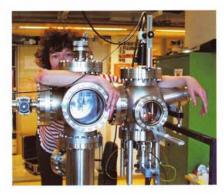
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## An Interview with PROF. DR. ILLE C. GEBESHUBER



FC: In your researches, you often journey into many remote and exotic locations. Can you tell us some interesting experiences during these expeditions?

PROF. DR. ILLE: I love to travel to remote and exotic "locations" - in my mind and in reality. The scientific freedom I enjoy here in Malaysia gives me this opportunity. Soon after I arrived here about three years ago I went on my first scientific expedition. You cannot imagine how stunned I was! There are ferns, not green, but blue, changing color when you look at them from different angles, real beauties. What a little fern can do for technology? Well, the fern has no chemical pigments that produce the blue color. It does it via tiny structures. Imagine coloring cloths and cars, houses and books, without pigments, just with structures! There would be no need for toxic paints, there would be no pollution of rivers from batik factories, no chemical dyes, no bleaching of the colors in the sun, no fading of photographs. You know the national butterfly of Malaysia, Raja Brooke's Birdwing? The gorgeous metallic green coloration on his wings is all structures, no pigment. You know the peacocks in the KL Bird Park and he wonderful iridescence of their train feathers? No pigments, just structures, like frozen rainbows or organic gemstones.

FC: Please tell us about the nature of your researches in Malaysia.

PROF. DR. ILLE: Malaysia is a wonderful country with amazing nature and great people. In our research we learn from both, from the natural environment and from the people, for the sake of humanity. My work is bridging so many disciplines, this can most easily been seen from the fields of study of my PhD students and PostDocs: they come from veterinary medicine, from physics, from engineering, from biology, from architecture, from the fine arts, from

mechanical engineering and from the applied arts. Some of the students are from my host university in Malaysia (I am professor at the Institute of Microengineering and Nanoelectronics at the Universiti Kebangsaan Malaysia) and some of them are from Austria, my country of origin. I hold a permanent position at the Institute of Applied Physics at the Vienna University of Technology, and the university management in Austria is so generous to grant me various years of research in Malaysia, in an environment that is completely different to where I come from. I have the unique opportunity to get to know new approaches, different ways of thinking and living, and I have ample time to deeply think about what I see and learn and experience. Nature is one of our greatest teachers. On frequent scientific expeditions to the deep rainforest we learn about sustainability, and about elaborate materials, structures and processes. We identify deep principles of what we see, and transfer these to human applications, for example to engineering and the arts, for the sake of a better future. I have just joined the Scientific Advisory Board of the Lifeboat Foundation, a Think Tank safeguarding humanity, and my approaches are therefore growing even wider in scope than they used to be. Most scientists of our time are specialists. They are very good in a tiny little area of their field. I see myself as a different, new type of scientist: I am a generalist who increasingly deals with large-scale connections and structures, developments and trends, concepts and ideas. Successful addressing of the various global challenges we have to deal with at the time being need people who can deal with interconnectedness and interdependence, across fields, across levels of education, across cultures. And this is exactly what I aim to live and teach.

FC: What are the most interesting findings you have made (in Malaysia)?

PROF. DR. ILLE: You will be surprised: the most interesting finding was to experience how people are driving in Malaysia. To experience how a group of 150 Malays, with whom I was in the deep rainforest for one week, said goodbye to each other. To see how my university in Bangi works, how the people interact and what they do for each other. I was used to rules and regulations, to being a lone fighter,

to blow the horn of my car if I do not get justice on the road. Here in Malaysia, it is different. People merge with each other, are initially friendly and not hostile, assume the best of you, support you like a sustainable net which secures that you do not fall too deep. In Europe and the US, I see a rising amount of people with burnout syndrome, I see declining numbers of children, I miss the optimism I got so used to here in Malaysia. I think the most interesting finding is that we néed to approach our pressing issues together, benefitting from each other's values and experiences. Albert Einstein once said "We can't solve problems by using the same kind of thinking we used when we created them." Climate change, the increasing richpoor gap, health issues arising from increasingly resistant microorganisms, transnational organized crime and global ethics are just some examples of global challenges that need being addressed.

FC: What are your words of encouragement to local researchers in similar discipline?

PROF. DR. ILLE: Do not blindly copy the Western way of doing science. The inherent wisdom in Malaysia is amazing, identify it, apply it in your science. Try to focus on understanding, not on learning by heart. Let the children play and think, experience the world with their hands, and noses, and hearts. Give them time and freedom to see the big picture, do not let them get lost in unnecessary details. Let the children stay playful, and they will become the best scientists possible the ones who are a motor of change towards a better future for humanity.

FC: What are your future plans for your researches?

PROF. DR. ILLE: At the moment, many researchers find out many things that they publish in their respective specialist journals or in books. The mutual beneficial interaction between separate fields is very important but also a challenge because of the different inherent cultures and communication protocols. My future plans for my researches are to reach a deep understanding of the world around us and to develop a joint language in arts, science and engineering, a language in which descriptions at different levels of detail are more compatible, a tree of knowledge that is accessible for all.

### BERTAZZONI BAKES BIENENSTICH

Bertazzoni range cookers are always dubbed life-proof. Today we will test it while Oliver Futterknecht cooks a German dinner for his guests.









#### **About Oliver Futterknecht**

Oliver is currently pursuing his dreams to be a physicist. This chef-turned-scientist has worked in many restaurants and hotels including: Hotel Hilton, Orange County Costa Mesa, California, USA. Gasthaus Futterknecht, Vienna, Austria. Airest Catering, Vienna, Austria. Gasthof Staudach, Hollenstein an der Ybbs, Lower Austria, Austria. Restaurant Cantino, Haus der Musik, Vienna, Austria. Hotel Jungbrunn, Tannheim, Tyrol, Austria. Hotel Crystal, Obergurgel Ötztal, Tyrol, Austria. Hotel Deutschmann, Obergurgl Ötztal, Tyrol, Austria. Eurest Catering, Vienna, Austria.









From The German Embassy, Dr. Michael Feiner (left), Deputy Head of Mission, and Kathrin Heidl (3rd from left), First Secretary joined us for the dinner.











#### Bienenstich

(The bee-sting cake. Disclaimer: no bees are harmed during the making of this cake)

For the dough: 3/16 | milk 30g yeast 350g flour 30g powdered sugar 3 egg yolk 30g butter salt, vanilla sugar

For the topping: 80g butter 80g sugar 30g honey 50g milk 150g sliced almonds

For the vanilla cream: 11 Milk 120g custard powder 3 egg yolk 7 egg white 150g sugar











#### Preparation:

For the dough, warm up the milk a little bit ~30°C and add the yeast and 150g of flour, stir well, top it with a hand full of flour and keep it on a warm place. Now put the butter with the sugar and spices in a mixer and mix it until it is creamy, then add the egg yolk and mix well. When the yeast mixture has grown to approximately doubled size, add it to the butter mix, add the rest of the flour and stir well.

Now roll out the yeast dough on a floured work surface to a square, which is about 40cm x 30cm and 4cm thick. Surround it with a baking form.

For the topping, put butter, sugar, honey and milk in a pan and heat it up until it simmers, finally add the almonds and glaze them within the mixture. Now put the topping on the rolled out dough and put it for about 20 minutes in a warm place (about 30°C).

Put it for 25 Minutes in a preheated oven (180°C).

For the filling pour ¾ of the milk in a pot, add the sugar and bring to boil. Meanwhile mix the rest of the milk with the custard powder and the egg yolks. When the milk begins to simmer, add the custard mixture and cook until it is a creamy consistence. Now put the egg white with a little sugar in a mixer and whisk until it is stiff. Finally fold in the egg white into the custard.

When the cake is ready, take it out of the oven and let it rest until it is cooled, cut it in half (horizontally), remove the top and cut it in equal parts. Spread the custard on the bottom and put the cut out topping pieces back on top. Put into the fridge until everything is cold. Cut (the bottom half) and serve.