Interview with Dr Gilberto Cidreira Kersele

Dr Gilberto Cidreira Kersele has been a RILEM member since 2022, being part of the technical committees (TCs) 289-DCM *Long-term durability of structural concretes in marine exposure conditions*, 324-SDM *Scientific Metadata Management of Construction materials*, and 315-DCS *Data-driven concrete science*. He currently holds the position of Project Manager in Materials Engineering at Englobe, one of Canada's premier firms specializing in professional engineering services and environmental sciences. In this RILEM interview, Dr Cidreira Kersele talks about the gains in his professional work as a RILEM member, and the crucial role that RILEM plays in linking academia and industry.

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Daniela Ciancio, RILEM Implementation Manager (RIM): Welcome to this interview series called "RILEM Industry Endorsement", Gilberto!

Dr Gilberto Cidreira Kersele (Gilberto): Good morning, Daniela. My pleasure to be here!

RIM: I can see that you joined RILEM in 2022. Is that correct?

Gilberto: Officially yes, even though I started to follow RILEM when I was doing my PhD in Laval University, between 2016 and 2020.

RIM: Why did you join RILEM in 2022?

Gilberto: Mainly for two reasons. The first one is because I work with concrete, and I'm used to read scientific articles in my everyday life at work. I need information that I can trust, like the RILEM publications. The second reason is because coming from academy and being in industry allows me to see the separation between these two worlds, and I feel RILEM offers me the right spot to be in both. I started in RILEM by joining TC 289-DCM. I enjoyed the collaborative environment of that TC, and it was really fun to talk to many researchers whose work had been my reference during my PhD studies. Nowadays, as part of my work, I develop research and development (R&D) projects for the industry, and I use machine learning solutions for engineering. For this reason, after the experience with TC 289-DCM, I became a member of TC 315-DCS and 324-SDM.

RIM: Can you tell us more about your work at Englobe, please?

Gilberto: I currently work as a Project Manager specializing in concrete expertise. In simple terms, my role involves overseeing investigations when issues arise with concrete structures. Our company has a large materials testing laboratory, and whenever a client encounters a concrete-related problem, the case is assigned to me or my team. I coordinate the sampling, conduct laboratory tests, and prepare detailed technical reports to identify the causes and recommend solutions. This type of work accounts for roughly 60–70% of my time. In addition to that, I lead

several research and development projects where I bridge my academic background with my industrial experience to develop innovative solutions. For example, I've been integrating machine learning into engineering analyses to enhance the precision and efficiency of our assessments. I have been doing this for four years, maybe five, and I can say that working with AI can be a really powerful solution!

RIM: How does your employer see you being part of a RILEM TC? Do you have to find time outside your office hours, or Englobe supports your time in RILEM?

Gilberto: Of course, I can't join just any technical committee, especially if it's not directly related to my work at Englobe. However, the company is very supportive when there's a relevant connection to my professional activities. My company pays my RILEM subscription, for example. They also understand that the knowledge I gain in RILEM is going to improve the work I do for Englobe; and I share it with my team. So RILEM is like another voluntary work branch where I have other colleagues where we go further into the concrete discussions to get better solutions and solve our problems.

RIM: Do you think Englobe has some advantages because of you being a member of a RILEM Technical Committee, compared to other companies that do not know RILEM or do not have any of their employees within the RILEM members?

Gilberto: For sure! We must follow innovation, new solutions, correct information. And this is what RILEM offers. Furthermore, in Canada, for example, we engineers must have at least 30 hours of continuous professional formation every 2 years. My activities within a RILEM Technical Committee, including my presentations during a RILEM event/conference, can be used for this purpose.

RIM: Do you think that RILEM could do more to attract more members from the industry sector?

Gilberto: I think the crucial issue is the line dividing industry and academy. Really nice research works are done at academy level. In some cases, though, you can get lost in your research because you go further and further, and you forget there's a practical world that must apply what you're doing. On the other hand, if you're in the industry, you are constrained by standards that you must follow and it's not for everyone to have the courage to go further and think outside the box. I believe that in RILEM the conservative and innovative minds, as well as academia and industry, find a space to meet, speaking the same language. I think, though, that communication is the key for that: "does the industry know what we do in RILEM? Does the industry see the potential to apply certain concepts?" I am not sure. Another issue could be the R&D investment of certain companies. In RILEM you can find companies that do the most interesting projects, but there are a lot of companies that do not invest in R&D and for this reason they do not see the benefits of being in RILEM.

RIM: Would you have a specific example of how the knowledge developed in a RILEM technical committee was useful for your everyday job?

Gilberto: Sure! I'm going to use the example of concrete durability knowledge that I gained from TC 289-DCM. So... it's all about long-term durability of marine environments. In my office, alone, I can use a certain model, get some figures, to predict this behaviour. Everyone can do this. But

it's different when you put a group of experts discussing about this, having some conclusions that I can use, producing recommendations that helps me to understand the projects that I have to develop; I can have a better solution, make a better decision.

RIM: I understand TC members of 289-DCM, closed in March this year, have finalised the State-of-the-Art report (STAR) that will soon be published.

Gilberto: I'm looking forward to have the STAR of TC 289-DCM in my hands, because I would like it as a reference for some of my projects; I'd like to get the RILEM flag and say “okay, I'm using this”.

RIM: It was great to talk to you, Gilberto. Thank you so much for sharing your experience in RILEM.

Gilberto: It was my pleasure!