B: This is an interview with Michael Kölling from the University of Kent, Canterbury, England, conducted by Barbara Boucher Owens. This interview is being conducted on the 8th of March 2013 in Denver, Colorado, the United States of America. It is part of the Computing Educators Oral History Project. Would you pronounce and give your name properly?

M: My name is Michael Kölling. As you can tell from my accent, it is a German name; I am a German. In the English speaking world most people call me Michael. But I am perfectly happy with that. But as it was originally as my parents christened me it was Michael [three syllables].

B: Thank you, thank you. And actually we will start with your parents. What did your parents do for a living? And where did they live?
M: My parents lived in Bremen in Germany. That’s in northern Germany, close to Hamburg on the western side of Germany close to the north coast. They are both retired now. My father was a car salesman. He sold cars for most of his life. He started as a fruit salesman in my grandfather did a little fruit shop. And then worked with cars, selling cars. My mother for the largest part of her career worked as an administrator for the Red Cross and she administered some refugee programs for the Red Cross. They are both retired now.

B: Thank you. Did they have any higher education? How far did they go in their education?

M: No, my mother finished school, high school and then became a school teacher. So she did not go to university. My father didn’t finish school. He was thrown out of school in fact.

B: There’s a story there!

M: Yes. So he. The school system in Germany is sort of a tiered system. There is three tiers based on ability. Basically you get sorted into three different kinds of school fairly early on. Only the highest one, it is called gymnasium, in Germany, it is the only one that leads to university entry qualification. He actually started off in that; didn’t perform very well and he said he was always the class clown until the teacher had had enough and he was actually thrown out of school and never finished. He didn’t finish to the degree that leads to university qualification. But I think in his family that wasn’t really a path that he considered very seriously anyway. Both his parent didn’t have a very, at least not a university education either. So my generation, my brother, my sister and myself, we are the first generation to go to university.

B: So tell me about your brother and sister.

M: My brother, so I have an older brother and a younger sister. My brother he did very well in school. He is very smart, very ambitious. In fact he studied computer science before me. He is two years older, but he never finished. He actually wanted to become a pilot and applied to Lufthansa. At the time they didn’t hire at all at that time. So he did his second best choice and studied computer science. He got about two years into it and he got a letter from Lufthansa saying they had started hiring again and was he still interested. He aborted his degree and became a pilot. So he is still a pilot for Lufthansa now and very happy with that/ So he has a start of a computer science degree and he never finished. And my sister, she’s two years younger than me, she also started a degree and never finished, in sociology and decided after some years that that just wasn’t for me and she actually works with dance therapy now. So she is quite different from me. My brother is also quite technically thinking, similar to me in the way of thinking. technically thinking, logical. My sister is much more interested in people and emotions and so she always liked dance. So she has a job doing motion therapy and dance therapy and things like this.

B: Hmmm. Very interesting. Were your parents technically oriented in their interests, avocations?
M: Not really. There was nothing much at all. As I said he didn’t finish school but he is actually very interested in education. So he started seriously reading in his adult life. He knows a lot, he read a lot. But he says he became interested in learning only after leaving school rather than while he was at school. And so, he’s not specifically a technical person. But he gave us all an interest in learning and has certainly encouraged us to learn new things. So I got more generically the interest in lifelong learning from him rather than specific technical things.

B: And how about your mother’s support of you?

M: The same. She certainly saw the value of and supported us going to university. My father thought you know you will never inherit very much from us, but the one thing I’ll always do is make sure you can get an education that is as good as you are able to. And so they both really saw the value of that and worked very hard to enable all of us to do what we wanted to do in terms of education. And I studied for a very long time.

B: Let’s start that studying path and let’s start that first year when you were just a child starting school. What kinds of things do you remember? What is outstanding about those early years of education? Teachers, courses, playground?

M: The most, I think probably the most part of me is that I always liked going to school. I don’t remember details exactly of what we did there, what happened there, at least from the very early years. I don’t remember much about my teachers. I have sort of vague memories, but I remember the feeling of always looking forward to going to school. So it was obviously a welcoming environment where.. I remember still my first day in school for the first week of school we had only one one-hour lesson and eased into it very gently. I was extremely disappointed because I wanted to have a break, so there was only one lesson and there wasn’t a break. I was actually looking forward, my brother had told me how you played with your friends in the break between lessons and there was no between lessons because there was only one lesson. So I was actually looking forward to being in school longer. And I always enjoyed going. And I think that is the important thing for me to see school as something positive and not something that is an obligation, not something you had to do against your will.

B: Did you have friends in those early years that liked the same kinds of things you did? Do you remember any?

M: Oh, yeah. I remember some friends from the really early years. So in Germany the primary school is the first four years of school. So from those years I am not in contact with any of them. But certainly I had a good group of friends at the time.

B: So explain the school. Did all the children go to the next school together?
M: No At that time after four years you go to secondary school and that is where these three tiers start. On the lowest tier the whole education is only 9 years long. After nine years of school you typically leave and go into an apprenticeship or trade. The second middle tier is ten years long in total. And then also typically you do an apprenticeship where you still have some schooling, typically a few weeks a year, but mostly learn a trade, learn on the job. The highest one, gymnasium, is 13 years in total that ends with university entry qualification. So after four years, you get sorted into one of those things. Looking back at it now, I think it is a fairly harsh system where people make life-changing decisions about children at 11 or so which as a child, even as an adult in Germany I didn’t think much about. Now knowing other systems, I find that a harsh system. It isn’t like that now; the decision is now made two years later. Primary school is six years in most states in Germany. But then the first four years are together and you get split into these school streams.

B: Let’s go back, what do you remember about that particular period?

M: So primary school, my memory is very vague nothing particular except that I enjoyed the time. I have a much better memory of the secondary school.

B: Ok, let’s hear about that.

M: We also moved cities. We moved to a different city and I went to a different school so they were entirely different.

B: Tell us what was different about the cities.

M: I grew up in a small town called Burgdorf near Hanover in Germany that was my primary school time. And around the time I changed to secondary school we moved to Bremen which was further north, close to the coast. Education in Germany is state based. Every state has its own education system and there are differences and that was moving into a different state and a different school system. In Bremen where I moved to they were essentially a half year behind the curriculum compared to where I came from. I’ve often wondered whether that was actually a very decisive factor for me because suddenly I was very good at school because the first half year was doing things I had already done. It was essentially a half year of just repetition. I was almost a mediocre pupil before then and suddenly I became very good because I heard it all before. Because it is a fact that once you have this it is actually easier to stay at the front. I became a very good pupil from then on. I often wondered if it is really just a coincidence of having moved at that time. Certainly moving the other way around would have been hard. This way around made it very easy for me.

B: were there particular courses that.

M: Yes I had a very inspirational maths teacher so that’s when I started to like maths. And that was only because of that teacher. He was a very nice man to start with, personally, I really liked him. But he also had a really great way of teaching. We had, I remember one year
talking about volumes of various shapes. He had a cube. It was a ten centimeter edge length cube. It was a metal cube that had one open side and he told us that the volume of that was exactly one liter. We all knew liter because in Germany drinks come packaged in liters. So you would get a liter of milk and we knew what that looks like. It seemed to not fit, it seemed too small. So people, said no I don’t believe that, it will never fit in there so he just in the middle of the lesson sent one of the pupils out to run over to the store and buy a liter of milk and come back and poured it in there. So things like this really stuck in my mind. It was great. He was great. Herr Geiersbach was his name. I really made me see maths as a positive thing because his lessons were so much fun.

B: Were there particular subjects you did not like?

M: Yes but it was mostly driven by the teachers. For some time I didn’t like English or French because I didn’t like the teachers of both of those subjects. Even though, well, I wasn’t particularly good at languages either. I later became more competent at it. It wasn’t really the subject I didn’t like, it was the lessons I didn’t like because of the teachers. I was generally interested in just about anything, as long as it was interesting and entertaining. I had that equally with geography. It was incredibly boring because all we did for years was memorize names and borders of places and there was no interesting story behind it so I found it incredibly boring. History and geography in my school time I really found incredibly boring. I started reading about history in my adult life and find it really fascinating now. In school I was not interested at all. But as I said it was driven mostly by teachers, rather than the subjects.

B: Hmmm. Then what came next?

M: Then, yes school progressed. In my time it was a single school going from year 5 right through year 13. Often now another change of school today in Germany where the last three years are in a separate school. I was then from year 6 on I was in the same school right to the end. And that was a really good environment I had many friends there. It was a good environment; I always liked going to school to the end that didn’t go away. And I was very good at school. I didn’t work incredibly hard. I was probably lazy but it came easily to me, I could make my way through without and that makes it easier to enjoy school because it wasn’t a great amount of anxiety or pressure. It was good enough that my parents didn’t push me to do anything; they said you are doing fine what more can we say.

B: Did you do things outside of school?

M: Yeah, I did a lot of things. In fact looking back, I guess now I started teaching very early on. I had jobs from very early on. From about 15 I always worked with some outside jobs. The one thing I have done from very early on is to do extra teaching for younger kids. I did tutoring, it was mostly maths, sometimes physics tutoring. I took students maybe a year or
two below me for money. There was always some kind of ads in the paper where there was someone to help out or do some extra math tutoring for children. That was one of my regular afternoon jobs too, earn some money. And of course, I found out some time later that I probably learned at least as much as the kids I was teaching, probably more I would say. It was a great reinforcement. I had also other sorts of jobs as well. I had newspapers, I worked on a strawberry farm, digging in a field and washing cars, all sorts of things. The tutoring the maths was probably the most constant and then one of my most influential things was when I was in year 10 my school got the first computer. That whole connection with computer science started. We were the first year in our school that we could choose computer science as a subject.

B: What year was this, do you remember?

[18:00]

M: Yes it was in year 10 just before I went into year 11 so it must have been in 1980. Or 81. So the school bought an Apple IIe and I had started programming out of school just before that, another half year before that. I had a friend who was a couple of years older and he was given a computer that didn’t work. It was broken. It was a KIM, just a memory board without a case. It was just the motherboard and it had a keyboard on there like a calculator and just a number pad with hexadecimal numbers and a six digit display. And it didn’t work. But he knew something about electronics and he somehow made it work and we spent our afternoons trying to program this and we could just type in 6502 assembly code and we both didn’t know anything about it but we read, started reading book and do little things.

B: It was 6502 so it worked on the Apple.

M: Exactly. It was the same processor as the Apple. We just did that for fun in the afternoon and then a few months the school got a computer. It was fantastic and I chose computer science for a subject for the last three years in school. You can choose your subjects. Until then it is all set and for the last three years you can drop some subjects and choose what you want to continue. So we were the first year in school that could do computer science. After a week we knew more than the teacher. He had never done that either. We spent a lot more time at the computer than he did.

B: What were you programming in?

M: It was BASIC. It was BASIC. At first and then fairly quickly after a few weeks or months we switched to Pascal. It was UCSD Pascal. And fairly quickly the school got a second computer. And then we had two and it grew from there.

B: How many of you were there in the computer science class? There was one Apple IIe

M: There were about 12 students or so.

B: How did you share time? That’s real timesharing!
M: Yeah, that’s real timesharing. We just went in there in the afternoon. We would go in the room in the afternoon. School in general was typically only until about 1 pm or so. And school is out in the afternoon you are free. You have homework to do but certainly a lot more free time than my children now have. I live in England and my children go to school in England and they come home from school at 4:30 or so and then they do another two hours of homework. They really work them quite hard. I was always running out in the afternoon playing. So after one o’clock or so essentially school was out but they let us into the room. We often spent the afternoon. You just have to find the time when no one else was there. In this group of 12 pupils there were 5 or so that really caught the bug and spent a lot of time in that room programming.

B: Have you kept in contact with any of those students?

M: The one friend that got me into this, the one who had this first computer, I’m still in contact with him. He is still a good friend. He is a software engineer now so he also stayed close to the field. And is still one of my oldest friends.

B: Were they all boys in the class?

M: I think so, I think they were all boys. There were girls in the school; it was a coed school but in the computer science class I think they were all boys, probably.

B: You were saying that in your early years, teachers made a huge difference. But the computing teacher didn’t know computing but did that teacher also make a difference in your life?

M: Yes, he was. I liked him and he was. I enjoyed going there. First of all I liked programming I fairly quickly loved programming. He did some interesting things but mostly his contribution was to just get out of the way and let us do what we wanted to do. He realized obviously that we were doing something, that we were learning something, doing things that were educationally useful and he just let us get on with it and gave us a lot of freedom.

B: Had he been a science or maths teacher?

M: Yeah, he was a maths and physics teacher. And they had just got told that they had to teach computer science now.

B: So then you are at the stage where you have to start thinking about university. How did you go about that process?

M: I decided fairly early on that I wanted to go to university and I wanted to keep on learning. But there was a break because there is compulsory military service in Germany, there was at the time. I didn’t because there is also a right that you can object. And I was a conscientious
objector. And you do some civil service instead. So you can choose this, you can apply anyway and there’s a process. You actually have a trial set up where you have to justify this. It’s a hurdle that, so you can do some social service instead. Which I did. So that was

**B: What did you do?**

**M:** I worked in a kindergarten for disabled children for 18 months.

**B: How did that affect you?**

**M:** It was great at first. I really enjoyed it because it was the first time I really had responsibility for other people and I felt I was doing really useful work. I learned a lot about that kind of work, interacting with people and I enjoyed it. But at the end also I was really looking forward to going back to university, to go back to learning. I think it was good for me. Because I was at the end of the time I was really keen to go back to learning something. I think had I gone on straight from school I wouldn’t have had this hunger for learning that I had. Even though I enjoyed that time at kindergarten doing work, at the end I thought I needed something intellectual, intellectually stimulating again. And because it was 18 months it was essentially a two year gap between finishing school and starting university.

**B: How did you choose the university?**

**M:** Essentially by being in my town. I didn’t want to move. I had a very naïve approach to do that. I just applied to the university that was in my hometown because it was there. I had no idea about what it was like. And when I see now what our students do, looking at league tables, looking around going to open days at different universities and getting all this information selecting, I did none of that. I just went to the one university that was in my hometown and went there by default. My parents stayed completely out of it; they didn’t say anything about it. The more interesting choice for me was the subject because I was for a while; I was sort of debating to study art. I wanted to do painting or computer science.

**B: This is the first you have mentioned you and art. You talked about your sister and dance.**

**M:** Yeah. I was painting and drawing in art a lot of time. In your last two years you can chose another major. You have double the time so you can specialize in two subjects. And for me that was maths and creative arts. And actually I really wanted to paint. And I did a lot of painting at the time I was in school. And I was debating for years whether I should study art or computer science, the two things that most interested me. I really wanted to do both. Then I thought, I can probably do that better and study computer science because I thought I could paint in my spare time as an amateur. You can do that even though you don’t have formal education. Whereas, computer science without a proper education, I thought it’s hard, you don’t get anywhere. Teaching that to yourself, doing that on your own is much harder. So I was determined to both, so I thought, I can learn computer science properly and I can still paint which at the end I stopped doing. I haven’t painted for a long time now. But back then I thought I would. Actually it turned out after a few years I stopped doing that., any stuff,
proper paintings. I still do all the graphics for our project now. I still like plying with Photoshop. There is a tiny remnant of you know my artistic streak flowing but it has pretty much disappeared. But at the time it was a big question for me.
B: Hmm. You gave a talk today (March 7, 2013 at the SIGCSE Symposium) that people reading the transcript, when you received the Outstanding Educator Award and you gave a talk. In that talk you showed photos of your engineering notebook that you worked on and you also commented about how the color got into your work and the shading, and so a little bit of that art did come out. I am so glad you talked about it.

M: I still like doing interface design. There is a lot of aesthetics, a lot of visual something that is hard to put your finger on, some aesthetic aspects coming that are really very subjective, that are still somewhat related to that.

B: So you are in the university in Bremen and tell us more about when you made your choice and what kind of courses you took, what were the influences there and what you were doing with all your time.

M: So I started studying computer science there and the degree structure in Germany, especially at the time, partially today, is a lot more flexible than in the Anglo Saxon countries. For example in the UK where I now work there is essentially a fixed timetable that students have to do. You get told what subjects to take and in which year. The first year there are no electives at all. The other years there are some electives but you are told exactly how many subjects to do and when to do them and so on. I guess in the US it is somewhat similar. In Germany there was none of that at all. You just get told to get your degree you have to this many subjects in this area and that’s it. No one tells you when and how quickly to do that. There is sort of a nominal study time so you can finish the degree if you do a full workload in five years. There was no equivalent at that time of a bachelor’s degree, there was only a five year degree that is roughly equivalent to a masters. There was no shorter degree. But no one cares about when and in which order or how quickly you do this, so no one tells you how many subjects to take in a year. A full workload would be as it is in our university four subjects in a semester but sometimes I did only two or three subjects or sometimes I did a subject that had nothing to do with my degree program. I did French and philosophy just because you could. When you were in the university at the time in Germany once you were a student you could go to any subject in any subject you want. So I attended lectures in any subject just because I found it interesting but contributed nothing to my degree. And I was in no hurry to finish my degree. So even though the nominal study time is five years the average time that people actually take is six and a half years. And some are taking longer. It is a very open, very free system. No one tells you what to do and you are really expected to take care of it yourself, make your own life plan. So, there’s no limit as to time how long you take. As long as you get your subjects together at the end you can apply for final examinations and if you prove that you have done the right amount of modules and do your degree examinations at the end. I enjoyed studying; I enjoyed being there. I did that for quite some time.

I had some teachers that were, some professors that were very influential. The ones I liked most were the ones that talked a bit sort of beyond the edges of computer science. There was one
that talked about art and computer science. He taught us programming but he made all these
connections to other fields. That’s what fascinated me most, those people that had a broader
view were my favorite teachers.

B: How did you choose what to do next? How long did it take you?

M: I studied for 6 ½ years. In Bremen the degree program had a very strong project based
component in it, so there is a software development project that lasts over 2 years with a
group of about 20 students, a professor and some research assistants. So you are in a group
with these 20, 25 people for two years and they are pretty big systems. In the beginning it
sounds impossible, they're proper research systems, and out of this project with the professor,
Professor Keedy was his name

B: Could you spell that for me?

M: K double E D Y . Leslie. He is English but he had been in Australia before then. And then
came to Germany and my university and started teaching there and I did the project with him.
I was working in his research group and from then, through his Australian connections, one
of his Australian ex-PhD students, who was now a professor himself, came to visit in
Germany. He had this Australian connection and that is how I ended up in Australia
eventually. When I had got to the end of my degree they told me about a scholarship
program. He said, there’s this scholarship you can apply for you can go for a year overseas if
you want. We would welcome you to come to Australia and visit if you get this scholarship.
And the name of the Australian connection is John Rosenberg who was very influential in
my career because he became my PhD supervisor later. So John invited me to Australia and

B: So where was John at the time?

M: He was at Sydney, Sydney University. I applied for that scholarship and he wrote me a nice
supporting letter. I got that scholarship from a German academic exchange program called
DAAD which funds scholarships for overseas.

B: Does this count as part of your 6 ½ years?

M: No this is after. I did this after finishing my degree. So at that time when I got my degree
when I finished my computer science degree in Germany, I didn’t know actually what I
really wanted to do. I had no real plan. I knew I wanted to do something with computer
science but I didn’t have a more concrete idea. Then this chance of just going overseas for a
year and the plan was just to work in a research group for a year as a research assistant. But it
had no formal goals. I wasn’t enrolled in any qualification. I wasn’t on any degree program.
I just saw it as a year out working in a computer science area but going overseas and having a
holiday at the same time. That suited me very well because I didn’t really know what I
wanted to do but I knew I liked being at university. I liked this kind of work, I enjoyed that.
So I applied and got that scholarship and went to Australia for what was planned for ten
months, that was the length of the scholarship. I worked with John Rosenberg and his group
on implementing an operating system, a distributed object oriented operating system. That
was one of my areas of interest, operating systems, object orientation and operating systems. And so I just wrote code for ten months. But he also got me into teaching a bit. He was teaching the operating systems lecture at the university and I first took some classes and then he let me do some of the lectures. It was a real sort of apprenticeship relationship. He really sort of showed me the ropes of being an academic. At the end I decided that I wanted to stay. I applied at the end of my ten months to do a PhD at Sydney University and I stayed in Australia and started a PhD then. And John became my PhD advisor. That’s how I ended up in Australia. That planned 10 months became 10 years. I was in Australia for ten years.

B: Were you in Sydney the whole time?

M: No, I was in Sydney the first 5 years. Then moved to Melbourne to Monash University and that was essentially following John. John got a position at Monash so he moved to Monash and at that time I was in the middle of my PhD and I decided to move as well, to continue working with him, continue my PhD under his supervision. I then moved to Monash with John.

B: Your PhD is from?

M: My PhD is from Sydney University so I remained enrolled at Sydney University but my PhD advisor was sitting in Melbourne, so the last two years I was doing a Sydney PhD but I was located in Melbourne. Because I was closer to my supervisor it was much, much easier work. But I got my PhD from Sydney University and then worked at Monash University afterwards.

B: Were you teaching?

M: I was teaching the whole time from the beginning on. I had a research associate position where you are expected to teach half the time and have the other of the time for your research work, for the PhD work. So I was teaching the whole time.

B: What were your favorite things to teach?

M: Programming. It was at the beginning it was very clearly programming. I just really liked coding and teaching about coding. At first I was supervising classes, I very quickly started giving lectures as well. Sydney University was just redesigning its whole first year and program teaching at the time and started a problem based learning approach. There was a lot of education, pedagogical discussion going on and I came interested in pedagogical side of things. That is also how my PhD topic came about. I first decided that I wanted to do a PhD without knowing actually what I wanted to do. So I .. and John said ok I’ll supervise you. No matter what you are doing, just pick something. In retrospect now that I am supervising PhD students I think that was very brave. I spent a couple of months thinking and going round to think of a project, of something to do. At the time there was a big discussion in the department about the first programming language. We were teaching Pascal at the time and
everyone thought that became outdated, they had to change, it was getting too old. Most
groups thought it should be something object oriented. That’s when the agreement stopped.
No one could agree on which language it should be. There was a big discussion. There was a
working group established to look at different options, programming languages. And I
looked into that. My sort of opinion was that I didn’t really like any of them and that was the
time when I was thinking of a PhD project so I thought, okay I’ll make my own.

B: So was Blue your idea?

M: Yes, it was. I went to John and said I want to design a programming language for beginners,
an object-oriented programming language to teach object orientation to beginners. And at
the beginning I was just thinking about language. Now looking back the environment was
and is now in my professional history much more important. That came a bit later when I
began to analyze what the requirements were, what I really wanted this language to be. I
realized fairly quickly that the programming environment is a major aspect of and an
important influence. But that was just one of the list of criteria that programming
environment. That became part of it, in my mind it was always one thing.

B: I could stop that part of the academic because we only have a couple or more minutes
left. We might consider putting your talk from today to kind of fill the interstice and I
will ask you some questions that have nothing to do with that portion of your life. Can
you summarize your teaching philosophy in two sentences.

M: It is hard. It is different now from what it would have been then.

B: Ok one now and one then.

M: Back then I was more focused on the technical side of things. I wanted to teach the
underlying principles in a way that people can really understand the principles and apply
them, become competent in doing whatever they are doing away from the road lining to a
proper understanding of the concepts. Now I would consider that secondary. Now I want to
inspire and create joy and motivation. I want them to like what they are doing. Then you can
teach them anything. I think the most important thing at the moment is a role model to show
the joy that programming can bring and the fun side of it. I think that is the most important
part for me now. Everything technical is secondary.

B: Thank you. You did it! You got it in the short period of time. We have several other
things I’d like to talk to you about. Are you comfortable in continuing this in a phone
classification?

M: Yes that would be.

B: I want you to think about one thing you’d put in a video segment. Is there one thing
you’d like to close with that you didn’t get to today? That you didn’t say and are really
dying to say?
PART II July 10, 2013 via Skype Michael is in England, Barbara is in Blue Ridge, GA USA

B: This is a continuation of an interview with Michael Kölling of Kent University in Canterbury, England. The interview began in Denver, Colorado on March 8th, 2013. It is being conducted by Barbara Boucher Owens as part of the Computing Educators Oral History Project. This continuation is being conducted via SKYPE on July 10th, 2013. Michael is in England and Barbara is in Blue Ridge, GA, USA. Good afternoon to you, Michael. Welcome back.

M: Good morning to you. (talking over)

B: Welcome back to this interview. When we stopped for a short pause of four months {laughs} you had just finished your PhD and had just finished your PhD in Melbourne. I asked you a few questions about that. Talk about the young PhD, the vision for the future, what you did and how that pathway was influenced by people, students, place, family. Could you talk a bit about it?

M: Uhm, yes so, in my PhD I said already in the previous part of this interview, was about developing Blue as a language and environment for education and that was very much influenced by my experience in teaching. I had been an instructor at the university from my student days on and it was always unhappy with the toolset that was there. So when I was searching for a PhD topic that is what came to mind. So that was ... it came very much out of personal need because I wanted to have a tool. And so that led to the topic of Blue which was my PhD topic and then I was very lucky that the university where I did that, the University of Sydney, actually adopted that for the first year teaching and used it for two years. I got very good response from the department there and developed ... and actually got real users so the whole university department used the system and that was of course very amazing for a PhD student and that was very exciting and great opportunity and great motivation to work hard and there would be students and I knew when I was working on it that the next year students would be using it so the department made the decision before it was entirely finished. An astounding feat of optimism that it would all work out. But it did!

B: And the question then, you were in Melbourne at the time. Is that correct?

M: No, that came after.

B: Oh

M: So I. That was during my PhD. My first two years of my PhD I was at Sydney University and that is when the department started to use …
B: OK

M: Then I went to Melbourne just before finishing my PhD. I went to Melbourne and the last year or so on my PhD I was in Melbourne but I was still enrolled for the PhD in Sydney. My supervisor John Rosenberg he went to Melbourne. He changed jobs and became dean of the faculty in Melbourne and so I chose to follow my supervisor to work more efficiently. I continued to work and was still enrolled in Sydney and continued to work at Monash in Melbourne.

B: Ok. How did your career at Melbourne develop?

M: That went very well. It was a very interesting place to work. It was a very large university. They had a lot of things at Monash. They had a whole handful of computing departments. There was the computer science department. The one I was in focused more on software engineering so, software development, so there was a software engineering department. There was also IT that also had library science and so it was an interesting place. It was very large place to work in. I got a position there. What was it at first? It was I think associate lecturer and then lecturer later on. And that was an interesting move. I continued working on Blue during my PhD and fairly soon after on BlueJ which was a successor system. It was quite well supported by the head of department there as well so it was really good place.

B: I see by your vita that you went from Melbourne to Denmark.

M: Yes

B: How did that transpire?

M: I was in Melbourne for five years or so a bit shorter, somewhere there abouts. It doesn’t matter exactly. So I was in Melbourne there for a while and in terms of work it went very well. We started BlueJ as a project. That was a successful project. It came at the end of my PhD. Then there was a question of what to do next. The Blue project was still interesting to me. We had two options; sorry I am not directly answering your question. I’ll get there in a minute.

B: That’s fine.

[6:30]

M: Just keep things in order, chronological order. When the PhD was finished and I didn’t know what to do, I didn’t really want to drop the Blue. It was an interesting project, and we had users and it was interesting work. At the same time Java had become popular. So that was in about 1999. It had been out for about 4 years or so. It was becoming very popular. And so we had the choice of either continuing with Blue as a language and we thought it would always remain an academic niche and people would say yes, good work and then they go and do something else, or the other was to throw away our language and use Java instead. And a Blue like environment so we could use our environment and throw away the language and...
we build it for Java and that is what became BlueJ. That was the more interesting option because that way we dropped one half of our project but bring the other half out and actually get people to use it because Java didn’t have a very convincing educational environment. We thought there is a space that hasn’t been done before and we thought we could do something new. And that is what we did. That became slowly somewhat popular. Some people started using it and then it had already started in Australia. So for my professional career that was probably the most important step for me. Because BlueJ was a successful project in the sense that that it had real users and eventually, after several years, a rather large number of real users. For my professional development that was very important.

B: Can I ask a question quick? What do you consider a real user?

M: Real user is someone who is not your friend, who is using it to do you a favor.

B: So it still could be students, but not necessarily professional programmers?

M: I mean a real user is someone who uses it because they really want to use your software and not just to play around or to evaluate it but someone who actually has an interest in using it. To achieve something for themselves. Students are most definitely in my mind real users; they are using it because they want to learn something or sometimes because they are told to use it because their teacher thinks. I mean people who don’t use it just for to evaluate it or because you have asked them to, someone who is unconnected and uses it because they want it. That has driven me ever since. That has from the very beginning once we had the software; I get a real kick out of having real users. Not build something that three other researchers look at which often happens in university projects. Lots of people do really fascinating, great interesting work but it is then a handful of other researchers who actually hear about it. And I got real satisfaction out of having people use my software, real satisfying, it is good fun. If you put a lot of effort into building something and you know it actually has an impact, that someone actually, it matters to someone that makes a difference. And having BlueJ becoming fairly popular and popular at the beginning means some 100 people using it and I thought that was a great number. At the moment there are over 10 million downloads. It has grown a bit.

B: Whoa! We’re losing the sound. Michael I just lost the sound. I don’t know if it is here or there.

M: It was very exciting to see that people were actually using it. And for me professionally, BlueJ, it was the first project that became really big where there were a large number of users, a lot of interest. For my professional career that was a very important step. It was also about which my first papers were accepted, about Blue, BlueJ. My whole career started with those two systems, Blue and BlueJ. And that was all that happened those first few years. It was all in Australia, Monash. And then I went to Denmark. By that time I had children. During my PhD my daughter was born and then a bit after my second daughter and I decided at some stage I wanted to get my family, my parents and my children together because my parents were in Germany and we lived in Australia and I wanted my parents and my children
to be able to meet more regularly so we decided to move to northern Europe. At first we
thought northern Germany but then it turned out Denmark was close enough.

B: Was your wife from Australia?

M: Yes, she was Australian and moved, we moved all together to Denmark. So looking from
over there it is a different country but it is only a few hours driving so it opened up even on
weekends we could easily. So I went to Denmark for private reasons and professionally that
collaboration with Australia continued for a long time. The BlueJ project was split and we
had some people working on it in Australia, some in Denmark. And then a little bit later the
University of Kent also became involved through Ian Utting. For a while it was three sites
that collaborated.

B: OK, what was the climate like in Denmark? Were there professors that you worked
with there? Or were you the lone professor on BlueJ?

M: On BlueJ I was the only one. There were other people working on software engineering
more generally, especially on ubiquitous computing. For a while I collaborated with them a
bit and was considering moving a bit more into a new area and expanding a bit out of the
computing education area into more traditional software engineering and programming
languages again. So computing education was really through languages; I was initially
interested in programming languages and it was just a coincidence that the language I
designed was for teaching. For me the interesting thing when I started was language design.
But teaching I knew very little, I had no formal education, knowledge in teaching and I saw
myself always as a software engineer, language designer. For a while I was going back to
that and getting out of that education a little and going back. At the end it hasn’t happened.
The education, especially BlueJ and a follow on which I started in Denmark was Greenfoot,
another education project. They became so interesting that they took up all my time. So in
Denmark in the education space I was the only one working there. I went to a very small,
new computer engineering institute that was at the time had only been founded a few years
before. The idea was to try to build up something there. Eventually that didn’t work out as
well as I hoped, so I stayed in Denmark for only three years and then I moved on.

B: So it was your contact with Ian that has started this last segment of your career at
Kent? Is that partly…?

M: It was part of it and part of it was coincidence. When I decided to move on I looked around
for work somewhere in northern Europe. I wanted to stay in the area and I didn’t want to
learn yet another language. I had just learned Danish somewhat, never really properly
fluently, always only spoke it fairly badly anyway. I didn’t want another language so I
looked only in English and German speaking areas. And then at Kent a good position came
up and I knew a lot couple of people there, Ian was one, through the BlueJ project. I also
knew David Barnes. I had written a book together with him. He is at the University of Kent
so there was another contact. Somewhat coincidentally I met him at a SIGCSE conference
where he approached me. He wanted to write a book, and he said would I mind if he writes a
book using BlueJ? At the time I am also trying to write a book about BlueJ and just trying to
B: Can we … a couple of things. Are you still teaching students face-to-face in addition to working on your Greenfoot project? 

M: I have an academic position here as a professor which means teaching and research. I do a normal teaching load. So I .. the first years I often taught our introductory programming course. The last … the first .. I’m not doing that anymore. I had a sabbatical year and handed that over to someone else. And for now I am teaching at the moment – I’m teaching three courses per year. I’m teaching an HCI course and HCI is one of the subjects I really, really like to teach. I find it very interesting. It’s not, in many courses very well covered. It’s often overlooked, probably tacked on to the end. I find it really fascinating; I like HCI so I jointly taught with Sally Fincher; we do a lot of team teaching at our department so we share the teaching of that course. And I teach a tools course, it is sort of small course, teaching students about professional development tools -- profilers and source repository systems and internationalization. Development tools. So it is a very practical course. So new for next year I will be teaching a foundations course, that we are now offering before our first year for students who don’t quite have the requirements to get into the first year. For most of them it is language -- they don’t have sufficient English language skills. So they half are learning English and the other half they start something to do with their subject so there we are using Greenfoot to give them a gentle introduction to some programming while they brush up on English before they get to the first year.

B: Is that course – each department has a variant on that course, is that what you are saying? 

M: There is one central unit in the university that coordinates them, but they get people from different departments to offer subjects, courses in them.

B: Uhm, very interesting.

[20:59] 

M: We just started that, that’s new. Because we get a lot of interest from international students who don’t quite fulfill our requirements, entry requirements. So we give them a chance to come here from scratch and then start.
B: How does your career path, the structure? Like here in the US we do assistant professor, associate and full professor. Do you have the same career track?

M: It is quite similar. Here we have one more step. It is usually assistant lecturer, lecturer, senior lecturer, reader and then full professor. So we have five steps. It is a fairly gradual progression. In principle it is quite similar in the US, but actually slightly different.

B: So did you start at Kent, at what level did you start?

M: I started as a senior lecturer and was then promoted to professor a few years ago.

B: OK. Part of what I wanted to talk about in this pathways. You talked about, you alluded to one of the benefits of the professional organizations, is that you met David Barnes at SIGCE. I like to hear those kinds of things. But can you tell me what professional organizations you belong to and how they affect your career?

M: I am a member of the ACM and SIGCSE, obviously within that and of the BCS, that is the British Computer Society, the only two professional organizations that I am a member of. So the British Computer Society is the obviously locally relevant society in the country, in England. Over the last three or four years or so they have been very interesting because I work here in a group in England called Computing at Schools. And we are trying to get computer science re-introduced at school level, at high school, actually no at the whole range from primary. The BCS has become very supportive of this. Before this Computing at Schools development I had fairly little contact with the British Computer Society. I was a member but wasn’t very active. Since then because the British Computer Society is very supportive of that work, I have been in regular contact with them. They have been very helpful and very supportive. We have a number of people with them even though this initiative of Computing at Schools started outside of the British Computer Society but they then became very quickly very supportive. So that is the one in the UK, yes.

B: It is becoming a model, I think, to us, too. We look at what is going to happen to that very interesting program. What service, you said you have been involved with them, is that in a service role, as an advisor, developer?

M: I am formally a member; I don’t have a service role with them. I am very active in Computing at Schools which collaborates with the BCS, but I have no formal role with the BCS nor with ACM.

B: Can you talk a bit about … We are sort of getting to the end of the interview. Can you talk about some of the major challenges that you have had in your career? What do you think were the biggest stumbling blocks, the things you overcome and how did you do that?

[25:00]

M: I always had the impression of my own career that I have always been very lucky that things just happened by chance that opened opportunities for me. My career progressed fairly
smoothly without a great amount of planning on my part. Just step one at a time. I just try to think of stumbling blocks or hurdles. There wasn’t much. I always thought I was very lucky with the developments as they happened. I was always doing my work and interested in my work and I worked a lot because I liked to. Somehow always at the right time some opportunity opened to go somewhere.

B: It may be that you see those opportunities and seize them.

M: Yes, maybe that’s the one thing to do to make the most of it. In terms of challenges, I don’t know. It’s just the small scale day-to-day thing that everyone has. I’m thinking I don’t get quite enough time to do those things I would like to do. I have PhD students now who come up with interesting ideas and I’ve got more ideas than time to work with them. That’s just normal everyone has that.

B: How many students do you have?

M: I’ve got three PhD students at the moment and a couple of master’s students and I have three people that work for me as paid developers on BlueJ and Greenfoot projects.

B: Hmm. Good. You are so busy with all of that. Do you have any outside interests?

M: I do. Actually I live here close to London and I like to go into London and go to the theater and go to concerts and do that quite regularly. Especially now this time of year, our summer has just started and I do have a real interest in theater, music and do those things. I try and I actually do try to get out and get away from the screen. The other thing obviously is I have two children. I try to spend time with them and go round, although that is sort of getting a bit less. They are getting into the teenage years and now getting to the phase they want to do things without me. But I do like to go spend time with them, I go places with them.

B: What are they interested in? Are they interested in computing?

M: I have two girls, 13 and 15. When they were younger, when they were around 10 or so I showed them Scratch and they loved it and they were good at it. It has gone away now, unfortunately. They are in the teenage phase where they are with their girlfriends and computing is not really cool and so far they don’t have interest. They, have a genuine interest, especially the older one, in languages and art …the technical not so much. I am quite happy with that, I am happy that she has seen what it is and for making an informed decision as to whether she likes it or not. She knows what it is about.

B: You had early in the interview said that you had done painting and you were trying to decide whether to become an artist or a computer scientist. Do you do anything with your art?

M: No, I haven’t done anything for decades. Actually that was at the time I started studying that was a serious consideration and I thought I could study computer science and paint in my
own time. That has stopped completely. I haven’t painted for a long, long time. Every few years I think I should start again but I’m not.

B: Do you have a vision for the future, especially with Computing in Schools, how computing may change, how your role or the role of your students when they become professors, what do you see happening in the next five years, twenty years?

M: Computing is reaching everyone in every part of their life. They have a phone or an iPad. The problem is I think that the modern presence of computing in their life reduces them to becoming consumers. I think the hurdle of being a consumer of computers, you know being able to watch YouTube on your iPad to actually become a producer, a developer, being creative, I think it is getting harder and harder because it has become so polished, it has become a big hurdle that is very hard to cross. When I got my first computer all you could do with it was program it. You couldn’t do anything fun without being creative. I think the creative side of modern gadgets is so well hidden away that kids now feel that whatever you want to do there is an app for that. There’s ... getting them to even understand that you can be creative beyond just using software but by developing software, I think it gets harder and harder to get people to see that. The bug that we all had, you know, when you discovered programming and suddenly you can do all those things, it is getting quite hard to get people to experience that. I think in a paradoxical sense our computing systems are becoming so prevalent and ubiquitous and polished and becoming so good is working against us in the sense that it is much harder to get people to become interested in becoming truly creative and making their own software with computers. That will be a challenge. So somehow, because the computing systems are so good, so far away from what you can achieve on your first day, it just seems frustrating to even try.

B: Very interesting. I see what you are saying. Very interesting. The last question -- well there are two last questions/ The penultimate question, I guess, is if you were going to give advice to a young person interested in going to computing and especially a young women, what would you say?

M: The advice I really think is to go and give it a try. There is I think a huge amount of personal satisfaction you get out of when you have developed something yourself. That you just cannot explain. You cannot tell someone. You have to experience it. The one thing you have to overcome is that you have to do it once. Once you do it then you know what we mean. Once you felt it, you know. You can’t tell people. I think the best thing is to go and do it and you will see what I mean.

B: That’s good. Thank you. And the final thing I ask people and many people refuse to answer the question is if there were one story about you that you hope people will remember what would you like that to be? I watched you puff your cheeks when I asked that one!

M: I hope that people will… I genuinely want to make peoples’ lives better. Sometimes you ask yourself, you know, why am I doing all this? What am I here for? Why am I working so hard? What do I want to have left when I am gone? How do you want to spend your time on
earth? I think what you can do is … you want to be a positive influence. A positive
influence is to give people more choices, increase opportunities or choices for people. I hope
that with my work I am creating something that allows some people do something that they
otherwise wouldn’t have been able to do. So what I would like people to remember is that I
somehow really tried to make a difference.

B: That is a wonderful closing story, because one of the first stories you told about when
you were working was when you were working with people that had severe disabilities
when you doing your alternative service and you started your life wanting to make a
difference and you are finishing, well you aren’t finishing, but you are mid-career
trying to make a difference. I think that is a wonderful story to remember – that
Michael wants to make a difference, to make peoples’ lives better. Correct?

M: Yes.

B: Well, thank you for all your contributions and thank you for the time that you have
spent with me doing this interview. Don’t go away, but I think our interview has come
to a close. Is there any last word you want?

M: Thank you for having me.