Teaming up against tsunamis

The speakers for the TEDxBrussels event in December were selected for their audacity: They mapped their own way instead of sticking to well-trod paths. One of them was Tiziana Rossetto, a professor of earthquake engineering at University College London (UCL) in the United Kingdom. Rossetto’s research aims to understand how tsunamis behave as they sweep ashore and how to make coastal infrastructure more resistant to their devastating effects. She founded the Earthquake and People Interaction Centre at UCL, which takes a multidisciplinary approach to investigating risks and mitigating damage. This interview has been edited for brevity and clarity.

Q: What drew you to earthquake engineering?
A: It’s such a new science. Everything you do could be used and save lives. It really drives home the importance of what you’re doing when you see people suffering and how these events change lives so completely.

Q: What personal qualities have made your career possible?
A: An advantage I have is having an open mind and being humble enough to realize that you can’t be an expert in everything. As problems become bigger, especially in the case of natural disasters, we have to work more with other scientists, other engineering groups, but also with the social sciences—psychologists, disaster managers, historians—and statisticians. I find that the border of these disciplines is where innovation is happening.

Q: Have you experienced self-doubt?
A: Enormous, enormous self-doubt. But I think that’s where the collaboration comes in. It’s realizing where your limitations are and saying, “I need help,” enlisting people and enthusing them, getting them interested in collaborating with you and solving the problem together, respecting that they know a lot more than you do in their fields.

Q: How do you convince people to collaborate?
A: You sit them down and talk at them for ages and ages until they give in; that’s my tactic. And offer them lots of coffee and maybe a croissant. I just try to show them how important it really is. I think they convince themselves once they start to look into the area and see the gaping knowledge gaps. It’s quite a large motivation in itself to say, “I could do something to fill this gap.”

Q: How did you set up your first collaboration?
A: When you go to earthquakes, you see that the risk depends on so much more than just the structures and buildings. Cultural habits play such an important role in how people live in their houses. Most often, the structural solutions are there, and the communities know the hazard, yet they do not prepare, so there must be something related to their perception of the risk. So I went to speak to a psychologist in my university, and I said, “Why don’t they prepare?” And she answered, “I don’t know. Let’s look at it together.” So we started to explore the field, and now we’re coming up with some really interesting results.

Q: You have a young family. How do you manage?
A: Yes. I have two small children, 4 years old and 6 months. I think it’s just being organized and making sure you have the help you need and that you don’t promise too much and then don’t deliver. I also think being a woman and having a family now, compared to the past, is much more accepted in academia and in engineering. I have a very supportive department. Even though it’s a civil engineering department, half the staff members are women, which is I think quite unique.

Q: Any advice for young scientists?
A: Don’t be scared to be different. I think difference is actually a strength. And be tenacious—really, don’t give up. Just keep going for your dreams.

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Science 347 (6220), 450.
DOI: 10.1126/science.347.6220.450