

'The diversity problem is not a women's problem'

The time that mathematics and computer science were exclusively male-dominated are long gone. But there's still a great deal of diversity work to be done, says CWI management team member **Monique Laurent** and PhD researcher **Sophie Huiberts**.



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MONIQUE LAURENT

Laurent is a researcher and member of the management team at CWI. She is a member of the Royal Netherlands Academy of Arts and Sciences (KNAW) and professor at Tilburg University. As a mathematician, she develops methods to solve optimization problems. These can be used for all kinds of applications, from economic systems to logistics.

Text: Ans Hekkenberg
Photography: Bram Belloni

If you look at the percentage of female researchers at CWI, the institute has not yet achieved its objectives. Why is that?

ML: 'In our fields of expertise, diversity is not only a difficult issue at CWI, but worldwide. The number of female students is large, but higher up the ladder, from PhD researchers to professors, the number becomes smaller. It is a challenge to get women into those positions. We are doing our best, but sometimes we are unlucky. We recruit talented women, but they leave.'

Why does that happen?

ML: 'What sometimes plays a role is the so-called two-body problem, which arises when two scientists have a relationship. One of them may be able to find a good position, but the other should also be able to get a job nearby. If that doesn't work, it leads to departure. At CWI, we have witnessed the loss of many talented women in this way. Fortunately, we have recently managed to attract a number of talented women.'

In what ways is CWI trying to increase diversity?

ML: 'The pool of female scientists is smaller. That is why we actively look for female candidates for positions, for example by emailing promising scientists about them. And we participate in initiatives of funding agency NWO (the Dutch Research Council - ed.) to recruit female researchers with extra grants. In addition, we try to have an impact in the long term by showing young girls role models. If girls only see men in science, then a career like that does not seem attractive. But when they see researchers who look like them, they tend to think: "That is a job I can do when I grow up!"'

Are role models also important for young researchers?

SH: 'I think so. Theoretical computer science has a number of very impressive women. Virginia Vassilevska Williams, for example (famous for her work in rapidly multiplying number collections called matrices - ed.). Someone like that inspires people. As a woman in computer science, you do not see many women around you. That makes it all the more important to see that there are women who are so incredibly successful - to see it's possible to achieve this.'



interview

Monique Laurent and Sophie Huiberts

What should change in the field to improve the gender balance?

ML: 'A career in science requires a lot from young researchers. You often have to go abroad for years. This can conflict with your private life, for example if you have a wish to start a family. Of course, that does not only apply to women. Requirements like that cause people to leave science. It is a shame, because that is how we miss out on talent. That is why I think we need to be more flexible. We should not judge people if they make choices other than following the usual path. There needs to be more diversity in how you can structure your career.'

SH: 'I do not think a desire to have children is the only bottleneck. I recognize the problem Monique described. I know a lot of postdoctoral researchers who are in a different country every year and very few who are happy because of it. I like living in the Netherlands. I do not know if I would want to live in the United States for a year, for example. That could be a reason not to continue in the field.'

Have you experienced any obstacles during your career because of being a woman?

SH: 'I tried to talk to a researcher at a conference who was very curt. Later, I saw that same scientist having a long chat with another junior researcher. Strange, I thought, until I heard through the grapevine that this person hates women. As a young researcher, you do not even realize things like that. You have to hear it from others.'

ML: 'I myself have not encountered any obstacles. However, as a female scientist, it is sometimes difficult to cope with the extra tasks assigned to you. It is important that boards that award prizes or research positions do not consist exclusively of men. But

that does mean that the few women in the field are always asked for such boards. That increases the workload. What I think is important is that we realize that the diversity problem is not a women's problem. Men need to work on it as well; or even more so than women.'

Many diversity strategies are aimed at cisgender women. Sophie Huiberts, as a transgender woman, do you think that science has too narrow a focus when it comes to diversity?

SH: 'I definitely think a lot of diversity efforts are too limited. Whether that applies specifically to the cis/trans dynamic is difficult to judge. Of course, there are fewer of us, so I do not know if we are underrepresented. What strikes me more is that our institute consists mainly of white scientists. That is not okay. The Netherlands has many people with a migration background, but that is not reflected at CWI.'

ML: 'I endorse that. The same applies to other knowledge institutions. I think the problem starts in elementary schools. People have preconceptions about children with a migration background, just as they have preconceptions about girls. That pushes these kids in a certain direction, even if it is done mostly subconsciously.'

Will it ever change?

ML: 'I hope so. Fortunately, there are currently many opportunities for talented women. And the great thing about mathematics is, it knows no boundaries, no colour, no gender.'

SH: 'I don't quite agree. As an abstract thing, apart from human context, mathematics indeed knows no colour and gender. But mathematics is done by people.'



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SOPHIE HUIBERTS

Huiberts is a PhD student at CWI and a member of the works council. In 2019, she was invited as one of the *200 most qualified young researchers worldwide* to the Heidelberg Laureate Forum, where young talents network with the absolute top of mathematics and computer science. She is the Dutch contact of the European Women in Mathematics network. Huiberts also works on optimization. Factories and companies use optimization software to determine their schedules. Huiberts aims to find out why this software works so well, even with complex problems.

'As a female scientist, it is sometimes difficult to cope with the extra tasks assigned to you' ↙

We decide what research is important and how it should be done. And because of these decisions, mathematics is coloured and shaped in practice. Think, for example, of algorithms that determine who is profiled by the police. Because we base these algorithms on databases created by humans, human prejudices are reflected in them. An algorithm can still disadvantage certain groups. If you say that mathematics is gender and colour-blind, you are ignoring that.'

ML: 'You are right about that. You can do little harm with pure algebraic geometry or combinatorics. But when it comes to applications, things become different.' ■