

OBITUARY

Wilfred Röling (9 December 1966 – 25 September 2015)

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Wilfred Röling

Completely unexpectedly, Wilfred F.M. Röling was taken from the midst of his family, friends and colleagues at the age of 48 by a sudden heart attack at the end of September this year. Working as an Associate Professor of Geomicrobiology at his Alma Mater, the Free University of Amsterdam (VU), the Netherlands, Wilfred has been one of the key drivers of and a massive pillar in the recent efforts to propel the emerging field of microbial systems ecology, especially with his innovative concepts of Ecological Control Analysis, Ecological Regulation Analysis and Community Flux Balance Analysis. These concepts have fascinated many in the field due to their simplicity and effectiveness in describing essential processes driving microbial ecosystem function.

After obtaining his PhD degree at the VU on the microbiology of Indonesian soy sauce (kecap) fermentation, Wilfred subsequently worked as a research associate at the VU University, at Gist Brocades, as well as at Newcastle University, UK, in the group of Ian Head, working on biodegradation

of marine oil spills and *in situ* petroleum reservoir biodegradation. Thereafter, he returned to Amsterdam to join the VU academic staff.

Most of his research operated at the crossroads of microbial ecology, biogeochemistry, hydrology and systems biology. Major research topics included natural degradation of anthropogenic contaminants, such as landfill leachate in groundwater, arsenic and iron cycling in groundwater in Bangladesh, the extent to which components of an ecological system control fluxes of mass and life forms, and changes in microbial community structure and function due to heating of aquifers used for thermal energy storage. But the microbial ecosystems that Wilfred has worked on over the past years were not limited to the Earth's subsurface. He also developed a keen interest in devising elegant ways to assess whether there could have been, or still is, microbial life on Mars.

Colleagues who had the immense pleasure to work with Wilfred especially valued his dedication not only to the microbes and their interactive way of living, but also to his students, who came from places as far away as Bangladesh, Vietnam and of course from his 'second home', Indonesia. Not being a man of big words, but rather one of big works, Wilfred will be remembered as a very kind person with a sharp mind, leaving the field of microbial ecology with many ideas yet to be brought into scientific practice by his peers and friends, some of whom have expressed their feelings and memories in the following quotes.

Wilfred was brilliantly modest and modestly brilliant, a quiet, warm and generous man and one of the most careful and rigorous scientists that I have had the privilege to work with.

Ian M Head, Newcastle University, Newcastle upon Tyne, UK

Wilfred was a close colleague and true innovator in the field of subsurface microbiology, but also much more than that. His research was a most striking demonstration of how sound quantitative approaches to microbial ecology and

carbon and energy fluxes continue to be fundamental to scientific advance, even (and even more so) in times of often loosely integrated qualitative omics. His personality united a sharp and creative intellect with a uniquely open, respectful and supportive spirit towards his fellows, be it students, peers and even scientific competitors. He has become a good friend over the years, over many joint symposia, workshops and adventurous mid-week conference excursions. I will deeply miss Wilfred and keep a warm memory of his friendly and inspiring personality, and of an excellent microbial ecologist.

Tillmann Lueders, Helmholtz Zentrum, München, Germany

It was always a pleasure to work with Wilfred. I have particular good memories of seeing him enjoying being in the field (near Banisveld). Taking the opportunity to have a short stroll in nature and to eat some of his favourite pancakes (strawberries with whipped cream) in a nearby cosy restaurant. He regularly visited the site with his group of PhD students and postdocs to have a wonderful team experience. I remember Wilfred as a devoted scientist fully inspired in all aspects of microbial ecology and related sciences such as geology and hydrology. He was a very kind and gentle person but nonetheless could make his viewpoints very clear especially in email discussions. I regarded him as an authority in his field of research and as a personal gateway to the realm of the microbial ecology. What I appreciated was his ability to address research questions also with basic molecular ecology methods (like DGGE) and did not exclusively aim for the most cutting edge technologies. This practical approach was also required as he supervised many PhD students from countries like Indonesia and Bangladesh where techniques were only available at a more basic level. I will miss him not only as a great collaborating scientist and personal 'wingman' in the realm of microbial ecology but in the first place as a very kind and likeable person.

Boris van Breukelen VU, Amsterdam, The Netherlands

Wilfred was very accurate and always doubting about data, which is maybe best characterized by his quote '*accuracy and doubt are an important key to reveals the microbial world*'. I got the strong impression that he is very deterministic in seeing the performance of microbes in nature and the environment. I may note a quote for him: "Microbes never lie, he just responded, a response given by nature and human".

Jubhar Christian Mangimbulude, Rector, Halma-hera University, North Maluku, Indonesia

It was a pleasure to supervise students with Wilfred in the last decade and publish exciting papers about the search for life on Mars, he was a gentle, reliable and great colleague with high integrity and he will be thoroughly missed.

Pascale Ehrenfreund, George Washington University, Washington, DC, USA

Wilfred was a generous scientist, teacher and person. He represented a link between ecology and molecular biology at the VU and beyond, and had the most positive of scientific qualities – curiosity, a keen ability to observe, a sharp mind and an openness of ideas. He will be greatly missed by researchers and students and remembered widely by what he has taught us.

George Kowalchuk, Utrecht University, The Netherlands

I will always remember Wilfred as a truly good-hearted colleague and friend with whom I have had the pleasure to share a common devotion to understanding and exploiting the microbes around us for making our planet a better place. His sharp mind and drive towards simple but effective solutions to seemingly complex scientific riddles kept amazing me, and I will miss him in so many ways.

Hauke Smidt, Wageningen University, Wageningen, The Netherlands

Wilfred, Great in his modesty, Great in his scientific achievements, Great as my dearest colleague, But above all a great man and friend. I will miss him deeply.

Rob van Spanning, VU, Amsterdam, The Netherlands

I will remember Wilfred as a person with whom it was easy to work. We almost did everything together, he as the supervisor and I was his right hand in the lab, we discussed problems and solved them. He was a man with a lot of ideas and most of them we could bring to a satisfactory result. He had plans for the near future, but we have to take care of that for him. I will miss him as a partner in science and an inspiring person to work for.

Martin Braster, VU, Amsterdam, The Netherlands

When we remember Wilfred we think about the drive, kindness and peace of a quiet soul. We esteem the image of a great man that gathered strength by trusting, delegating and embracing others. Wilfred did not teach us only to become only better scientists but rather he inspired us to become a finer version of ourselves. We are happy for the time we could

spend as his mentees and we will miss him dearly.

Joost Aerts, Valeria Agamennone, Martin Braster, Lucas Fillinger, Mark Hanemaaijer, Zahid Hassan, Samal Ibragimova, Daria Kaptan, Thi Lan Anh Nguyen, Ulisses Nunes da Rocha, Lucas Patty, Raquel Vargas Current members of Wilfred's group, VU Amsterdam, The Netherlands

Our thoughts wander to the many moments of inspiration, joy and discovery we shared

with Wilfred, who has been a massive pillar under systems biology and ecology in our Department at the VU Amsterdam. Our thoughts are also with his partner and family, who will much suffer from this unfairness, as well as with you: also for you and us this is a great loss. We will continue to travel the avenues that he has outlined though.

Hans V Westerhoff, VU Amsterdam, The Netherlands