

One ETH – two generations

ETH Podcast – 150 Years ETH Alumni Association – March 2019 – Transcript

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Jennifer Khakshouri: [00:00:00] Welcome to the ETH podcast. I'm glad you're listening to us. I'm your host, I'm Jennifer Khakshouri.

This episode is in honor of the 150th anniversary of the ETH-Alumni Association.

Out of all the thousands of ETH graduates we picked two former students, from different generations.

Richard Ernst: [00:00:21] I'm Richard Ernst. And I'm 85 years old and I'm waiting for the end which isn't too far anymore away from me.

Jennifer Khakshouri: [00:00:34] But your eyes look very young and happy while you say that.

Richard Ernst: Thank you.

Jennifer Khakshouri: [00:00:39] I visited Richard Ernst in Winterthur and he had a boyish smirk on his face when he talked to me. I think he wanted to see how I react.

I'm here with another guest.

Julia Wysling: [00:00:49] My name is Julia Wysling. I'm 28 years old and I studied mathematics at ETH. I finished about two years ago in 2016.

Jennifer Khakshouri: [00:00:59] Richard Ernst won the Nobel Prize in 1991. Was there ever a moment where you met him. Did you ever see him?

Julia Wysling: [00:01:07] No I never met him. I think he stopped teaching at ETH when I was about eight years old. So, I never had the opportunity to meet him.

Jennifer Khakshouri: [00:01:16] But is he a name for you.

Julia Wysling: [00:01:17] Of course. For example, in chemistry! My chemistry colleagues they are always attending the Richard Ernst lectures. Of course, he's a name there. And also, everybody at ETH knows these lectures.

Jennifer Khakshouri: [00:01:31] So we want to go back to the beginning.

Richard Ernst: [00:01:34] I installed the chemistry lab in the basement. This was my chemical Paradise where I had a lot of bottles which I didn't know what they contained, and I didn't understand much of chemistry at the time, but I learned a lot, and this was my first experience in chemistry. Learning about my chemicals.

Jennifer Khakshouri: [00:02:01] Was it dangerous.

Richard Ernst: [00:02:02] Of course it was dangerous. I discovered that only later nothing really happened ever. The chemicals didn't explode. My parents lived in the first floor of the house they survived as well as I survived in the basement.

Jennifer Khakshouri: [00:02:23] Richard Ernst found a box full of chemicals that had originally belonged to his uncle. That's how his passion for chemistry began.

What about your passion for math? Where did that start?

Julia Wysling: [00:02:36] Well I was always interested in math. My father always tells me how I used to count the light poles at the street when I was like three years old. So, I was very affiliated to the numbers. And later on, in school of course I loved mathematics. But then I had a teacher which was a man and he was very much about women can't do natural sciences and mathematics and he always gave me bad grades. So, this was when I really got into it and kind of just wanted to show him that this is not true, and I wanted to mark an example that he's wrong about this.

Jennifer Khakshouri: [00:03:15] If you look at the Hall of Fame of all the Nobel Prize winners at the ETH there are about 20 of them and they're all male. And what was it like for you to study also in an environment that was male dominated.

Julia Wysling: [00:03:30] Well I found it very inspiring but also quite a challenge because you always feel that you're a kind of in a minority. We have about 30 percent women. So, it's not too bad. I think there is other fields where it's worse but still you always have the feeling that you have to prove yourself that you have to show that women are also able to do natural sciences or mathematics or technical sciences.

Jennifer Khakshouri: [00:03:57] You studied at the ETH after you did your Matura here in Winterthur. What was it about the ETH that made you go there?

Richard Ernst: [00:04:06] It was by far the best school and I didn't ever have anything else in mind then going to ETH. That was my destiny.

Julia Wysling: [00:04:20] I feel kind of the same way, I looked in to other universities as well. But all of them had the worse ranking or they seemed to be less good than the ETH. So I stayed in Zurich and I went to ETH.

Jennifer Khakshouri: [00:04:39] Did you never leave Switzerland for your studies.

Julia Wysling: [00:04:42] During my studies I never left Switzerland when I was in high school, I went to Australia for one year to do in high school exchange here, so I didn't feel like I have to leave Switzerland again.

Jennifer Khakshouri: [00:04:55] And what was it like for you to come back from Australia.

Julia Wysling: [00:05:00] Very different. You start to look at things in a different way. You kind of see all the things you do every day in the different perspective because you understand that not everything is trivial but not everything is guaranteed.

Jennifer Khakshouri: [00:05:17] Richard Ernst also left Switzerland after he did his postdoc here at

the ETH.

Richard Ernst: [00:05:23] When I moved to California chemistry came with me and the center of my universe remained with me and I was happy with it and enjoyed what I was doing.

Jennifer Khakshouri: [00:05:39] Did you ever regret coming back to Switzerland when you came back from California.

Richard Ernst: [00:05:45] Yeah, when I came back with my family, I had a nervous breakdown because I couldn't stand my backward country any longer. In Switzerland I didn't feel very happy it was really what I thought of as old fashioned.

Jennifer Khakshouri: [00:06:03] And only in chemistry or in general.

Richard Ernst: [00:06:05] In general.

Jennifer Khakshouri: [00:06:06] Can you relate.

Julia Wysling: [00:06:08] Yes in some ways even though I mean often it appears that other countries aren't that backward but still they are in some other ways. I think Switzerland is quite slow and I think Richard Ernst is quite right about this but in many fields, Switzerland is also ahead of its time so it's kind of a mixture.

Jennifer Khakshouri: [00:06:32] And the ETH has an international surrounding, students are from all over, does that also change the atmosphere of studying here for you.

Julia Wysling: [00:06:42] Yes of course. You get in touch with many different cultures and you can also learn from them. Sometimes it's very small things which are different about these cultures and it's quite good to see this during the studies because then you start relating to other cultures or start to learn about them.

Jennifer Khakshouri: [00:07:03] I want to speak about Richard Ernst and what he did to save him from the tightness that he felt when he came back to Switzerland.

Richard Ernst: [00:07:12] I mean I got other interests in addition to chemistry. One of my major interests was music and I was very much fascinated by music. I started to compose music and to perform music I played the cello that was very important in my life.

Jennifer Khakshouri: [00:07:36] Do you also have a passion that's broadened your horizon in contrast to math.

Julia Wysling: [00:07:42] Yes, I actually during my studies at ETH just started to do a lot of sports. I started to do triathlon for example. And ETH truly has a very good offering in this area the ASVZ is a very important or plays a very important role in students' life, every day. And I was able to fulfil this passion quite well at the ETH.

Jennifer Khakshouri: [00:08:06] So when you came back from California you came back to your alma mater, you came back to the ETH. What was it like for you to be on the other side of the bench so to say you were teaching now?

Richard Ernst: [00:08:18] I didn't like the return to ETH very much, I felt like a little boy who never grew up entirely and went back to his alma mater without ever being separated enough from it. I was somewhat lost in a world which I didn't understand myself anymore, but I survived.

Jennifer Khakshouri: [00:08:48] What about you. When you think of your alma mater how do you feel about it.

Julia Wysling: [00:08:53] I feel very good about it. I had some great times here. In the end I felt similar to Richard Ernst, I wanted to get out, I wanted to see different things, but I always like to come back and to see how it developed or how it didn't develop in some areas and to think back to the times I spent here.

Jennifer Khakshouri: [00:09:15] And could you imagine teaching here.

Julia Wysling: [00:09:17] No I couldn't. But this is not because I wouldn't like to go back to ETH but because I'm a very bad teacher in my own opinion.

Jennifer Khakshouri: [00:09:26] Would you study there again, or would you choose music instead?

Richard Ernst: [00:09:31] No I certainly would study again at that place. I would like to try to repeat my life in the same way as I experienced it myself. It couldn't have happened better than it did.

Julia Wysling: [00:09:48] Yes, I would answer exactly the same. I would do everything in the same way. Of course, sometimes you make decisions which you think you could have done better. But I was very happy at ETH, I'm very happy now, so I can't complain. I would do everything the same way again.

Richard Ernst: [00:10:05] Wherever I went. I had problems to solve but the problems are important to get exposed to the difficulties of the world and you cannot grow without having difficulties in life. I have had plenty of them related to my work and to my existence in my living and my body, problems all lead to something better. If you look at them from the proper side.

Jennifer Khakshouri: [00:10:37] Julia Wysling, do you also see problems as something to grow.

Julia Wysling: [00:10:42] Of course. I always think that it's better if you have problems that you can overcome than if you just have a boring life without any challenges.

Jennifer Khakshouri: [00:10:51] Isn't that what you did as a mathematician or what do you do as a mathematician to solve problems.

Julia Wysling: [00:10:57] Exactly and I think studying mathematics is a very good thing in this context because you start also in your everyday life to look at things differently to look at the problems differently and to solve them in a very structured and logical way.

Jennifer Khakshouri: [00:11:15] If you look back at your years at ETH. What are your most fond memories?

Richard Ernst: [00:11:22] I mean I had the freedom to do what I want. And I could implement my own dreams at ETH.

Julia Wysling: [00:11:34] This is very true. You have a big freedom at ETH and this is also one of the hardest things because if you have the freedom you also have to have a way to structure this freedom and to use this freedom. So, what you really learn at ETH is to think about what you want to do and to then do this in a very efficient way because otherwise you get stuck.

Jennifer Khakshouri: [00:11:59] The ETH is very famous worldwide has top rankings has great scientists and you can also see by the awards that are won here at the ETH the Nobel Prizes and other grants and awards. Is it something that attracts students as well to want to win awards? Because as a student you're also able to win awards for exceptional exams and for exceptional research.

Julia Wysling: [00:12:24] I think this is especially the case in the beginning when you come to ETH as a young student you think you're the best in your field of course because you've heard the best of your class usually and at some point during the first year this kind of becomes relative because everybody else is also very exceptional and very good at what they do. So, in this time students start to decide whether they really want to go into winning the prizes going into research and to do exceptional work in this field or whether they want to focus on something else which has the same prestige. But this may be just the industry and not in research.

Jennifer Khakshouri: [00:13:09] What impact did your discoveries have for the ETH.

Richard Ernst: [00:13:14] Oh initially very little, and ETH also had to become trained so to say on this exploration and on the meaning of this prize. I mean they have they were growing with me together and looking at my invention which I really can say it's my invention as a nobody else was really connected to it at the beginning. And I shared it with ETH. And finally, I mean you get a gold medal for the Nobel Prize, I've given that gold medal generously to ETH and it's now deposited at ETH, so I'm the donator but the gold medal belongs now to ETH.

Jennifer Khakshouri: [00:14:16] What's it like for you when you pass gold medals and the cups that you can see here and certain vitrines.

Julia Wysling: [00:14:26] It's very impressive. Of course, I think it's also very impressive that there are some professors here which maybe don't have a gold medal yet but which are really exceptional in their fields and that you as a young student just like that have the opportunity to talk to them or to visit the lecture of them.

Jennifer Khakshouri: [00:14:45] When I spoke to Richard Ernst, I also spoke to him about laying the foundations for a device that has become indispensable to modern medicine. He laid the foundations of what we know as the MRI the magnetic resonance tomograph where we can see many things in a human's body especially in the head and in the brain.

Richard Ernst: [00:15:08] Magnetic resonance today is probably one of the most important tools of medical science.

Jennifer Khakshouri: [00:15:16] Did you ever look at your brain via this method.

Richard Ernst: [00:15:19] Of course I have it downstairs in my study room. At the door hangs my inside of my head. I have to look at it every day.

Jennifer Khakshouri: [00:15:33] And what do you see there.

Richard Ernst: [00:15:35] I mean on the first sight my head looks similar as everybody else's head. It's nothing special about it but I mean the details are what matters.

Jennifer Khakshouri: [00:15:49] If you look back now at the ETH now, you're not at the ETH for several years, for 20 years. What does the ETH mean to you in retrospect?

Richard Ernst: [00:16:00] ETH performed quite well during these past 60 or 70 years and I still feel it's a great school and it's probably the best school which I could have selected at that time, I couldn't expect more from life than what I got at ETH.

Jennifer Khakshouri: [00:16:21] Julia Wysling in retrospect if you look at your alma matter now. What are your thoughts.

Julia Wysling: [00:16:26] I think it was a good choice to study at ETH I would do the same again. I had some great experiences there and I would recommend it to everybody who thinks about studying that they go and study at ETH.

Jennifer Khakshouri: [00:16:41] You spoke about all the good things but are there things you would wish that there would be differently now.

Julia Wysling: [00:16:47] I think ETH has many challenges right now. One reads a lot in the newspaper about mobbing scandals and so on. I would wish that ETH takes those challenges and not a negative thing but as an opportunity to grow and to make things better for the future because if ETH is able to do that, I think it can be even greater and it can be an even better place to study and to work.

Jennifer Khakshouri: [00:17:15] This episode of the ETH-podcast was on the occasion of the 150.th birthday of the ETH Alumni Association. I met with two people who studied at the ETH. Richard Ernst and Julia Wysling. Richard Ernst is 85 years old, studied and taught at ETH, he is the recipient of the Nobel Prize for chemistry in 1991. Julia Wysling, 28 years old, studied math and finished her studies at ETH two years ago.

[00:17:39] By the way you can listen to earlier episodes that we produced for the ETH podcast. You can also subscribe to us and then you won't miss our next episode.

Check out your globe magazine. There you can find a little hall of fame with other former ETH students and also an interview with the ETH Rector Sarah Springman.

Thank you for listening. I produced this podcast together with This Wachter's Audio Story Lab. My name is Jennifer Khakshouri. Music, mastering and sound design by Luki Fretz.

