Who were some of your contemporaries – other students that you worked with at U Vic. Do you remember?

Dr. D.: There's Thomas Lowe, who is now a telescope operator at JCMT. I saw him just a few days ago up at Hale Pohaku. Paolo Enfante, who is in Chile now, he's a Chilean; there's Dave Holmgren, who is working at Brandon University; and, Karl Grillmeyer, who is now a project scientist with SIRTF at Cal Tech. Those are the ones that kind of stick in my mind – those are the ones I hung out with.

Liz B.: Tell me: you talked about this fun time you had as a geophysicist. Was there any opportunity for fun or was it all grind? And, if it was fun, what did the geeks consider fun at this point?

Dr. D.: No, no, no. First of all, most of us were married or were living with people at the time, so we did a lot of couples-related activity. Karl Grillmeyer got married, for example, when I was a graduate student at University of Victoria, so I went to his wedding. We did a lot of socializing. Every Friday we'd go out and pound back a

few beers at the Student Union building at U Vic. We did that with faculty members, too. And, if we could convince them, we'd go to the faculty club and get them to buy the beer for us. That was a very rare occasion.

We had parties, when you're a graduate student, you kind of figure out how to work the system. You can kind of de-couple your academic side from your side when you have to relax.

Liz B.: Who were the more outstanding professors that you took classes from?

Dr. D.: Chris Pritchet always gave an excellent, well-prepared lecture. He's a brilliant individual. Don Vandenbergh, who's an expert on stellar evolution, his classes were absolutely superb. My supervisor, Colin Scarfe - his class on double stars was brilliant, as well. He gave excellent assignments and was a very good lecturer, too.

Liz B.: So tell me, Tim, how did you come to choose your thesis topic, and in addition to choosing that, is that a methodology like when you wrote your papers later on, that you came to? Where did you get your inspiration from, other than Colin? Is there something, some methodology that you used that inspires you more than any other way, or did you just stumble upon it?

Dr. D.: Well, I had three years to think about it while I was working in the oil industry. I mentioned previously I'd done a master's degree at the University of Calgary, and in the Canadian system, a master's degree is a research masters. I'd done a project on eclipsing binaries, something I was familiar with. But I was also interested in extra-galactic astronomy and stellar evolution. I wanted to try to combine the two, so my dissertation topic at the University of Victoria was studying eclipsing binaries and large and the small magellanic clouds, which are nearby galaxies.

Liz B.: What literary figure would you have employed as a post-doc?

Dr. D.: Literary figure? (Microphone falls off shirt.) This is very fortuitous. Let's say Oscar Wilde. Just because Oscar Wilde would probably come forward with a number of interesting, new ideas that would challenge you to look at things from a completely different perspective. That's one of the keys to good research. It's being able to take an idea, put it up in the air and look at it from a bunch of different angles; and hopefully find a way that it can be fitted to other ideas that are also up there that people are looking at.

IV – Early Contact with CFHT

Liz B.: Thank you. (Both laugh). I am going to shift this conversation for minute. We've talked about your early years and I have a lot of questions to talk to you about with CFHT.

Now, you come to CFHT. Let's start talking about your work. Describe your earliest recollection of CFHT…any conversations that you heard, what you knew about CFHT while you were at U Vic, that kind of thing.

Dr. D.: CFHT, I knew, was the premiere telescope. Bar none.

Liz B.: How did you know that?

Dr. D.: Because of the faculty – people like Chris, who I was friends with – Chris was at Calgary before U Vic, and hearing him and others talk about the telescope. It knew it was a very special facility and a very special site. It was delivering image quality that nobody else could touch at that time. It had some interesting capabilities, a very wide field prime focus for example. So, CFHT was the place to be.

It was an elusive place for graduate students to get to. It's very difficult for a Canadian graduate student to get time on CFHT back in the mid-eighties. So it

had this, kind of air, this mystique. It was a place you would use if you were a really good astronomer.

Liz B.: Do you think that this mystique still prevails?

Dr. D.: Yeah, I think so. There's a lot of telescopes that now have encroached upon territory that CFHT used to own in terms of image quality, etc. But, it's still a very good telescope and an excellent site. It's still a place that can do very excellent science.

Liz B.: So, how did you draw the lucky card to be able to come to CFHT?

Dr. D.: This is a very interesting story. I was just finishing up my dissertation in Victoria. As graduate students have to do, when the end is near in the end of their educational careers, they have to start looking for jobs. There was a position that came open for a resident astronomer at CFHT. Chris suggested that I should apply. I sent in my letter, and about a month later I received a response from Bob McLaren, who was the Canadian co-director at the time who said, "Many thanks for your interest in CFHT, but we're looking for a much more senior individual. Please don't get your hopes up. You're a very strong applicant but we're looking for someone with much more experience." So, I kind of filed it away – you kind of get used to rejection letters like that. Then I was surprised about two to three weeks later. I received a phone call inviting me out for an

interview. This would have been March of 1987. They flew me out. I liked the place here and I guess they liked me because they hired me. And that's how it all began.

Liz B.: So, when did you move to Hawaii?

Dr. D.: It was the end of July, 1987.

V. CFHT 1987-1992

Liz B.: And so, here you were, fresh out of graduate school. Did you have any fears, trepidation? What were your thoughts about moving out here?

Dr. D.: It was scary and also exciting, too. Growing up in Calgary, which has very cold winters, moving to Hawaii has been an answer to a dream. But then also, I knew that my career was going to be based upon what I did here at CFHT. Most astronomers that start out have a post-doctoral position where they basically work under a senior astronomer who guides them. I didn't really have that luxury here. I started out cold with a non-post-doc position. So, I knew I had to work hard, and I had to be focused and take every opportunity I possibly could take to use the telescope and try to write papers.

Liz B.: So, you get to CFHT, and upon your arrival, what were your first impressions of being here, let's say the first six months you were here?

Dr. D.: The first thing I noticed when I walked into my office: there's a computer terminal there. It wasn't a workstation, it was a computer terminal. And I thought, Wow! This place has lots of money - because as a graduate student, you're used to having to share a terminal. At that time, we only had mainframes, and we had to share it with ten other people. So, here I had my own terminal and it was a VT240, so it could do graphics, so I was in heaven. I could see there was a lot of good things here. I really liked the people here, too.

Here at CFHT, it's a hard job. Especially for those who have to work on the mountain. It's hard - supporting astronomers tend to be very demanding trying to use the telescope. It kind of built a very tight relationship with the people that had to work here. You had to have this kind of tight relationship to keep yourself sane, I think, because of the demands that were sometimes placed upon you to support unreasonable individuals. Astronomers can be unreasonable individuals…there are some eyebrows being raised here, but…

Liz B.: Who are some of those unreasonable individuals?

Dr. D.: I'm going to take the fifth, okay? (Both laugh) There were some people, I won't mention names, who complained to the director that they weren't getting the

support that they thought they deserved. It was really kind of sad because the people here were working as hard as they could to try to provide something for them and their work was not really recognized. Instead of hearing the good things, they heard the bad things.

Liz B.: Do you think that was because you were just not prepared or just because they were complainers, or because they were still ironing out organizational skills as a new observatory? In other words, to what do you attribute the rationale for the complaints, whether they were just complaining…

Dr. D.: They were just complaining. They were just argumentative.

Liz B.: And what were some of these complaints?

Dr. D.: Well, things weren't quite set up right when actually they had been set up right or maybe things would break at the summit. That happens at midnight, and you really can't blame the person who sets up the instrument for that. It's just an act of God sometimes.

Liz B.: Who were your colleagues that were here at that time?

Dr. D.: The other astronomers that were here were: Olivier Le Fevre, Carol Christian, there was a research assistant, Joe Jones who worked under Carol. Olivier

Boulade was a post-doctoral student when I arrived. I never did quite figure out his role here. But I think he was here as a post-doc working on an instrument for Laurent Vigroux, and, Jean Arnaud, who was a French resident astronomer. Those were the ones who were here at the very beginning. Throughout time, of course, some of them left. They were replaced by others. Doug Simons replaced Carol Christian.

Liz B.: Which one did you probably spend the most time with?

Dr. D.: Well, my research interests were different from most of theirs. I'd say, actually, I spent an equal amount of time with all of them. It was just the nature of my position; just starting out I had to learn a lot of things. So, I drew upon these other, more experienced individuals frequently to try to learn how the observatory worked, how the instrumentation worked because our number one duty here was to support the instrumentation that the visiting astronomers used.

Liz B.: Did any one of them or anyone while you were here, give you a particular piece of scientific advice that you haven't forgotten and you particularly remember, and lean back on as the years have gone by?

Dr. D.: I wouldn't say it was a piece of advice, but Olivier and Carol taught me to focus a telescope properly. The very first time I had to use the telescope, it was discretionary night, and I was up there with Olivier Le Fevre and we had a very

poor display system. This is back in the time when computers were still fairly new around observatories. We had this thing called a “pericolour”, it was a bit of French technology, and it would display the CCD images that were read out, and Olivier taught me how to operate the CCD system. It was my first night on the summit.

My object was up around midnight, and Olivier said, “Okay, you’re all trained now. Why don’t you take some data and I’m going to go lie down for half an hour.” He’d went and he slept - he’d been up all day. He came back in a half hour later and looked at the images I’d recorded and he said, “You know, those are all terribly out of focus”. Then he showed me how to focus the telescope. You only make a mistake like that once.

Liz B.: So that, essentially, was your first taste of being a professional astronomer. How did that feel?

Dr. D.: It was humbling. You learn that there are things you don’t know and you just have to rely on other people to pick up some of these skills.

Liz B.: Aside from that initial run, can you remember an observing run with any of the others or even any run up there that you consider a disastrous, and why so?

Dr. D.: There was one run. It was a coude′, it was radio velocity study of globular clusters. I believe Tab Pryor was the PI (Principal Investigator), and Jim Hesser was there, and there was an earthquake. We were in the coude′ room on the third floor, it was around six or seven o'clock at night and everything shook. It was actually quite terrifying – because you're in a concrete mausoleum and things were shaking badly.

Liz B.: That was in the seven point "o" one –

Dr. D.: Yeah. It was. Ken Barton was the TO. I went upstairs – the coude′ room of course is one floor below the observing room. I went up, talked to Ken – he was quite concerned about this, too - he couldn't put the locking pins back into the telescope (into the telescope horseshoe) to lock the telescope to keep it from moving.

Liz B.: Why is that?

Dr. D.: I don't know. Something was out of alignment. So they sent me underneath the pier with a flashlight to see if there were cracks. It was a very interesting experience. And, there were no cracks, by the way. The telescope is still standing.

Liz B.: And you continued to observe for the rest of the night?

Dr. D.: Actually, because we couldn't lock the telescope (we couldn't put locking pins into the telescope), we decided that maybe it'd be better not to observe that night because there could have been something seriously wrong with the telescope. So we all went down to Hale Pohaku and we tried again the next night. I was able to get them started then.

Liz B.: And what was the reaction of the other people with you?

Dr. D.: Well, it was yet another Mauna Kea experience.

Another observing run that stands out. As a matter of fact, this was the very first run I'd ever supported. It was another coude′ run. It was the first night and the observers had not been to CFHT in a long time. So we went up early. As a matter of fact we didn't have dinner at Hale Pohaku – we had dinner brought up for us at the summit. While we were going over the instrument, a big storm moved in. Thunderheads, hail, snow, apocalyptical weather. The TO came up around six or seven – I think it was Ken Barton again – and he told us we had to be prepared to leave very, very quickly. So, at around seven thirty, we were told, "We have to get out of here now. The road's icing up and there's thunderheads, we might be hit by lightning, etc". It was a really bad day.

As we were driving down, all the other telescopes were evacuating as well, and the idea was to go down in a convoy. The University of Hawaii people left before us, and as they were going down by UKIRT, the road was very icy, the TO (Telescope Operator) slammed on the breaks, afraid he was going to take the curve too quickly, and of course, he locked the wheels. He had a load of Japanese astronomers in the back. This was before Subaru actually had been built. UH had a deal with the Japanese, so that they could come over and use the UH 2.2 meter telescope to try to get them interested in Mauna Kea to build Subaru. The TO from UH looked over his back shoulder (this was told to me later) to tell the Japanese to leave, but all he saw were four open doors – they'd already bailed out. Anyway, he bailed out and the Sub went out over the edge, rolled down the cinder cone down to Goodrich pass.

We drove down. We knew that nobody was in the vehicle because we saw them all leaving but the UH Sub didn't have a roll bar. A Chevy Suburban is a big vehicle and it was literally this high (we're talking three feet high). And that was my first run I supported. That was my first night of the first run I supported at CFHT.

Liz B. What year was that?

Dr. D. This was August, 1987. It might have been September, 1987.

Liz B.: Can you tell me, what was a typical run like for a support astronomer?

Dr. D.: A typical run was generally uneventful, actually. To be honest, it required some preparation well in advance. You had to communicate with the visiting astronomer to find out what they wanted to do with the telescope and how to set up the instrument. You'd usually do that a few weeks in advance and the real work would begin the day of the run.

You'd usually meet the astronomer for lunch at Hale Pohaku. And, in the afternoon, go up and go over the instrument with the astronomer; show them how the instrument operated, and maybe do some calibration, some flat fields, some arcs or whatever; go back down to Hale Pohaku, and have dinner; and finally travel back up to the summit, and get them on the sky; and get them observing.

Usually I'd stay up for half the night, I'd probably head back down at eleven o'clock or midnight. It depended on how experienced the individual was. Some people had been here numerous times, like Bruce Campbell and Gordon Walker, and they required almost no support whatsoever on the CFHT side. Others required a little bit more in the way of hand-holding, but I don't think I was up there later than about one o'clock in the morning on the first night.

Liz B.: Describe the method by which scientific projects were approved at CFHT.

Dr. D.: Do you mean by the Canadian and French techs?

Liz B.: Yes.

Dr. D.: The way the astronomers would get time on the telescope is through a peer review process. So, an astronomer has an idea of a project they'd like to do with the telescope. They fill out a proposal form. These are submitted, in the case of Canada, to the National Research Council, twice a year. Then, a Time Allocation Committee (TAC) gets together and reads the proposals, and decides on the basis of scientific merit, who should get on the telescope. The time allocation committee, at the time I was here at CFHT, consisted of, I believe, six individuals. So, not all the people who applied would get time.

And that was one of the challenging things about getting time on CFHT – it had a very high oversubscription rate because it was the best telescope in the world in terms of image quality and atmospheric conditions here on Mauna Kea. It was very hard getting time because so many people wanted to use the telescope.

Liz B.: Do you have any suggestions or ideas of ways you would have changed the approval process?

Dr. D.: Yes. I would have liked that they'd been changed so I got more time.

Liz B.: (Chuckle)

Dr. D.: Actually, this is the only way that one can give out a very precious commodity, which is telescope time at a very good site. You can't just say that everybody gets one night a semester; because there are some people who need more than one night a semester. And, they can argue for it on the based of scientific merit. It seems like a little bit of despotic way to do it, but I think it's a system that works.

Liz B.: Most observatories experience growing pains in their early years. Identify a major problem you experienced working as an astronomer at CFHT.

Dr. D.: I found that Mauna Kea, it was a very challenging place to work, as a person, and also for instrumentation it's a very challenging place, and, things, I think, would break more frequently there and there's also just the element of human error because you're working at fourteen thousand feet (not as much oxygen). So, there were things that should have been done that maybe weren't done. For example, I remember the early CCD system we had here that ran with FOCAM. It was not a very good system. It was put together fairly quickly and it should have been revised and updated sooner than it was, I think. And that was the big problem I had was that sometimes the software seemed to be, they could've put a little more effort into it.

Liz B.: One of the things you just said was that Mauna Kea was challenging to a

person. In what ways did you experience these challenges?

Dr. D.: The only way I could describe working on Mauna Kea is, it feels like you've always had a few really good martinis. You walk around in a fog much of the time. Your brain is not firing on all eight cylinders. And, if you're up there for one or two nights, you're also dealing with fatigue because it's very difficult to sleep at the ten thousand foot level at Hale Pohaku. So, it's actually a physically hard place to be. For example, I've just have come down from a six night run on Gemini and I know tonight I'm going to sleep fourteen hours straight because I've been getting by on four or five hours per day's sleep.

Liz B.: So now that they've got Queue scheduling, how do you think that will change observing from the earlier days and, do you feel that you're just not going to be part of the observation as much, or is this a welcome adaptation for you?

Dr. D.: Well, I think for people that are of my generation who've used telescopes have actually been at the telescope to use them, Queue scheduling is actually a bit of a blessing because it is difficult coming to use a telescope that's a fair distance away from your base of operation (which, in my case, is Victoria).

The concern I have about Queue scheduling is for the younger astronomers. They may not have the opportunity to come to a telescope and actually see how it operates, learn about instrumentation, and learn about the

practical “nutsy” and “boltsy” things that I was fortunate enough to learn from a very capable group of staff astronomers and engineers who were here at the time when I first started.

I think that’s the concern – people have become more detached from the telescope. It’s not clear that they’re unable to get as much out of a facility if they don’t know all of its nuances.

Liz B.: Do you feel you had an integral part then, with the instrumentation and the development of it in the earlier years, and is this something that newer astronomers will be missing as well or was that never true?

Dr. D.: No, I felt that when I was here, I was responsible for two instruments: the Herzberg Spectrograph and the Fourier Transform Spectrometer, the “FTS” as it’s called. And I think I did have a big impact on those instruments. I wrote the manuals for how to operate them, for example, and learned how to operate them, calibrate them, etc. But people who grew up in a generation of Queue scheduled observing may not quite have the appreciation of what goes into an instrument and how to get the best out of it.

Some of the astronomers who came here to CFHT, I’m thinking of John-Luc Nieto– he was an individual who knew instrumentation very well, and he spent about two-thirds of his night focusing to make sure he’d get the very best image quality for his projects. It was just based on his experience – he knew it was beneficial to spend this time setting up to get the best

scientific impact out of a telescope. It's not clear to someone who doesn't come to a telescope and has to go through some of the learning experience will be able to draw that same amount out of a facility that he did, as an example.

Liz B.: Which project that you did with these instruments gave you the most satisfaction, and why?

Dr. D.: I think the paper, or the research I did I learned the most from and basically it set the path for the rest of my career was using the Fourier Transform Spectrometer to study nearby galaxies. The paper I'm thinking of is looking at the spectrum of M32 which is a local group compact elliptical galaxy, which came out in '90 or '91. Obtaining the data, reducing it, and writing the paper kind of set me on the path of studying stellar populations.

Liz B.: Speaking of papers, do you know how many papers you've written based upon CFHT data?

Dr. D.: Probably a lot. (Laughs)To be honest, Liz, I don't keep track of these things. Can you tell me the number?

Liz B.: As a matter of fact, I have to date, forty-seven papers, forty-three of which, where you were the principal author, and I'm curious, what was the worst comment you received from a referee?

Dr. D.: Oooh - I have been lucky. All my papers have been accepted. Now, there have been some cases where I've received a referee's report where the referee has just been positively nasty. And the way I deal with that is, I don't get personal with it. I look at the points that the referee has raised, and I address them, one by one. You have to be a little bit cold and detached when you do this, and I've been successful in convincing the editors that maybe the paper should go to another referee. So, it's "keep a level head" and, "don't make it personal."

Liz B.: What do you dislike most about having research published?

Dr. D.: I don't dislike any part of having research - I have to be honest here – I love writing papers, and I think it's the thing that scientists should do, because it's the product that comes out of your work. You put it into published literature, and it's something there that people can build upon. So, I dislike none of that. I like writing. I like doing research. It's fun.

Liz B.: Switching gears, a little bit here, back to the summit…life at the summit…who are the employees that you remember on the day crew? And can you tell me your favorite story about one of them?

Dr. D.: Oooh. So the ones I remember are Charlie Pomansky, Bobby Song, Gus English…you know,

these are people I haven't seen in twelve years, so…I can see their faces but their names have kind of faded in history.

I do remember, the story that comes to mind…who was the Brit, who's the guy from Wales that lived in Kona…what was his name?

Liz B.: Eric Willett.

Dr. D.: Eric Willett. So, he was on the day crew. I always got along very well with him.

One Christmas, he invited us down to his place in Kona. He had a beautiful place, close to the ocean. Anyway, he had this beautiful villa in Kona, and he had a huge swimming pool. We basically spent Christmas day bobbing around in the swimming pool, enjoying Christmas. And that's the story I think I remember most about the day crew, actually.

Liz B.: Who was your favorite T.O.?

Dr. D.: The T.O.s that were there when I was there were Ken Barton, John Hamilton, and Norman Purves. You know, I can't pick a favorite among those three. They were all great to get along with. You could sit down and chat with them while you were taking long integrations. None of them pissed me off. They all did excellent work. They all were dedicated and hard working. I can't pick one of them. I saw Norman just the other day. He no longer works for CFHT at this time, but it was great to see him again.

Liz B.: I'd like to give a quote that I read by you in a bulletin a while back and I'd

like you to elaborate on it.

Dr. D.: Okay.

Liz B.: "The introduction of large format low noise infrared rays promises to have a major impact on observational astronomy similar in extent to that experienced in the 1970s, when CCDs first came available." Remember that?

Dr. D.: Yes, vaguely, I remember that.

Liz B.: Could you elaborate? Do you think that that promise has held true? And, if so, how?

Dr. D.: Okay. So, definitely, it has. When I started here at CFHT, infrared astronomy was done with single element detectors, and we didn't have detectors that could take pictures of an area of sky. You basically had to map it out bit by bit, what was going on in the sky.

When I started at CFHT that was about the time when the infrared arrays became available. That's when a lot of my early career was built upon using those, just to do fairly basic bread and butter type projects, looking at globular clusters, etc.

Now, CFHT is building a wide, large format infrared imager, WIRCAM (I'm on the science advisory committee for it) and they will be able to do with that what

can also be done with Mega Cam and optical wavelengths. So, infrared arrays have become a standard part of the arsenal of instrumentation that astronomers can use to tackle big problems. And it wasn't that way fifteen years ago.

Liz B.: What overlooked or underrated discovery really changed the science in which you work?

Dr. D.: Hmm. If it's been overlooked, I wouldn't have found it, Liz. (Both laugh) This is more about astronomy in general: I've found there are some individuals who did things first, and their work, for some reason has not had the same impact as people who did it afterwards. This is especially true – there are a number of European astronomers that don't get the credit they should get in the States, for example. That's probably the exact opposite over in Europe, where some of the American discoveries don't get the same press as the European ones.

Liz B.: What are your fondest observing memories of the early CFHT years?

Dr. D.: They'd be getting data. Mauna Kea's the sort of place that when it's really good, it's superb. When it's not so good, it sucks major league, okay? – bad weather, everything.

The first few runs I had where I actually recorded data, with some arc second image quality, high quality, wasn't overcast…

Liz B.: What was good data?

Dr. D.: Probably something like .6 arc seconds, full with half max, .6, .7. Joe Jones and I observed M32 with the CCD imaging and we were getting .6 arc second images and that kind of gave me a warm fuzzy feeling.

I never was very good with the weather, so my nickname while I was here was "Deluge Davidge", because I always had bad weather. To this day, I still hold the record for the number of nights lost by a Canadian. In one semester I lost nine nights on the FTS. I had one five-night run and one four-night run in one semester, and they were washed out.

Liz B.: Do you know where that nickname originated from?

Dr. D.: I have no idea. Did you give it to me, Liz?

Liz B.: No, you're "Savage" to me.

Dr. D.: I can't remember who started the "Deluge" Davidge thing – it might have been Jean-Pierre Maillard actually. And they still use it at Gemini – there are a lot of people at Gemini that worked at CFHT. Francois Rigaut was telling me that – "Deluge" Davidge.

VI. Community Life at Waikoloa

Liz B.: I'm going to wrap this up with impressions of the community life when you were here. What was your social life – we talked about this in Vic – like during those early years in Waimea?

Dr. D.: The very early years in Waimea, I was working a lot. I was trying to establish my career. I was a little bit focused. I enjoyed the people.

I actually lived in Waikoloa; I didn't live in Waimea. And that was more where my social scene was, because that's where I went home at night, and the people I knew were there.

Liz B.: Were they from the observatory?

Dr. D.: Some. But some of them were just outside the community. I can't even remember how I met some of them. They were at the golf club at Waikoloa. You just meet people. Because the Big Island, at least at that time, was isolated in the sense that there wasn't a big city, and very big distances to drive. Communities got together and did things.

Waikoloa, for example – every year they had a treasure/scavenger hunt. People would hide things, and then teams would get together and have to find them. They had a theme for each of the teams. One year, Gilligan's Island was the theme for our team. So, I was Gilligan. I can't remember who's the Skipper or Mary Ann and people like that. We had to do a little song and dance at the end, tallied up all the scores – you had to do something that was theme related to your teammates.

There were some Robbie Burns dinners here with Peter Sydserff **-** kind of a Scottish individual who had Robbie Burns dinners. These were always fun. The first time I'd ever had haggis was right here on the Big Island; that's somehow ironic.

There was a good community sense here at the observatory. I'm sure there still is to this day. Because there were a lot of people that came from off-island, this was their social focus here, the people that they worked with here. There'd be parties when individuals came to visit – not only staff members, but also if someone came for a one year sabbatical leave here at the observatory, they'd have a welcoming party for them in the main courtyard. Then, a farewell party. I think there was a very strong sense of community back then.

Liz B.: I agree. But, I recall, Tim, that as you stayed, you became more, to me, disillusioned with Hawaii. Is that an accurate statement or was it just not fulfilling in terms of you needed to professionally move on?

Dr. D.: I found that the first two years here in Hawaii I really enjoyed. But, to be fair, it wasn't home. It wasn't the place where I grew up. All my family and many of my friends were back on the mainland. I found it was little things sometimes that would get to you: no change of seasons. You'd wake up in the middle of February, and look out in you garden and, those damn flowers are still blooming – why don't the leaves fall off the trees? Where's the snow? And things I'd cursed in my youth, cold weather, I found I'd really enjoyed when I went back home to visit at say, Christmas or other holidays. Hawaii was a wonderful place, *is* a very wonderful place, but I'd found in the end, it wasn't home.

I grew up in a fairly big city, Calgary. At the time it was 400,000 people. I found that I liked having a lot of people around me. The islands aren't quite like that. I guess I like the "hive" mentality, in terms of how I like to live.

I come back to the islands, three or four times a year. I love it here, but for me it's not home. And it's just like if you took someone who grew up here on this island and put them in Manitoba. Even if you gave them a very well paying, very satisfying job, they'd probably still be homesick and want to come back to the islands, to their home and where they grew up.

Liz B.: A couple of final questions. Looking back, if you had to do it all over again, what would you have become if you hadn't become a scientist?

Dr. D.: For a while, I almost became a draftsman. The high school I went to had academic and technical programs, and it was actually a pretty good school. To give me a break from the academic routine, I took a course in drafting. I found it really enjoyable, architectural drafting. I actually worked for a few summers in a drafting office, as a draftsman. I was tempted maybe that would be something I could do. But I realized my real destiny was in the stars, and I should keep on, keep at it at university to become an astronomer.

Liz B.: So, no regrets.

Dr. D.: No, I don't think so, no. I'm happy with the way things are. Astronomy is one of these jobs – it's a wonderful job, every day is different. If you start a new research project, it's something fresh and clean. It gives you insight into something that nobody else knows about.

If you're looking at an object that's never been studied before, you're looking at it in a different way. So, it can be a very exciting thing. And it's a lot of hard work, too.

Liz B.: Summarize your scientific career at CFHT in terms of your best motorcycle ride.

Dr. D.: (Laughing) I guess, pulling out of the driveway, was when I arrived at CFHT. I did a lot of driving in first gear at the beginning. Slowly, I was able to rev up the engine and shift into higher gears.

I mentioned earlier that I have never had a post-doc. I had to find my own direction, and that took about a year or so, I think, to do, to explore a few different areas. Like, on a motorcycle, you might go off-road a bit, see the sights.

Liz B.: Did you have to wear a helmet?

Dr. D.: I wore a helmet every day of my life when I rode a motorcycle here in Hawaii. I still have a motorcycle to this day. I've had a motorcycle ever since I was thirteen years old. That's a lot of years.

I found that at the end of my stay here, working with the staff astronomers here, talking with them, and having the opportunity to use the telescope, it shaped my career in a way that I'm happy it did. I'm proud of what I did here. It certainly gave me a good footing to go on when I left CFHT to get into another position.

Liz B.: Well, certainly many of the astronomers, who left here, after you, Carol Christian, Olivier, went on to have brilliant careers like you…

Dr. D.: I don't know if you can call mine brilliant…

Liz B.: Yes, I think you've had a brilliant career. You've given this place as much as it's given you.

Dr. D.: It deserves it, I think.

VII. Oral History Project

Liz B.: Do you have any final thoughts or words to share on this project, on CFHT?

Dr. D.: I think this project is brilliant. It's a great idea to get people together before they become geriatric, to talk about institutions like this.

The one thing that struck me about CFHT is it's not a cold corporation. It has corporation in its name but it's really not a cold, impersonal…it's not the embodiment of what you'd think a corporation would be like. It's important that people know what the place was like when it started out… what set the foundations upon which it was built. I think it's a great project and you shouldn't lose some of these things.

There's a practical application to this, too, in that you can learn when we build other telescope facilities from the experiences of CFHT had, both the good and the bad. I think most of the ones I had were very good.

Liz B.: Thank you very much.

Dr. D.: It's been my pleasure.