Bert De Rybel

Bert De Rybel is a Professor at Ghent University and Group Leader at the VIB center for Plant Systems Biology in Ghent, Belgium. He leads the Vascular Development Lab which aims to integrate developmental, cell and evolutionary biology to understand how plant vascular tissues develop.

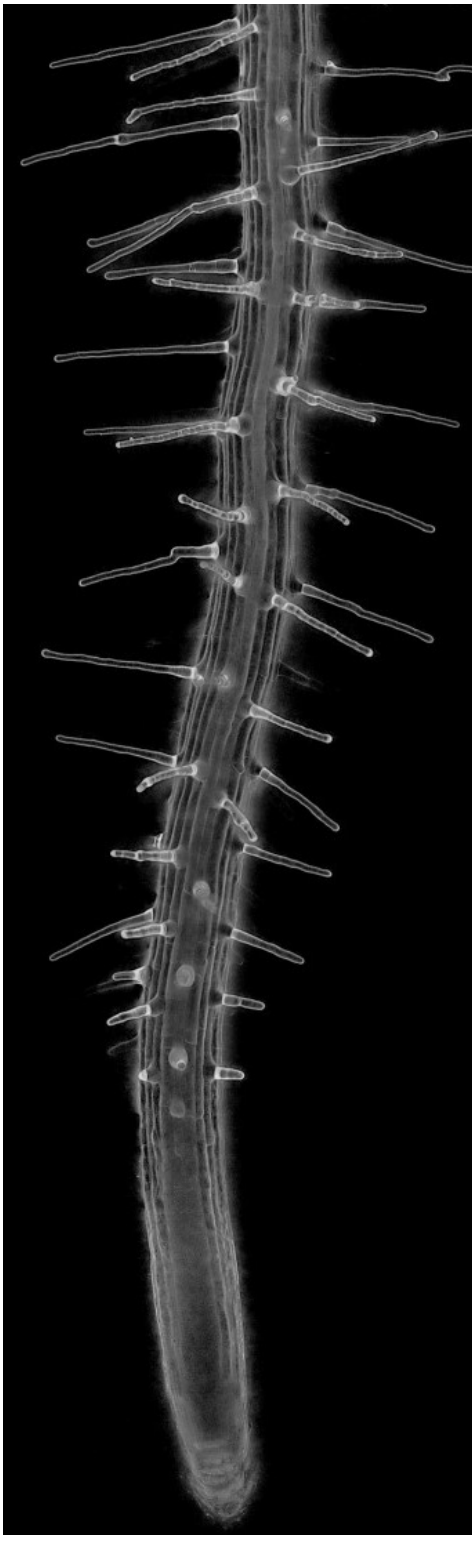
Top: Bert's research team in 2022 in front of a cross section of an enormous tree stem. *Right:* Confocal microscopy image of an *Arabidopsis* root tip (image by Dr. Jos Wendrich).

Tell us about your background. How did you first become interested in plant science and vascular development?

I have not met many people in plant research who accidently ended up studying this topic. Thus, doing plant science is apparently a conscious choice for most, including myself. In fact, I always liked plants and selected every course I could with the word "plant" in the description during my university studies. Tom Beeckman made me fall in love with developmental biology during my PhD on lateral root development and I got hooked on embryonic vascular development during my post-doctoral research with Dolf Weijers. When I had the opportunity to set up my own research group, I incorporated these two interests that I developed during my training.

What is your lab working on currently?

We aim to understand how plant cells control the orientation of their divisions during organ growth. Root vascular tissues undergo many of these oriented divisions and therefore serve as our model system.



What do you most enjoy about your work?

That would be a close tie between two things: the rush of a new discovery and the fulfilment of seeing young people grow into independent scientists ready to push the boundaries of knowledge.

What do you find most challenging?

Even though I get most satisfaction from mentoring and enabling young researchers to develop their own ideas and aspirations, this people management aspect is at the same time also the most challenging part of my job. It is both exciting and challenging to try and get all team members working together knowing that each individual has a unique background and is motivated or triggered in different ways.

What advice would you give to aspiring scientists in this area?

Take the path of excitement, interest and passion, even if it is not the easiest or most certain one. A nice salary or fancy title will not be the thing that gets you out of bed in the morning.

Who are your scientific heroes?

I do not believe in glorification of individuals. Most scientific discoveries in recent history are made by incremental advances of a team of scientists

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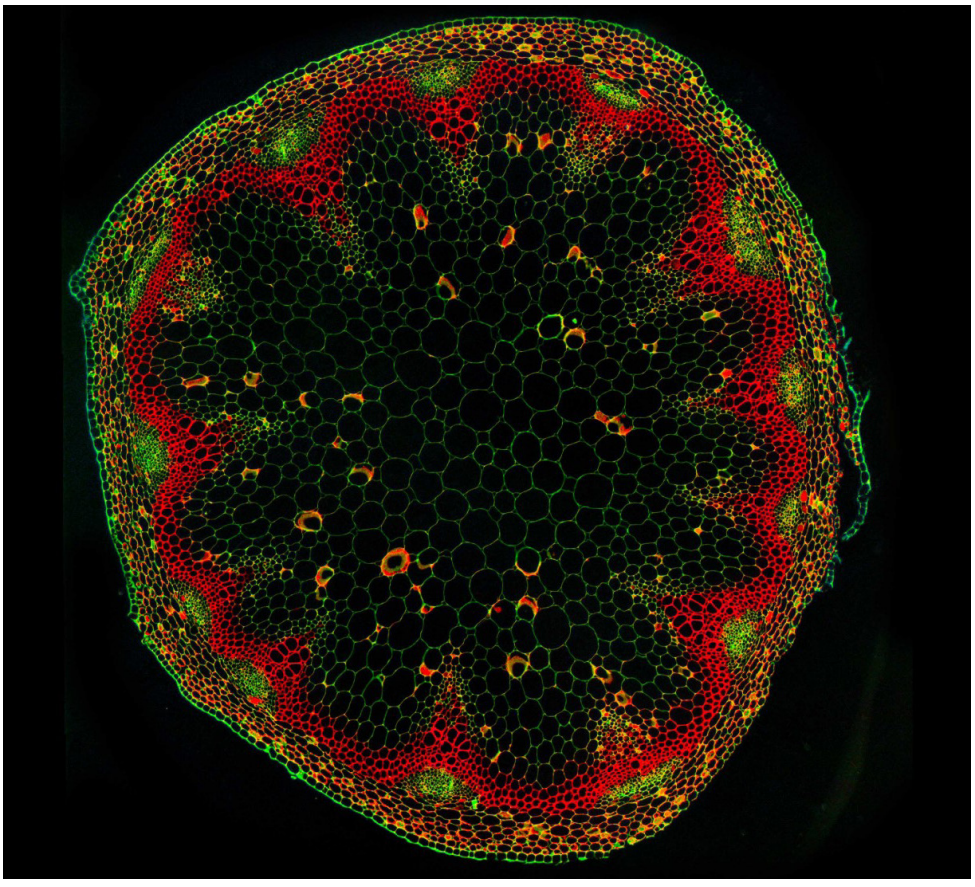
and the accumulation of discussions with collaborators and colleagues over many years. I cannot see how these discoveries can then be attributed to a single individual. We should admire the scientific achievements made, not the people making them. Although everyone obviously enjoys their successes being acknowledged, a pattern emerging in recent years is that we are congratulating our peers and colleagues for the wrong reasons. We should not congratulate each other for the manuscripts published, but rather for the scientific achievements made. We should not applaud someone for acquiring a prestigious grant, but for the good idea or insights they contain.

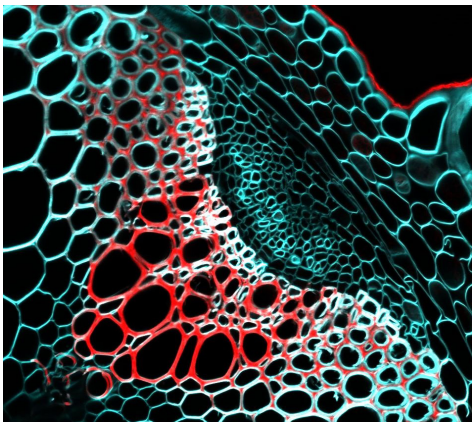
Selected Publications from SEB Journals

Mellor N, Adibi M, El-Showk S, De Rybel B, King J, Mähönen AP, Weijers D, Bishopp A. 2017. Theoretical approaches to understanding root vascular patterning: a consensus between recent models. Journal of Experimental Botany 68, 5–16.

Wybouw B, Arents HE, Yang B, Nolf J, Smet W, Vandorpe M, Minne M, Luo X, De Clercq I, Van Damme D, Glanc M, De Rybel, B. 2023. The transcription factor AtMYB12 is part of a feedback loop regulating cell division orientation in the root meristem vasculature. Journal of Experimental Botany 74, 1940-1956.

Yang B, Wendrich JR, De Rybel B, Weijers D, Xue H. 2020. Rice microtubule-associated protein IQ67-DOMAIN14 regulates grain shape by modulating microtubule cytoskeleton dynamics. Plant Biotechnology Journal 18, 1141-1152.





Left: Light microscopic image of a cross section through an *Arabidopsis* stem. *Above*: Magnification of the image on the left showing the different types of vascular cell (images by Dr. Helena Arents).