Student Project House

Christoph Bertschi: [00:00:04] We find people who think outside of the box who have crazy ideas and then also have the ability here to really try out things.

Liza Bachmann: [00:00:13] It's a very cool community.

Daniel Repérant: [00:00:15] It was just impressed by how many tools they have.

Jennifer Khakshouri: [00:00:20] You're listening to the ETH podcast. My name is Jennifer Khakshouri and in this episode, we're in a newly renovated building not far from the headquarter of the ETH Zurich, a kind of playground for ideas of all sorts: we're in the Student Project House.

Lucie Rejman: [00:00:35] The Student Project House is basically a space where students, bachelors, masters and doctoral students, can realise their own ideas. We offer both the space, the co-working space and the makerspace, as well as coaching and workshops, and also an initial seed funding that the students can buy materials and build their prototypes.

Jennifer Khakshouri: [00:00:58] This is Lucie Rejman. She's 37 years old and she's the head of the Student Project House. The SPH, as it is also called, is a building with the flair of a hip factory hall furnished in a minimal style with colourful armchairs and modern office workstations. There are several floors where there is room for any idea to spark and maybe materialise. It sounds like a place where you can make dreams come true, actually, for anyone of any department of the ETH, from bachelors to masters or even PhD students, and the range of projects is extensive.

Lucie Rejman: [00:01:39] Since 2016, we have supported three thousand students. At the moment, we are supporting 115 projects.

Jennifer Khakshouri: [00:01:46] One of these ideas comes from these two students.

Liza Bachmann: [00:01:50] My name is Liza Bachmann.

Daniel Repérant: [00:01:51] I'm Daniel Repérant.

Liza Bachmann: [00:01:53] At the Student Project House, we started a project called TrueColors, where we try to develop a straw that will detect common date rape drugs in drinks, and then hopefully change colour to warn the consumer.

Jennifer Khakshouri: [00:02:06] Most of you know, date rape drugs get dropped into drinks to disable people sipping the drink from defending themselves against rape or sexual assault. So Liza's and Daniel's idea of a straw makes sense right away.

Liza Bachmann: [00:02:21] Originally, it started a couple of years ago when a friend of mine was drugged in a club in Zurich, and I think that was the first time I was confronted with the fact that things like this happen in Switzerland as well. I had heard several stories from abroad, but I had never heard this happening in Switzerland. And then the theme came up a couple of months ago when we were just having drinks with friends, and somehow this idea came up that why is there no other possibility to detect things that doesn't put the whole responsibility on the consumer but takes it away from the consumer and let's the consumer know you're in a safe space where you don't have to take a look out for yourself.

Jennifer Khakshouri: [00:03:00] How did the Student Project House become the place for it to grow from the idea to the prototype?

Daniel Repérant: [00:03:06] Liza happens to work at Student Project House too at the front desk, and in addition to that Student Project House here in Zentrum opened this semester. And well, I came here in the open days. I guess it was called, and I was just impressed by how many tools and makerspaces and co-working spaces they have. And then we thought, yeah, why not give it a try here at SPH? And then we'll see how it comes out.

Jennifer Khakshouri: [00:03:36] How far along are Daniel and Liza with their straw?

Liza Bachmann: [00:03:40] At the moment, we're at the very initial phase. We're also trying out other options and we're checking with clubs in Zurich and bars what their needs are, what they are looking out for, what they think would be most useful as well.

And then we will start recruiting the team. We're currently also checking whether it makes more sense to make it more of an electrical approach or more of a chemical approach.

Daniel Repérant: [00:04:04] There are several ways we could implement this project if we go the chemical way. We will surely need for the beginning one or two people with chemical or materials background. I think we're not fixed yet on what the actual team size will be. I think, yeah, for the beginning, one or two people are surely enough, but we're not fixed yet on the size of the team at the end of this project.

Jennifer Khakshouri: [00:04:28] Liza and Daniel hope to go forward with the TrueColors project.

Liza Bachmann: [00:04:34] Well, we're hoping to bring it out as soon as possible, but since we're both still bachelor students we'll have a long exam period this winter, so we'll put it on hold for a little while and then we hope to start full power with the entire team next semester. I think that's the best part that we don't get any time pressure from student project house as well. We don't have any deadlines. We need to keep in to make it work. We can all do it at our own pace.

Jennifer Khakshouri: [00:04:59] This is a point that's really important to the head of the student project house Lucie Rejman.

Lucie Rejman: [00:05:04] Of course, at the student project, studies always go first and then as second comes the student project house. You can only join as an officially registered project if you have passed the Basisprüfung.

Jennifer Khakshouri: [00:05:17] So if you have passed the first year examinations, you can come to the SPH with your idea. The makerspace, though, is open for anyone before passing any exam. So first semester students can already craft here. Lucie takes me to the ground floor of the building to what's called the makerspace. It's a huge hall with different sections. On one side of the space there are large tables with well-organised drawers fully equipped with tools such as screwdrivers, hammers, saws. And you can also use laser cutters here and whatever you might need to craft almost

anything. 3-D printers are in the makerspace, too, across from the tables next to a wall in glass closets.

Lucie Rejman: [00:06:06] We are standing in front of our twenty-four 3-D printers. Students can just use them both for building prototypes, but also for their private projects.

Jennifer Khakshouri: [00:06:15] As the head of the Student Project House, Lucie knows everyone here, and she knows basically almost everything too, also what the two young people in front of the printers are waiting for.

Lucie Rejman: [00:06:26] So one of them is actually building a window seal as a present for his grandmother, and the other one is actually building a 3D printer himself and is using our 3-D printers to build a 3-D printer.

Jennifer Khakshouri: [00:06:44] All the way on the other side of the hall behind a glass door, someone is working on an object that looks like the head of a statue, in almost one to one measurements of someone who looks familiar to me. I put on a pair of transparent glasses to protect my eyes and enter the cube. There's a lot of dust and sand in there.

Nikolaos Kaliorakis: [00:07:05] It's the now former rector, Sarah Springmann, modeled and 3-D printed, a lot of parts, then we sand it, glue it together, put some feelers, sand it again, and then paint it.

Jennifer Khakshouri: [00:07:18] When I visited the SPH it was a secret where the statue would be revealed. By now, you should find it somewhere in the main building of the ETH. What's fascinating for Nikolaos Kaliorakis, the creator of the Springmann statue, to work here at the Student Project House?

Nikolaos Kaliorakis: [00:07:37] I came from Greece last year and I already have a masters in mechanical engineering, but I've never used hands on tools and this gave me the opportunity to actually make things. I started five years to design and make all these mathematics and all these academic inquiries. But I've never touched anything, and this space gives me opportunity to explore and experiment and invent.

Jennifer Khakshouri: [00:08:05] I leave the room and let the team sand, glue and paint the statue of Sarah Springmann. Talking about the former rector: having a student project house was under her matronage. In 2016 the first SPH opened on Hönggerberg campus and just a few weeks ago this one, near the main building of ETH, opened its doors. In the hall of the makerspace some prototypes are exhibited. Also something that looks like a terrarium about a metre in length and half a metre wide, with little green nets hanging in there and grasshoppers moving around. It's a breeding box.

Christoph Bertschi: [00:08:43] It's full of sensors, and it automatically feeds and waters the grasshoppers that they live in here until they can get harvested. In the box there are nets to enlarge the surface for the grasshoppers, but also to imitate a grass field.

Jennifer Khakshouri: [00:09:02] This is 30 year old Christoph Bertschi, who is the co-founder and CEO of SmartBreed. We leave the makerspace and look for a quiet spot and one of the upper floors of the student project house so that we can talk.

Christoph Bertschi: [00:09:17] With SmartBreed, we enable farmers to breed their own animal feed, namely insects. We know that the population is growing. We know that the demand for protein will increase, will double until 2050. And as of today, we're not sure how we can handle that. Insects have the great ability to take waste from the food production and transform it into protein.

Jennifer Khakshouri: [00:09:45] Christoph himself didn't study at the ETH.

Christoph Bertschi: [00:09:48] I studied in St. Gallen, then worked for one year investment banking and then switched to consulting for four years in consulting, mainly on the sales and pricing side and now fully into the insect world.

Jennifer Khakshouri: [00:10:02] It's possible for Christoph from SmartBreed to work at Student Project House because some of the people in the team are students at the ETH.

Christoph Bertschi: [00:10:11] We're very closely linked to the ETH. We are three co-founders. One of our co-founders is currently studying and doing his PhD at ETH. With the Student Project House we have close relation. We do a lot of prototyping here, especially 3-D printing. The thing is about insects, what they do and what is logical, they should do with something very different sometimes. So you end up trying out a lot of new things and Student Project House really helps us there. First of all, like finding good connections, engaging people and taking things is really as an experiment with the insect and at the end, go out of the prototyping phase and really on the field and try it out.

Jennifer Khakshouri: [00:10:51] SmartBreed sounds like it's growing quickly, and there seems to be a clear goal beyond the Student Project House.

Christoph Bertschi: [00:10:59] We already have a facility where we produce our boxes, where we test our breeding solutions. All the tests we try to do at customer sites to really have feedback from customers who can use it daily to feed their animals. We want to become the global insect breeding technology provider. So our goal is to go for different insects and provide solutions where we can produce insect protein in the three digit tons at farmer sites.

Jennifer Khakshouri: [00:11:34] Thinking big might be what will make this dream come true. Of course, aside from all the skills and expertise the team of SmartBreed brings along. Thinking big is what the Student Project House makes possible. It enables dreams to materialise. This all sounds cool and sleek. What about stumbling and failing?

Lucie Rejman: [00:11:56] For us, failing is an opportunity to grow, and we say that we empower students to develop the maker and innovator mindset, and failing forward is one of these mindsets. So rather than beating yourself up when you made a mistake we encourage the students to maybe take a step back, reflect what went well, what didn't go so well, and then learn from this occasion for their future.

Jennifer Khakshouri: [00:12:24] What a playground for big dreams and small ideas. Seeds for the future. From blockchain to special coffee cups, networking, co-creating and mental health, just about any idea has space in the Student Project House.

Lucie Rejman: [00:12:38] We believe it's the best learning environment when students are able to learn intrinsically motivated, and therefore we believe in creating the best environment for them to learn a lot. And this is creating an environment where they can learn themselves. So we encourage them, for example, to go outside and talk to customers. And then they realise if their idea is good or if their ideas should be adapted and this is really then staying for them for their whole life what they learned.

Jennifer Khakshouri: [00:13:10] Lucie Rejman, the head of the Student Project House, talking about the ideas of the future generations. Thank you for joining the ETH podcast. This episode was produced by The Audiobande, a joint venture for sound adventures.